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**801 Opal Avenue**  
**AIR QUALITY IMPACT ANALYSIS**  
**COUNTY OF SAN BERNARDINO**

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10957-02 AQ Report

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## **LIST OF ABBREVIATED TERMS**

(1)	Reference
µg/m <sup>3</sup>	Microgram per Cubic Meter
AADT	Annual Average Daily Trips
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACMs	Best Available Control Measures
BMPs	Best Management Practices
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DPM	Diesel Particulate Matter
EPA	Environmental Protection Agency
LST	Localized Significance Threshold
MMs	Mitigation Measures
NAAQS	National Ambient Air Quality Standards
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Oxides of Nitrogen
Pb	Lead
PM <sub>10</sub>	Particulate Matter 10 microns in diameter or less
PM <sub>2.5</sub>	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	801 Opal Avenue
ROG	Reactive Organic Gases
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SIPs	State Implementation Plans
SRA	Source Receptor Area

TAC	Toxic Air Contaminant
TIA	Traffic Impact Analysis
TOG	Total Organic Gases
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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## **EXECUTIVE SUMMARY**

### **CONSTRUCTION-SOURCE EMISSIONS**

#### *REGIONAL IMPACTS*

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the South Coast Air Quality Management District (SCAQMD) for any criteria pollutant. Thus, a less than significant impact would occur for Project-related construction-source emissions and no mitigation is required.

#### *LOCALIZED IMPACTS*

For localized emissions, the Project would not exceed the SCAQMD's localized significance threshold. Thus, a less than significant impact would occur and no mitigation is required.

Project construction-source emissions would not have the potential to conflict with the applicable Air Quality Management Plan (AQMP).

#### *ODORS*

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

### **OPERATIONAL-SOURCE EMISSIONS**

#### *REGIONAL IMPACTS*

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the SCAQMD. Thus a less than significant impact would occur for Project-related operational-source emissions and no mitigation is required.

#### *LOCALIZED IMPACTS*

Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the operational LSTs section of this report. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations.

Project operational-source emissions would not have the potential to conflict with the applicable AQMP.

*ODORS*

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances (1). Consistent with County requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

# **1 INTRODUCTION**

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed 801 Opal Avenue (“Project”). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project, and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the South Coast Air Quality Management District (SCAQMD).

## **1.1 SITE LOCATION**

The proposed 801 Opal Avenue site is located on the northeast corner of Opal Avenue and E. Colton Avenue in an unincorporated area in the County of San Bernardino, as shown on Exhibit 1-A. Industrial land uses are located north and west of the Project site. Institutional land uses are located south of the Project site. Residential land uses are located north and east of the Project site. The Interstate 10 Freeway (I-10 Fwy) is located 1.7 miles southwest of the Project site.

## **1.2 PROJECT DESCRIPTION**

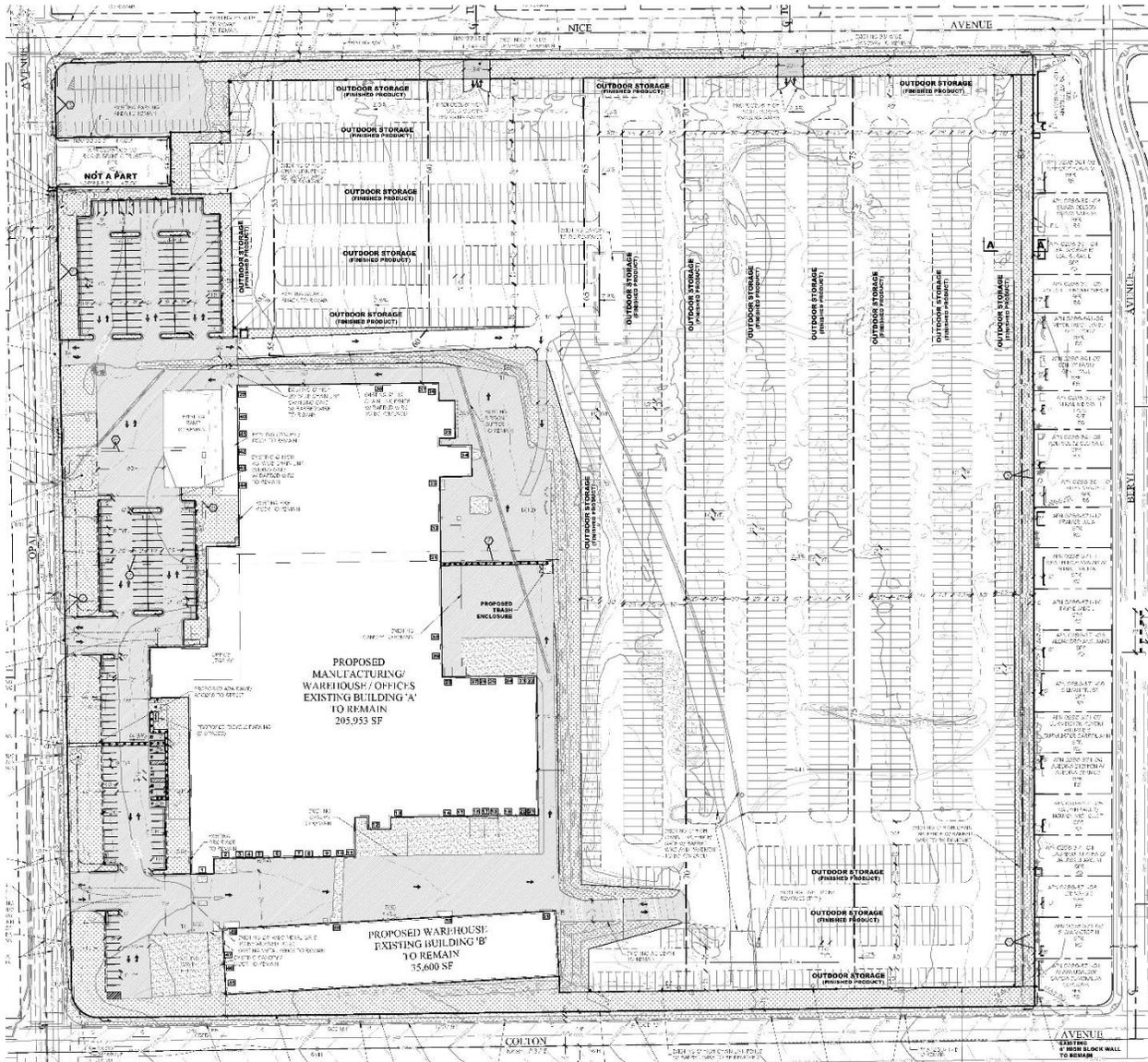
Exhibit 1-B illustrates the preliminary Project site plan. As indicated, the total development is proposed to consist of 126,224 square feet (sf) of manufacturing use and 115,329 sf of warehousing use within the two currently vacant existing buildings.

For the purposes of this AQIA, it is assumed that the Project will be constructed and at full occupancy in 2018.

**EXHIBIT 1-A: LOCATION MAP**



EXHIBIT 1-B: SITE PLAN



## **1.4 CONSTRUCTION-SOURCE AIR POLLUTANT EMISSIONS MITIGATION MEASURES**

### **1.4.1 MONITORING OF AND COMPLIANCE WITH STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMs)**

SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (2); Rule 431.2 (Low Sulfur Fuel); Rule 403 (Fugitive Dust) (3); and Rule 1186 / 1186.1 (Street Sweepers) (4). It should be noted that BACMs are not mitigation as they are standard regulatory requirements.

#### **BACM AQ-1**

The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403 (4):

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.

#### **BACM AQ-2**

The following measures shall be incorporated into Project plans and specifications as implementation of Rule 1113 (5):

- Only “Low-Volatile Organic Compounds” paints (no more than 100 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications consistent with South Coast Air Quality Management District Rule 1113 shall be used.

#### **BACM AQ-3**

Plans, specifications, and contract documents shall note that a sign shall be posted on-site stating that construction workers shall not idle diesel engines in excess of five (5) minutes (6).

### **1.4.2 OTHER MEASURES**

The Project would not result in any emission exceedances for construction-source activity. Therefore, no mitigation measures are required.

## **1.5 OPERATIONAL-SOURCE AIR POLLUTANT EMISSIONS MITIGATION MEASURES**

The Project would not result in any emission exceedances for operational-source activity. Therefore, no mitigation measures are required.

## 2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

### 2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (7). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As discussed above, the Project site is located within the South Coast Air Basin, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The larger South Coast district boundary includes 10,743 square miles.

The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bound by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bound by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

### 2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14 1/2 hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NOX and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

## 2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

## 2.4 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect, as well health effects of each pollutant regulated under these standards are shown in Table 2-1 (8) (9).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2-1. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O<sub>3</sub>, CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O<sub>3</sub> standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24 hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

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**TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (2 OF 2)**

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

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## 2.5 REGIONAL AIR QUALITY

The SCAQMD monitors levels of various criteria pollutants at 38 permanent monitoring stations and 5 single-pollutant source Lead (Pb) air monitoring sites throughout the air district (10). In 2015, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> at most monitoring locations (11). No areas of the SCAB exceeded federal or state standards for NO<sub>2</sub>, SO<sub>2</sub>, CO, sulfates or lead. See Table 2-2, for attainment designations for the SCAB (12) (13). Appendix 3.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

**TABLE 2-2: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN (SCAB)**

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	No Standard
Ozone - 8 hour standard	Nonattainment	Nonattainment (Extreme)
PM <sub>10</sub>	Nonattainment	Attainment (Maintenance)
PM <sub>2.5</sub>	Nonattainment	Nonattainment (Serious)
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Attainment (Maintenance)
Sulfur Dioxide	Attainment	Attainment
Lead <sup>1</sup>	Attainment	Nonattainment (Partial)

Source: State/Federal designations were taken from <http://www.arb.ca.gov/degis/adm/adm.htm>

Note: See Appendix 3.2 for a detailed map of State/National Area Designations within the South Coast Air Basin

## 2.6 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for Ozone (O<sub>3</sub>) and Ultra-Fine Particulates (PM<sub>2.5</sub>) is the South Coast Air Quality Management District East San Bernardino Valley monitoring station, located approximately 0.78 miles southwest of the Project site in Redlands (SRA 35). Relative to the Project site, the nearest long-term air quality monitoring site for Carbon Monoxide (CO), Nitrogen Dioxide (NO<sub>2</sub>), Inhalable Particulates (PM<sub>10</sub>), and is the South Coast Air Quality Management District Central San Bernardino Valley 2 monitoring station, located approximately 8.40 miles northwest of the Project site in San Bernardino (SRA 34).

The most recent three (3) years of data available is shown on Table 2-3 and identifies the number of days ambient air quality standards were exceeded for the study area, which is was considered to be representative of the local air quality at the Project site (14) (15). Additionally, data for SO<sub>2</sub> has been omitted as attainment is regularly met in the South Coast Air Basin and few monitoring stations measure SO<sub>2</sub> concentrations.

<sup>1</sup> The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

TABLE 2-3: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2013-2015

POLLUTANT	STANDARD	YEAR		
		2013	2014	2015
Ozone (O <sub>3</sub> )				
Maximum 1-Hour Concentration (ppm)		0.133	0.128	0.137
Maximum 8-Hour Concentration (ppm)		0.119	0.104	0.115
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	43	47	44
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	93	83	77
Number of Days Exceeding Federal 8-Hour Standard	> 0.070 ppm	63	51	54
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		--	4.0	2.3
Maximum 8-Hour Concentration (ppm)		1.7	2.4	1.8
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO <sub>2</sub> )				
Maximum 1-Hour Concentration (ppm)		0.072	0.073	0.071
Annual Arithmetic Mean Concentration (ppm)		0.018	0.018	0.015
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM <sub>10</sub> )				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		72	62	95
Number of Samples		61	60	59
Number of Samples Exceeding State Standard	> 50 µg/m <sup>3</sup>	2	2	2
Number of Samples Exceeding Federal Standard	> 150 µg/m <sup>3</sup>	0	0	0
Particulate Matter ≤ 2.5 Microns (PM <sub>2.5</sub> )				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		55.3	32.2	53.5
Annual Arithmetic Mean (µg/m <sup>3</sup> )		11.41	--	10.7
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m <sup>3</sup>	1	0	2

-- = data not available from SCAQMD or ARB

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and effects are identified below:

- Carbon Monoxide (CO): Is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- Sulfur Dioxide (SO<sub>2</sub>): Is a colorless, extremely irritating gas or liquid. It 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<sub>2</sub> oxidizes in the atmosphere, it forms sulfates (SO<sub>4</sub>). Collectively, these pollutants are referred to as sulfur oxides (SOX).
- Nitrogen Oxides (Oxides of Nitrogen, or NO<sub>x</sub>): Nitrogen oxides (NO<sub>x</sub>) consist of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) and are formed when nitrogen (N<sub>2</sub>) combines with oxygen (O<sub>2</sub>). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO<sub>2</sub> is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO<sub>2</sub> is the most abundant in the atmosphere. As ambient concentrations of NO<sub>2</sub> are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO<sub>2</sub> than those indicated by regional monitors.
- Ozone (O<sub>3</sub>): Is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- PM<sub>10</sub> (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM<sub>10</sub> also causes visibility reduction and is a criteria air pollutant.
- PM<sub>2.5</sub> (Particulate Matter less than 2.5 microns): A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO<sub>2</sub> release from power plants and industrial facilities and nitrates that are formed from NO<sub>x</sub> release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. PM<sub>2.5</sub> is a criteria air pollutant.
- Volatile Organic Compounds (VOC): Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or

carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O<sub>3</sub>, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

- **Reactive Organic Gases (ROG):** Similar to VOC, Reactive Organic Gases (ROG) are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROG are a criteria pollutant since they are a precursor to O<sub>3</sub>, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC (see previous) interchangeably.
- **Lead (Pb):** Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. It should be noted that the Project is not anticipated to generate a quantifiable amount of lead emissions. Lead is a criteria air pollutant.

## Health Effects of Air Pollutants

### Ozone

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

### Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with

diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

#### Particulate Matter

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in PM2.5 concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM10 and PM2.5.

#### Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO<sub>2</sub> at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO<sub>2</sub> in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO<sub>2</sub> considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO<sub>2</sub>.

#### Sulfur Dioxide

A few minutes of exposure to low levels of SO<sub>2</sub> can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO<sub>2</sub>. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO<sub>2</sub>.

Animal studies suggest that despite SO<sub>2</sub> being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO<sub>2</sub> levels. In these studies, efforts to separate the effects of SO<sub>2</sub> from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

#### Lead

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.

#### Odors

The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause odors poses a big challenge. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

## **2.7 REGULATORY BACKGROUND**

### **2.7.1 FEDERAL REGULATIONS**

The U.S. EPA is responsible for setting and enforcing the NAAQS for O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead (8). The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the

federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (16). The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, CO, PM<sub>2.5</sub>, and lead. The NAAQS were amended in July 1997 to include an additional standard for O<sub>3</sub> and to adopt a NAAQS for PM<sub>2.5</sub>. Table 3-1 (previously presented) provides the NAAQS within the basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO<sub>x</sub>). NO<sub>x</sub> is a collective term that includes all forms of nitrogen oxides (NO, NO<sub>2</sub>, NO<sub>3</sub>) which are emitted as byproducts of the combustion process.

### **2.7.2 CALIFORNIA REGULATIONS**

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (9) (8).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;

- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROG<sub>s</sub>, NO<sub>x</sub>, CO and PM<sub>10</sub>. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

### **2.7.3 AIR QUALITY MANAGEMENT PLANNING**

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (17). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.8.

## **2.8 REGIONAL AIR QUALITY IMPROVEMENT**

The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists is known as the Basin. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the South Coast Basin. The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its Air Quality Management Plans (AQMPs) and by utilizing uniform CEQA review throughout the Basin.

The 2012 AQMP states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs," (18). Ozone, NO<sub>x</sub>, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (19).

These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO<sub>x</sub> and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO<sub>x</sub> emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. The overall trends of PM<sub>10</sub> and PM<sub>2.5</sub> in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM<sub>10</sub> have remained somewhat constant in the Basin and direct emissions of PM<sub>2.5</sub> have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Ozone levels in the SCAB have decreased substantially over the last 30 years as shown in Table 2-4 (20). Today, the maximum measured concentrations are approximately one-third of concentrations within the late 70's.

As with other pollutants, the most recent PM<sub>10</sub> statistics also show overall improvement as illustrated in Table 2-5. During the period for which data are available, the 24-hour national annual average decreased by approximately 50 percent, from 103.7 µg/m<sup>3</sup> in 1989 to 51.7 µg/m<sup>3</sup> in 2015. Although the values in the late 1990's show some variability, this is probably due to meteorology rather than a change in emissions. Despite the overall decrease, ambient concentrations still exceed the State annual and 24-hour PM<sub>10</sub> standards. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM<sub>10</sub> standards has also shown an overall drop. During 1995, there were 25 calculated days above the national standard. By 2015, there was 6.6 calculated national standard exceedance days (21).

Table 2-6 shows the most recent 24-hour average PM<sub>2.5</sub> concentrations (national) in the SCAB from 1999 through 2014. Overall, the annual average concentrations have decreased by almost 52 percent. The calculated number of days above the national standard also decreased, from about 88 days in 1999 to about 17 days in 2015. The SCAB is currently designated as nonattainment for the State and national PM<sub>2.5</sub> standards. Measures adopted as part of the upcoming PM<sub>2.5</sub> SIP, as well as programs to reduce ozone and diesel PM will help in reducing public exposure to PM<sub>2.5</sub> in this region.

The most recent carbon dioxide concentrations in the SCAB 1986 are shown in Table 2-7 (22). Carbon monoxide concentrations in the SCAB have decreased markedly — a total decrease of more about 80 percent in the peak 8-hour concentration since 1986. The number of exceedance days has also declined. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

TABLE 2-4: SOUTH COAST AIR BASIN OZONE TREND

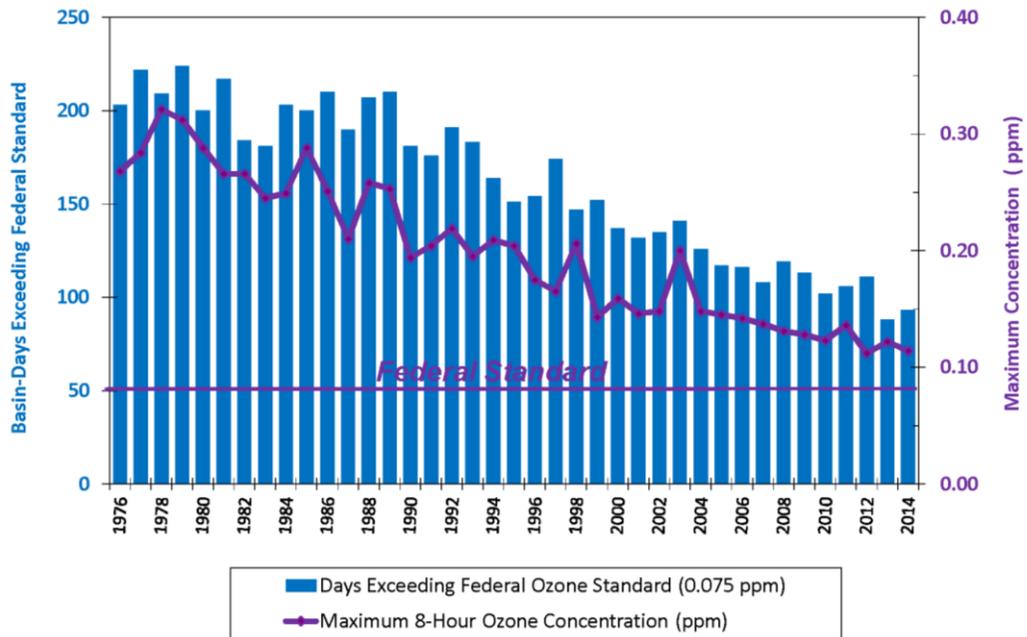
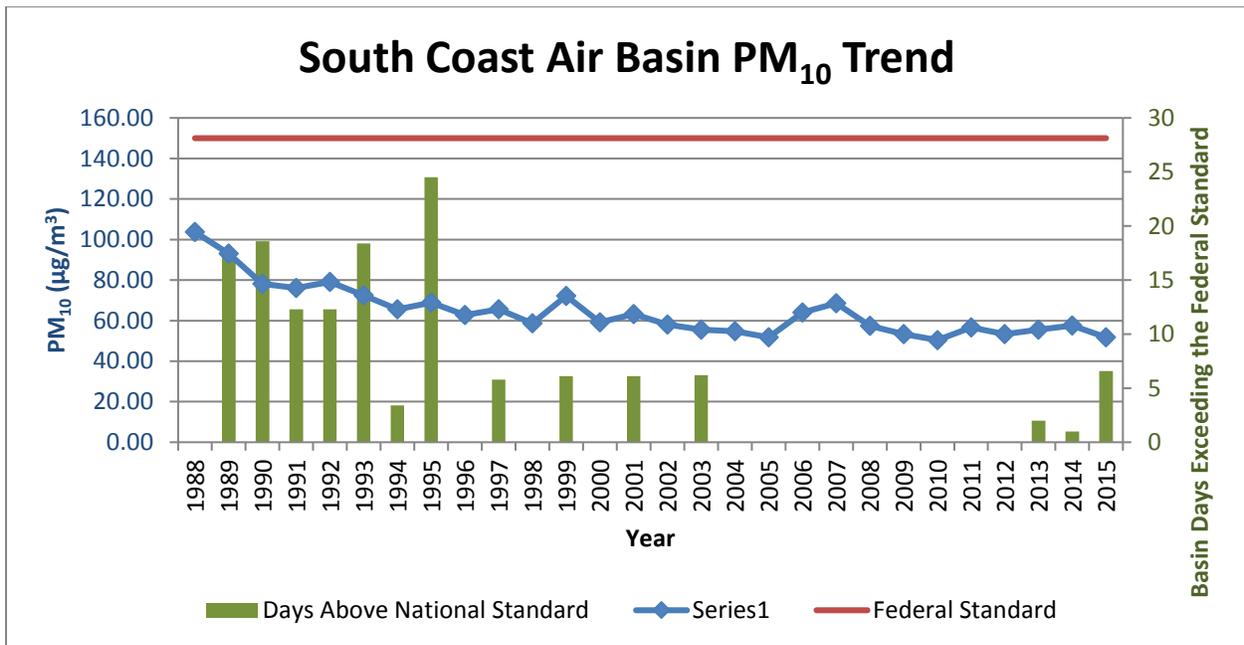
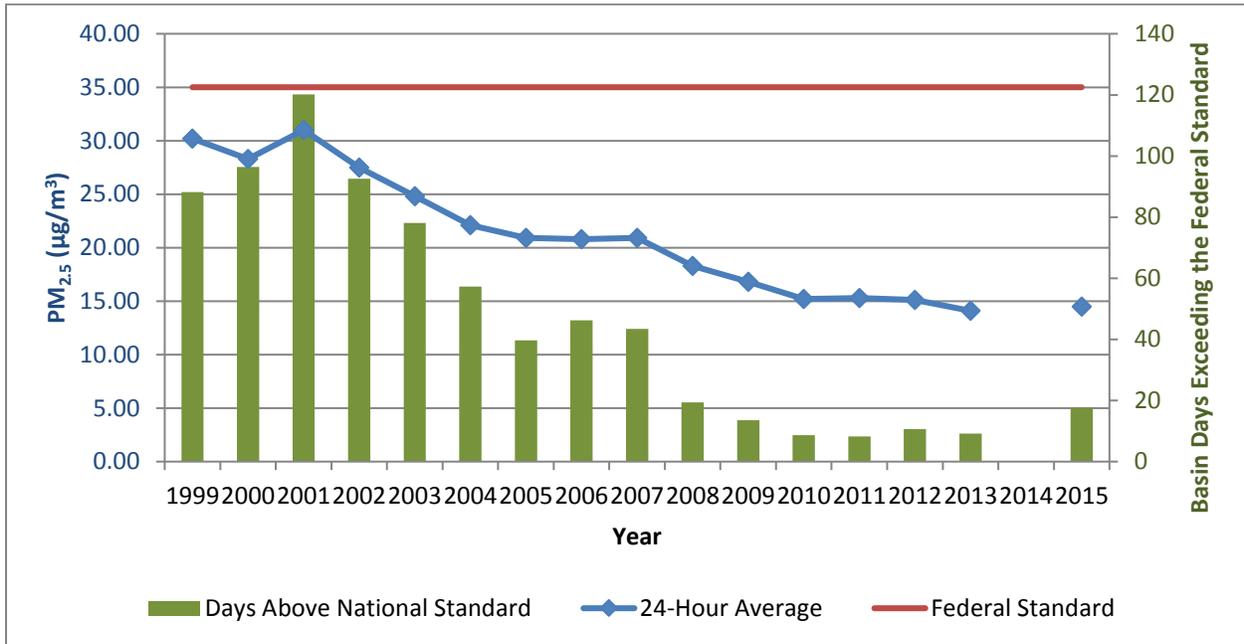


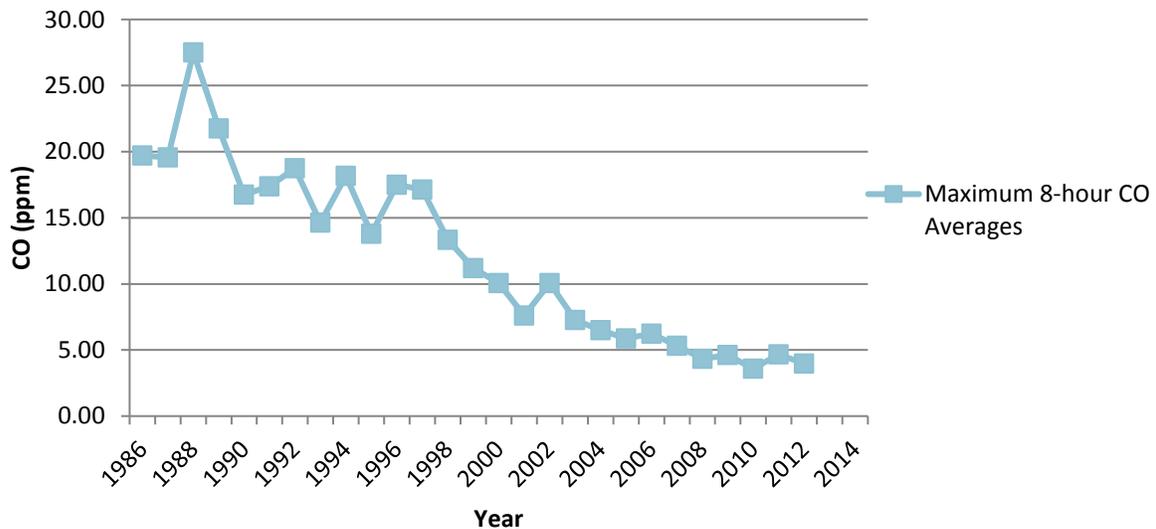
TABLE 2-5: SOUTH COAST AIR BASIN PM<sub>10</sub> TREND



**TABLE 2-6: SOUTH COAST AIR BASIN PM<sub>2.5</sub> TREND**



**TABLE 2-7: SOUTH COAST AIR BASIN CARBON MONOXIDE TREND**



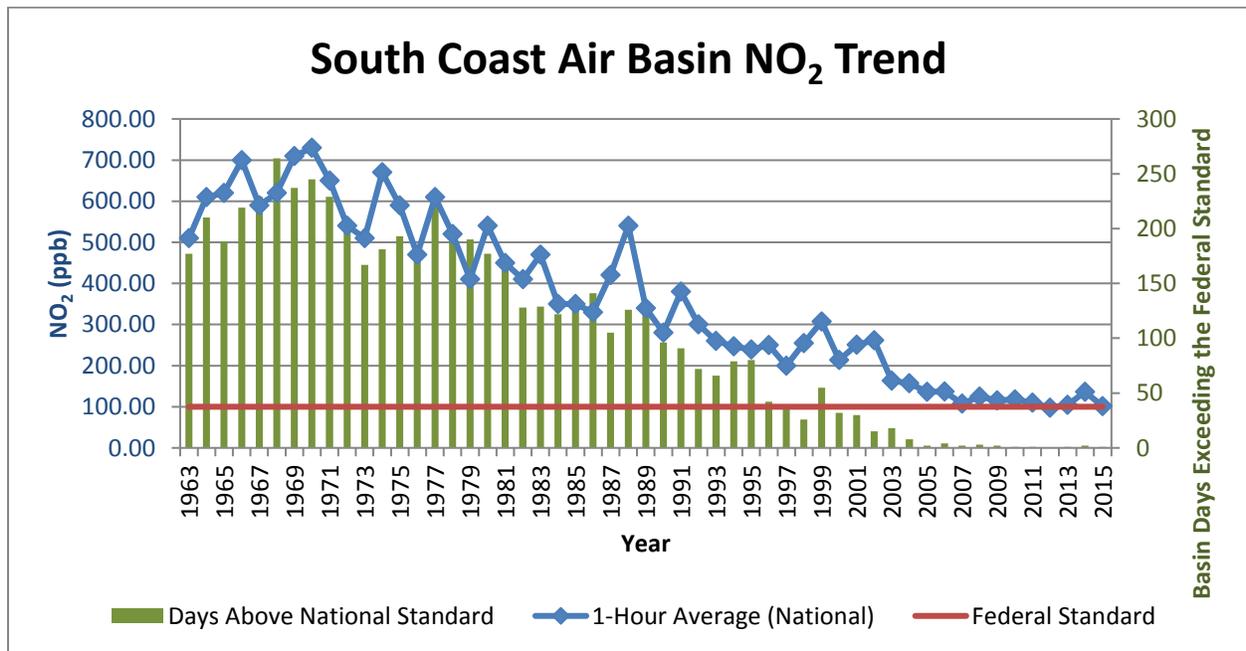
Part of the control process of the SCAQMD’s duty to greatly improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD’s CEQA Handbook (23). The single threshold of significance used to assess Project direct and cumulative impacts has in fact “worked” as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades. As stated by the SCAQMD the District’s thresholds of

significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

The most recent NO<sub>2</sub> data for the SCAB is shown in Table 2-8 (22). Over the last 50 years, NO<sub>2</sub> values have decreased significantly; the peak 1-hour average for 2015 was approximately 80 percent lower than what it was during 1963. The SCAB attained the State 1-hour NO<sub>2</sub> standard in 1994, bringing the entire State into attainment. A new state annual average standard of 0.030 parts per million was adopted by the ARB in February 2007 (24). The new standard is just barely exceeded in the South Coast. NO<sub>2</sub> is formed from NO<sub>x</sub> emissions, which also contribute to ozone. As a result, the majority of the future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California’s NO<sub>x</sub> emissions. These measures are expected to bring the South Coast into attainment of the State annual average standard.

The American Lung Association website includes data collected from State air quality monitors that are used to compile an annual State of the Air report. These reports have been published over the last 13 years. The latest State of the Air Report compiled for the Basin was in 2010 (25). As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. The area’s average number of high ozone days dropped from 189.5 day per year in the initial 2000 State of the Air report (1996–1998) to 141.8 in the 2006–2008 report. The region has seen dramatic reduction in particle pollution since the initial State of the Air report (25).

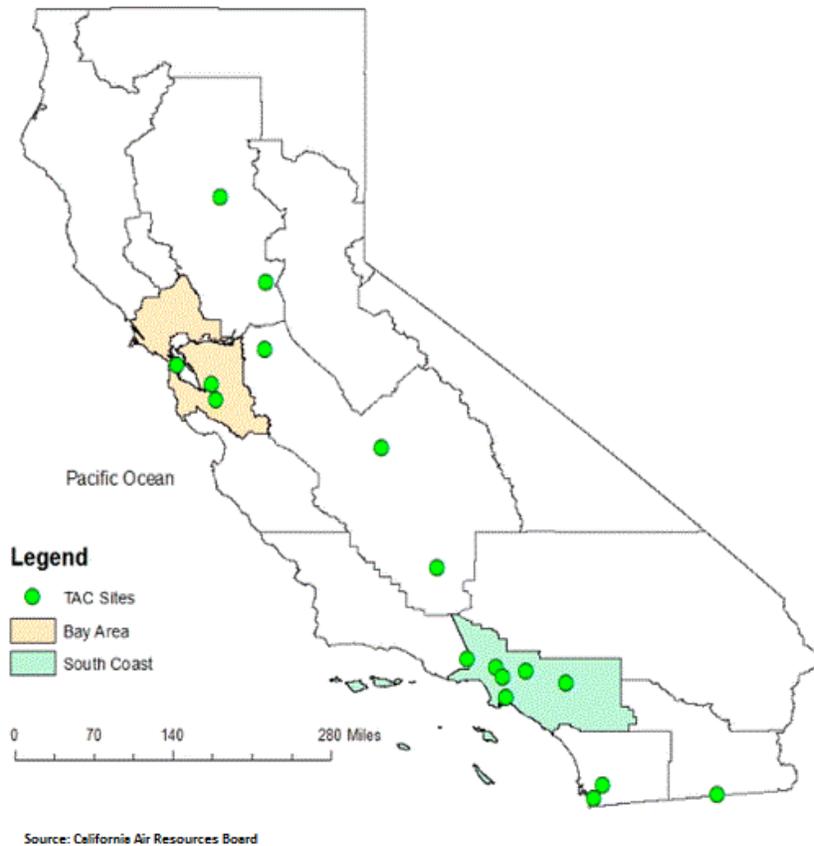
**TABLE 2-8: SOUTH COAST AIR BASIN NITROGEN DIOXIDE TREND**



## TOXIC AIR CONTAMINANTS (TACs) TRENDS

In 1984, as a result of public concern for exposure to airborne carcinogens, the CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (26). The seven TACs studied shown below include those that are derived from mobile sources: diesel particulate matter (DPM), benzene, and 1,3-butadiene; those that are derived from stationary sources: perchloroethylene and hexavalent chromium; and those derived from photochemical reactions of emitted VOCs: formaldehyde and acetaldehyde<sup>2</sup>. TACs data was gathered at monitoring sites from both the Bay Area and South Coast Air Basins, as shown on Exhibit 2-A; Several of the sites in the SCAB include Reseda, Compton, Rubidoux, Burbank, and Fontana. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

**EXHIBIT 2-A: CALIFORNIA TOXIC AIR CONTAMINANT SITES**



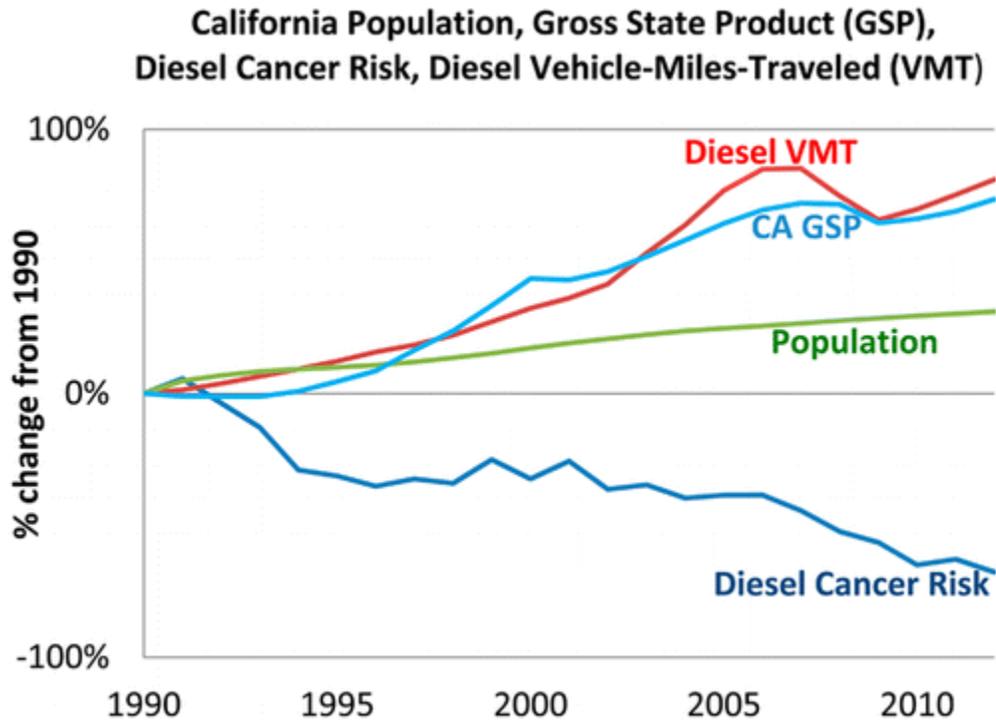
<sup>2</sup> It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

Mobile Source TACs

The CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. Since 1996, light-duty vehicles sold in California are equipped with California’s second-generation On-Board Diagnostic (OBD-II) system as a result of about half of total car emissions stemming from emissions control device malfunctions. CARB’s phase II Reformulated Gasoline (RFG-2) regulation, adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88% from 1990-2012. 1,3-Butadiene concentrations also declined 85% from 1990-2012 as a result of the motor vehicle regulations (26).

In 2000, CARB’s Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68%, even though the state’s population increased 31% and the amount of diesel vehicles miles traveled increased 81%, as shown on Exhibit 2-B. With the implementation of these diesel-related control regulations, ARB expects a DPM decline of 71% for 2000-2020.

**EXHIBIT 2-B: DIESEL PARTICULATE MATTER AND DIESEL VEHICLE MILES TREND**



Source: California Air Resources Board

Stationary Source TACs

Various regulations led to a decrease in perchloroethylene and hexavalent chromium, with a 92% and 86% decline, respectively. By 1993, several local air districts required dry cleaning businesses to use a carbon absorber and refrigerated condenser, as well as, dry-to-dry machines and closed-

looped machines instead of vented transfer machines. Starting in 2003, California provided financial incentives for dry cleaners to use other solvents and soon after, the CARB banned the use of perchloroethylene in automotive products, aerosol coatings, and most consumer products. In 2007, CARB's dry cleaning regulation was amended to require phase-out of perchloroethylene machines by 2023, which would further reduce emissions to minimal levels (26).

Hexavalent chromium emissions began to decline in 1988 with the ARB-regulated regulations contributing to more than 97% emission reduction within four years. The various regulations include prohibiting the use of hexavalent chromium in cooling towers (1989), in motor vehicle and mobile equipment coatings (2001), and in thermal spraying operations (2005). By 2005, hexavalent chromium emissions were 99.97% less than in 1987, far exceeding expectations. In 2006, hexavalent chromium emissions were further reduced with the 2006 ARB regulation requiring add-on air pollution control devices and chemical fume suppressants.

### Secondary TACs

Between 1996-2012, ambient concentrations of formaldehyde and acetaldehyde declined 22% and 21%, respectively. The decline in these TACs are attributed from increasingly stringent motor vehicle exhaust emission standards, vehicle fleet turnover, fuel reformulation, and the switch from MTBE (formaldehyde precursor) to ethanol in gasoline (26).

As previously discussed, ambient and emissions levels of TACs have reduced significantly from 1990-2012. The overall declining trend in TACs is expected to continue in California from implementation of toxic air controls.

### DIESEL REGULATIONS

The CARB and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing diesel particulate matter (DPM). More specifically, the CARB Drayage Truck Regulation (27), the CARB statewide On-road Truck and Bus Regulation (28), and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (29). In other words, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HHDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to the aforementioned regulatory requirements.

Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling.

### CANCER RISK TRENDS

Based on information available from CARB, overall cancer risk throughout the basin has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, the State of California Air Resources Board (ARB) identified particulate matter from

diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study, called MATES-II (for Multiple Air Toxics Exposure Study). Diesel particulate matter (DPM) accounts for more than 70 percent of the cancer risk.

In 2008 the SCAQMD prepared an update to the MATES-II study, referred to as MATES-III. MATES-III estimates the average excess cancer risk level from exposure to TACs is an approximately 17% decrease in comparison to the MATES-II study.

Nonetheless, the SCAQMD's most recent in-depth analysis of the toxic air contaminants and their resulting health risks for all of Southern California was from the *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES IV*," which shows that cancer risk has decreased more than 55% between MATES III (2005) and MATES IV (2012) (25).

MATES-IV study represents the baseline health risk for a cumulative analysis. MATES-IV calculated cancer risks based on monitoring data collected at ten fixed sites within the South Coast Air Basin (SCAB). None of the fixed monitoring sites are within the local area of the Project site. However, MATES-IV has extrapolated the excess cancer risk levels throughout the basin by modeling the specific grids. MATES-IV modeling predicted an excess cancer risk of 566.94 in one million for the Project area. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 68% of the total risk shown in MATES-IV. Cumulative Project generated TACs are limited to DPM.

## **2.9 EXISTING PROJECT SITE AIR QUALITY CONDITIONS**

The Project site is currently occupied by two existing vacant buildings. Existing air quality conditions at the Project site would generally reflect ambient monitored conditions as presented previously at Table 2-3.

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### 3 PROJECT AIR QUALITY IMPACT

#### 3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described in the following section.

#### 3.2 STANDARDS OF SIGNIFICANCE

The SCAQMD has developed regional and localized significance thresholds for regulated pollutants, as summarized at Table 3-1 (30). The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**TABLE 3-1: MAXIMUM DAILY EMISSIONS THRESHOLDS<sup>A</sup>**

Pollutant	Construction	Operations
<b>Regional Thresholds</b>		
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
<b>Localized Thresholds</b>		
NOx	118 lbs/day (demolition)*	270 lbs/day**
CO	775 lbs/day (demolition)*	2,075 lbs/day**
PM10	4 lbs/day (demolition)*	4 lbs/day**
PM2.5	4 lbs/day (demolition)*	3 lbs/day**

<sup>A</sup>: Based on SCAQMD Air Quality Significance Thresholds, March 2015

\*: Based on SCAQMD's localized significance threshold for a 1 acre site

\*\* : Based on SCAQMD's localized significance thresholds for a 5 acre site

#### 3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE AQ EMISSIONS

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On October 14, 2016, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO<sub>x</sub>, VOC, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (31). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1.

### 3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of CO, VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Construction related emissions are expected from the following construction activities:

- Demolition
- Building Construction
- Paving
- Architectural Coating
- Construction Workers Commuting

Construction is expected to commence in March 2018 and will last through August 2018. The duration of construction activity was estimated based on consultation with the client and a 2018 opening year. The construction schedule utilized in the analysis, shown in Table 3-1, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.<sup>3</sup> A detailed summary of construction equipment, shown in Table 3-2, was estimated based on consultation with the client and CalEEMod model defaults. The site specific construction fleet may vary due to specific project needs at the time of construction. The duration of construction activity and associated equipment both represent a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.1 of this analysis.

<sup>3</sup> As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version 2016.3.1 Table 4.4 “OFFROAD Equipment Emission Factors” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

**TABLE 3-2: CONSTRUCTION DURATION**

Phase Name	Start Date	End Date	Days
Demolition	03/01/2018	05/09/2018	50
Building Construction	03/01/2018	08/31/2018	132
Paving	06/30/2018	08/31/2018	45
Architectural Coating	07/30/2018	08/31/2018	25

**TABLE 3-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Phase Name	Equipment Type	Number of Equipment	Hours per day
Demolition	Concrete/Industrial Saws	1	8
	Excavators	3	8
	Rubber Tired Dozers	2	8
Building Construction	Forklifts	1	8
	Tractors/Loaders/Backhoes	3	8
Paving	Pavers	1	8
	Paving Equipment	1	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Dust is typically a major concern during rough grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). The CalEEMod model was utilized to calculate fugitive dust emissions resulting from this phase of activity. As previously discussed, the Project proposes to repurpose the two currently existing vacant buildings onsite. Therefore, no demolition of existing structures would be required. However, the Project will require 638 tons of asphalt pavement removal, which would occur during the demolition phase of construction.

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from the applicant and the CalEEMod model.

#### **OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS**

Construction emissions associated with off-site utility and infrastructure improvements may occur, however at this time, a specific schedule of off-site utility and infrastructure improvements is unknown. However impacts associated with these expected activities are not expected to exceed the emissions identified for Project-related construction activities. As such, no impacts beyond what has already been identified in this report are expected to occur.

### 3.4.1 CONSTRUCTION EMISSIONS SUMMARY

The SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (32); Rule 431.2 (Low Sulfur Fuel) (33); Rule 403 (Fugitive Dust) (34); and Rule 1186 / 1186.1 (Street Sweepers) (35). As such, credit for Rule 1113 and Rule 403 have been taken.

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-4. Detailed construction model outputs are presented in Appendix 3.2. Under the assumed scenarios, emissions resulting from the Project construction would not exceed numerical thresholds established by the SCAQMD for any criteria pollutant. Therefore, a less than significant impact would occur and no mitigation is required.

**TABLE 3-4: MAXIMUM DAILY PEAK CONSTRUCTION EMISSIONS SUMMARY**

Year	Emissions (pounds per day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
2018	72.93	76.30	69.27	0.19	2.78	4.76
<b>Maximum Daily Emissions</b>	<b>72.93</b>	<b>76.30</b>	<b>69.27</b>	<b>0.19</b>	<b>2.78</b>	<b>4.76</b>
SCAQMD Regional Threshold	75	100	550	150	150	55
<b>Threshold Exceeded?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

### 3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOC, NOX, CO, SOX, PM10, and PM2.5. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

#### 3.5.1 AREA SOURCE EMISSIONS

##### Architectural Coatings

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod.

##### Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other

photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within the CalEEMod.

#### Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod.

### **3.5.2 ENERGY SOURCE EMISSIONS**

#### Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod.

### **3.5.3 MOBILE SOURCE EMISSIONS**

#### Vehicles

Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics available from the report, 801 Opal Avenue Traffic Impact Analysis (Urban Crossroads) 2017 were utilized in this analysis (36). It should be noted that the Project's traffic study presents the total Project vehicle trips in terms of Passenger Car Equivalent (PCEs) in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. Notwithstanding, for purposes of the study, the PCE trips were not used. Rather, to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis.

For purposes of this analysis, the ITE land use codes 140 (Manufacturing) and 150 (Warehousing) have been used to derive site specific trip generation estimates. The ITE Trip Generation manual includes very limited data regarding the types of vehicles that are generated for warehousing uses (passenger cars and various sizes of trucks). Data regarding the vehicle mix has therefore been obtained from a separate report; the City of Fontana Truck Trip Generation Study (August 2003) for the warehousing use proposed as part of the Project. The "Heavy Warehouse" vehicle mix data has been utilized for the two existing vacant buildings.

### 3.5.3.1 Trip Length

#### Background

A technical deficiency inherent in calculating the projected vehicle emissions associated with any project is related to the estimation of trip length and vehicle miles traveled (VMT). VMT for a given project is calculated by the total number of vehicle trips to/from the Project x average trip length. This method of estimating VMT for use in calculating vehicle emissions likely results in the over-estimation and double-counting of emissions because, for a distribution warehouse center such as the Project, the land use is likely to attract (divert) existing vehicle trips that are already on the circulation system as opposed to generating new trips. In this regard, the Project would, to a large extent, redistribute existing mobile-source emissions rather than generate additional emissions within the Basin. As such, the estimation of the 801 Opal Avenue Project's vehicular-source emissions are likely overstated in that no credit for, or reduction in, emissions is assumed based on diversion of existing trips.

Provided below is a summary of the VMT recommendations of the SCAQMD and SCAG, followed by a description of the methodology used to calculate the VMT rates used in this AQIA.

#### SCAQMD Recommendation

In the last five years, the SCAQMD has provided numerous comments on the trip length for warehouse/distribution and industrial land use projects (37). The SCAQMD asserts that the model-default trip length in CalEEMod™ and the URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) would underestimate emissions. The SCAQMD asserts that for warehouse, distribution center, and industrial land use projects, most of the heavy-duty trucks would be hauling consumer goods, often from the Ports of Long Beach and Los Angeles (POLA and POLB) and/or to destinations outside of California. The SCAQMD states that for this reason, the CalEEMod™ and the URBan EMISsions model default trip length (approximately 12.6 miles) would not be representative of activities at like facilities. The SCAQMD generally recommends the use of a 40-mile one-way trip length.

#### Southern California Association of Government (SCAG) Heavy Duty Truck Model

SCAG is comprised of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 190 cities in Southern California, and is the organization charged with addressing and resolving short- and long-term regional policy issues. The SCAG region also consists of 14 sub-regional entities recognized by the Regional Council as partners in the regional policy planning process. The SCAG region has more than 19 million residents and encompasses more than 38,000 square miles, representing the largest and most diverse region in the country.

SCAG maintains a regional transportation model. In its most recent (2008) transportation validation for the 2003 Regional Model, SCAG indicates the average internal truck trip length for the SCAG region is 5.92 miles for Light Duty Trucks, 13.06 miles for Medium Duty Trucks, and 24.11 miles for Heavy Duty Trucks.

## Approach for Analysis of the Project

The SCAG approach identified above is deemed to be the most applicable for the Project. This same methodology is employed in analyses for similar projects in the City and other jurisdictions within the County, and is considered by the Lead Agency to be appropriate and accurate. Furthermore, the National Cooperative Highway Research Program (NCHRP) in their Synthesis 384 Forecasting Metropolitan Commercial and Freight Travel acknowledge and cite to the SCAG truck trip lengths used herein.

Two separate model runs were utilized in order to more accurately model emissions resulting from vehicle operations. The first run analyzed passenger car emissions, which incorporated a default trip length of 16.6 miles for passenger cars within San Bernardino County and a fleet mix of 100% Light-Duty-Auto vehicles (LDA). The second run analyzed truck emissions, which incorporated an average truck trip length of 15.92 miles and a fleet mix of: 16.92% of Light-Heavy-Duty (LHD), 22.70% of Medium-Heavy-Duty (MHD), and 60.38% of Heavy-Heavy-Duty (HHD) for warehousing uses; and 37.41% LHD, 18.21% MHD, and 44.38% HHD for manufacturing uses. This proportional truck mix by axle type is based on information provided in the Project's traffic study. The estimated emissions resulting from vehicle operations are summarized in Section 3.5.5 (presented later in this report.) Detailed emission calculations are provided in Appendix 3.2.

### Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

### 3.5.5 OPERATIONAL EMISSIONS SUMMARY

The estimated operation-source emissions are summarized on Table 3-5. Detailed operation model outputs are presented in Appendix 3.2. Under the assumed scenarios, emissions resulting from the Project operations would not exceed the numerical thresholds established by the SCAQMD for any criteria pollutant. Therefore, a less than significant impact would occur and no mitigation is required.

**TABLE 3-5: SUMMARY OF OPERATIONAL EMISSIONS (1 OF 2)**

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Source	5.68	4.80E-04	0.05	0.00	1.80E-04	1.80E-04
Energy Source	0.13	1.18	0.99	7.09E-03	0.09	0.09
Mobile (Trucks)	1.62	47.30	11.82	0.14	4.78	1.60
Mobile (Passenger Cars)	1.42	2.01	28.02	0.08	8.94	2.40
<b>Total Maximum Daily Emissions</b>	<b>8.85</b>	<b>50.49</b>	<b>40.88</b>	<b>0.23</b>	<b>13.81</b>	<b>4.09</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

TABLE 3-5: SUMMARY OF OPERATIONAL EMISSIONS (2 OF 2)

Operational Activities – Winter Scenario	Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Source	5.68	4.80E-04	0.05	0.00	1.80E-04	1.80E-04
Energy Source	0.13	1.18	0.99	7.09E-03	9.00E-02	9.00E-02
Mobile (Trucks)	1.66	48.40	12.34	0.14	4.78	1.60
Mobile (Passenger Cars)	1.17	2.10	22.64	0.08	8.94	2.40
<b>Total Maximum Daily Emissions</b>	<b>8.64</b>	<b>51.68</b>	<b>36.02</b>	<b>0.23</b>	<b>13.81</b>	<b>4.09</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

### 3.6 LOCALIZED SIGNIFICANCE- CONSTRUCTION ACTIVITY

#### BACKGROUND ON LOCALIZED SIGNIFICANCE THRESHOLD (LST) DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (Methodology) (19). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO<sub>2</sub>, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM<sub>10</sub> and PM<sub>2.5</sub>; both of which are non-attainment pollutants.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (38).

## EMISSIONS CONSIDERED

SCAQMD’s Methodology clearly states that “off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs (39).” Therefore, for purposes of the construction LST analysis only emissions included in the CalEEMod “on-site” emissions outputs were considered.

## APPLICABILITY OF LSTs FOR THE PROJECT

For this Project, the appropriate Source Receptor Area (SRA) for the LST is the East San Bernardino Valley monitoring station (SRA 35). LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter ≤ 10 microns (PM<sub>10</sub>), and particulate matter ≤ 2.5 microns (PM<sub>2.5</sub>). The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- The CalEEMod model is utilized to determine the maximum daily on-site emissions that will occur during construction activity.
- The SCAQMD’s Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (21) is used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.
- If the total acreage disturbed is less than or equal to five acres per day, then the SCAQMD’s screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact (the SCAQMD recommends that Projects exceeding the screening look-up tables undergo dispersion modeling to determine actual impacts). The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs.

## MAXIMUM DAILY DISTURBED-ACREAGE

Table 3-6 is used to determine the maximum daily disturbed-acreage for purposes of modeling localized emissions. As shown, the proposed Project could actively disturb approximately 1 acre per day during the demolition phase of construction.

**TABLE 3-6: MAXIMUM DAILY DISTURBED-ACREAGE**

Construction Phase	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Demolition	Rubber Tired Dozers	2	0.5	8	1
	Crawler Tractors	0	0.5	8	0
	Graders	0	0.5	8	0
	Scrapers	0	1	8	0
Total acres graded per day during Site Preparation					1

### **Sensitive Receptors**

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as “sensitive receptors”.

Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site. To assess the stationary source operational and construction air impacts, the following sensitive receptor locations, as shown on Exhibit 3-A, were identified.

- R1: Located approximately 96 feet west of the Project site, R1 represents existing residential home across Opal Avenue, between two industrial land uses.
- R2: Location R2 represents an existing residential home surrounded by the Project site boundaries to the north, east, and south on Opal Avenue.
- R3: Location R3 represents the existing residential homes situated north of the Project site at approximately 85 feet on Nice Avenue.
- R4: Location R4 represents the existing residential homes located adjacent to the eastern Project site boundary at approximately 16 feet on Beryl Avenue.
- R5: Location R5 represents the existing residential homes located adjacent to the eastern Project site boundary at approximately 20 feet on Beryl Avenue, south of Moss Street.
- R6: Location R6 represents the existing residential homes located adjacent to the eastern Project site boundary at approximately 20 feet on Beryl Avenue, south of Granite Street.
- R7: Location R7 represents the existing Redlands East Valley High School baseball and outdoor fields located south of the Project site at approximately 94 feet on Colton Avenue.
- R8: Located approximately 718 feet southwest of the Project site, R8 represents existing residential homes on Opal Avenue.

The nearest sensitive receptor is represented by location R2, which is the existing residential home located approximately 10 feet/3 meters from the Project site boundaries on Opal Avenue. Notwithstanding, the *Methodology* explicitly states that “*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters (40).*” As such, LSTs for receptors located at 25 meters/ 82 feet were utilized in this AQIA.

**EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**LEGEND:**

- Receptor Locations
- Distance from receptor to Project site boundary (in feet)
- Project Site Boundary

### CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

Since the total acreage disturbed is less than five acres per day for the demolition phase, the SCAQMD's screening look-up tables are utilized in determining impacts.

Table 3-7 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Appendix 3.1. As shown, localized construction emissions would not exceed the applicable SCAQMD LSTs for any criteria pollutant. Therefore, a less than significant impact is expected.

**TABLE 3-7: LOCALIZED SIGNIFICANCE SUMMARY CONSTRUCTION**

On-Site Grading Emissions	Emissions (pounds per day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	33.32	22.30	2.05	1.82
SCAQMD Localized Threshold	118	775	4	4
Threshold Exceeded?	NO	NO	NO	NO

### 3.7 LOCALIZED SIGNIFICANCE – LONG-TERM OPERATIONAL ACTIVITY

Generally, the maximum acreage would be the Project area of operations which is approximately 35.18 acres. However, for the purposes of this analysis and as a conservative measure, the SCAQMD look-up tables of 5-acres are used to determine localized significance thresholds for operational activity. Table 3-8 shows the calculated emissions for the Project's operational activities compared with the applicable LSTs. The LST analysis includes on-site sources only; however, the CalEEMod™ model outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-8 represent all on-site Project-related stationary (area) sources and five percent (5%) of the Project-related mobile sources. Considering that the weighted trip length used in CalEEMod™ for the Project is approximately 35.10 miles for trucks and passenger cars, 5% of this total would represent an on-site travel distance of approximately 1.76 mile/ 9,292.8 feet for each vehicle. Thus the 5% assumption is conservative and would tend to overstate the actual impact. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

As noted previously, the nearest sensitive receptor land use is the residential community located adjacent northwest of the Project site. Notwithstanding, LSTs for receptors at 25 meters are utilized in this analysis.

#### LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

Applicable localized thresholds from the SCAQMD's mass-rate LST lookup tables are as follows:

- NO<sub>x</sub>: 270 pounds per day;
- CO: 2,075 pounds per day.

- PM<sub>10</sub>: 4 pounds per day;
- PM<sub>2.5</sub>: 3 pounds per day; or

If emissions exceed the applicable LST thresholds for operational activity, then additional dispersion modeling needs to be conducted to determine if there is an actual exceedance of the AAQS.

As shown on Table 3-8, operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project would have a less than significant localized impact during operational activity.

**TABLE 3-8: LOCALIZED SIGNIFICANCE OPERATIONS SUMMARY**

On-Site Grading Emissions	Emissions (pounds per day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	3.71	2.79	0.78	0.29
SCAQMD Localized Threshold	270	2,075	4	3
Threshold Exceeded?	NO	NO	NO	NO

### 3.8 CO “HOT SPOT” ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or “hot spots.” Further, detailed modeling of Project-specific carbon monoxide (CO) “hot spots” is not needed to reach this conclusion.

An adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the California AAQS and National AAQS for CO (40).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment, as previously noted in Table 2-2. Also, CO concentrations in the Project vicinity have steadily declined, as indicated by historical emissions data presented previously at Table 2-3.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO “hot spot” analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards, as shown on Table 3-9.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the “hot spot” analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (40). In contrast, the ambient 8-hr CO concentration within the Project study area is estimated at 1.4 ppm—1.6 ppm (please refer to previous Table 2-3). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO “hot spot” at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (41).

Traffic volumes generating the CO concentrations for the “hot spot” analysis, shown on Table 3-10. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations ( $4.6 \text{ ppm} \times 4 = 18.4 \text{ ppm}$ ) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).<sup>4</sup> At buildout of the Project, the highest average daily trips on a segment of road would be 19,200 daily trips on Mentone Blvd. west of Opal Ave. which is lower than the highest daily traffic volumes generated at the busiest intersection in the CO “hot spot” analysis (43).

The proposed Project considered herein would not produce the volume of traffic required to generate a CO “hot spot” either in the context of the 2003 Los Angeles hot spot study, or based on representative BAAQMD CO threshold considerations, as shown on Table 3-11. Therefore, CO “hot spots” are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

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<sup>4</sup> Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

**TABLE 3-9: CO MODEL RESULTS**

Intersection Location	Carbon Monoxide Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire-Veteran	4.6	3.5	4.2
Sunset-Highland	4	4.5	3.9
La Cienega-Century	3.7	3.1	5.8
Long Beach-Imperial	3	3.1	9.3

**TABLE 3-10: TRAFFIC VOLUMES FOR INTERSECTIONS EVALUATED IN AQMP**

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire-Veteran	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset-Highland	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega-Century	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach-Imperial	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

**TABLE 3-11: PROJECT PEAK HOUR TRAFFIC VOLUMES**

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Judson St./ Colton Ave.	362/368	352/262	290/395	464/397	1,469/1,423
Dearborn St./ Colton Ave.	267/213	241/169	347/377	391/354	1,247/1,114
Wabash Ave./ Colton Ave.	358/276	405/361	389/302	388/388	1,540/1,326
Opal Ave./ Mentone Bl.	46/70	54/57	600/967	1,077/555	1,777/1,649

Source: 801 Opal Avenue Traffic Impact Analysis (Urban Crossroads, Inc., 2017).

### 3.9 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order

to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (44).

Like the 2012 AQMP, the 2016 AQMP was based on assumptions provided by both CARB and SCAG in the latest available EMFAC model for the most recent motor vehicle and demographics information, respectively. The air quality levels projected in the 2016 AQMP are based on several assumptions. For example, the 2016 AQMP has assumed that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its 2016 RTP. The 2016 AQMP also has assumed that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (23). These indicators are discussed below:

- Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

### **Construction Impacts**

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized significance thresholds (LSTs) or regional significance thresholds were exceeded. The Project would not exceed the applicable LST thresholds or regional significance thresholds for construction activity. Therefore, the Project would not conflict with the AQMP according to this criterion.

### **Operational Impacts**

The Project would not exceed the applicable LST thresholds and regional significance thresholds for operational activity. Therefore, the Project would not have the potential to conflict with the AQMP according to this criterion.

- Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

### **Overview**

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the Southern California Association of

Governments (SCAG), which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in County of San Bernardino General Plan (County General Plan) is considered to be consistent with the AQMP.

### **Construction Impacts**

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

### **Operational Impacts**

The County currently designates the Project site as "Single Residential (RS) (46)." The RS land use zoning district provides areas for single-family homes on individual lots, areas for accessory and non-residential uses that complement single residential neighborhoods.

The Project is proposed to consist of 126,224 s.f. of manufacturing and 115,329 s.f. of warehousing use within two currently vacant existing buildings, which is more intense than the existing RS land use designation. Though the Project proposes a more intense land use, it should be noted the Project would not exceed the applicable SCAQMD regional and localized significance thresholds. As such, the Project would not have the potential to conflict with the AQMP.

### **AQMP Consistency Conclusion**

The Project would not have the potential to cause NAAQS or CAAQS violations. Though the Project proposes land uses that are more intense than the existing land use designation, the Project would not exceed the applicable SCAQMD regional and localized significance thresholds. As such, the Project would not have the potential to conflict with the AQMP.

## **3.10 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS**

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

### 3.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous commercial refuse. Consistent with County requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on-site. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances (1).

### 3.12 CUMULATIVE IMPACTS

The Project area is designated as an extreme non-attainment area for ozone, and a non-attainment area for PM<sub>10</sub>, PM<sub>2.5</sub>, and lead.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (45). In this report the AQMD clearly states (Page D-3):

*“...the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*

*Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance*

*thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD’s recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

### **CRITERION 1; REGIONAL ANALYSIS**

#### Construction Impacts

Project construction-source air pollutant emissions would not exceed the SCAQMD regional thresholds for any criteria pollutant. Therefore, the Project would not result in a cumulatively considerable significant impact with respect to construction activity.

#### Operational Impacts

Project operational-source air pollutant emissions would not exceed the SCAQMD regional thresholds for any criteria pollutant. Therefore, the Project would not result in a cumulatively considerable significant impact with respect to operational activity.

### **Criterion 2; List Approach**

A list approach is used, in accordance with Section 15130(b) of the CEQA Guidelines, which states the following:

*The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.*

The SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects.

The cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the County of San Bernardino. As shown on Table 3-12, the cumulative project list includes known and foreseeable projects that are anticipated to contribute emissions to the air basin in the vicinity of the Project.

Cumulative projects could contribute to an existing or projected air quality exceedance because the Basin is currently nonattainment for ozone, PM10, and PM2.5. As previously noted, Project

would not result in any emissions exceedance over the applicable SCAQMD regional thresholds. As such, the Project would result in a less than significant impact persisting over the life of the Project.

**TABLE 3-12: CUMULATIVE DEVELOPMENT LIST**

#	Name/Location	Land Use <sup>1</sup>	Quantity	Units <sup>2</sup>
<b>County of San Bernardino</b>				
SBC1	San Bernardino Warehouse	Warehouse	191.036	TSF
SBC2	RMC P201700154 (Mountain Grove at Citrus Plaza)	Apartments	281	DU
SBC3	CUP P201600512	Auto Care Center	4.990	TSF
SBC4	Tract 19991	SFDR	62	DU
<b>City of Redlands</b>				
R1	Tract 18988	SFDR	82	DU
R2	Tract 18979	SFDR	55	DU
R3	Tract 18762	SFDR	39	DU
		Multi-Family Residential	189	DU
R4	Tract 16915	SFDR	6	DU
	CUP 114	Church/Preschool Expansion	4.300	TSF
R5	Tract 16586	SFDR	76	DU
R6	Tract 16878	SFDR	76	DU
R7	Tract 19975	SFDR	67	DU
R8	Tract 17022	SFDR	12	DU
R9	Texonia Apartments	Apartments	80	DU
R10	Tract 16402	SFDR	27	DU
R11	Tract 16287	SFDR	12	DU
R12	Tract 18182	SFDR	27	DU
R13	Tract 19956	SFDR	40	DU
R14	Tract 19942	SFDR	34	DU
R15	CUP 905	Shopping Center	88.075	TSF
R16	CUP 1065 (Mentone Beach RV Storage Expansion)	RV Storage	127.746	TSF
R17	CRA 889	Hotel	88	Rooms
R18	CUP 1061	Fast-Food Restaurant with Drive-Thru	5.000	TSF
		Daycare	23.490	TSF
R19	Redlands Walmart	Walmart	215.000	TSF
		Specialty Retail	25.700	TSF

	Sit-Down Restaurants	9.000	TSF
	Fast-Food Restaurant without Drive-Thru	12.300	TSF
	Fast-Food Restaurant with Drive-Thru	10.500	TSF
	Gas Station w/ Market & Car Wash	12	VFP

<sup>1</sup> SFDR = Single Family Detached Residential

<sup>2</sup> TSF = Thousand Square Feet; DU = Dwelling Units; VFP = Vehicle Fueling Position

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## 4 FINDINGS & CONCLUSIONS

### CONSTRUCTION-SOURCE EMISSIONS

#### *REGIONAL IMPACTS*

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the South Coast Air Quality Management District (SCAQMD) for any criteria pollutant. Thus a less than significant impact would occur for Project-related construction-source emissions and no mitigation is required.

#### *LOCALIZED IMPACTS*

For localized emissions, the Project would not exceed the SCAQMD's localized significance threshold. Thus a less than significant impact would occur and no mitigation is required.

Project construction-source emissions would not have the potential to conflict with the applicable Air Quality Management Plan (AQMP).

#### *ODORS*

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

### OPERATIONAL-SOURCE EMISSIONS

#### *REGIONAL IMPACTS*

For regional emissions, the Project would not exceed thresholds of significance established by the SCAQMD for any criteria pollutant. Thus, a less than significant impact would occur for Project-related operational-source emissions and no mitigation is required.

#### *LOCALIZED IMPACTS*

Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the operational LSTs section of this report. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.8, thus a less than significant impact to sensitive receptors during operational activity is expected.

Project operational-source emissions would not have the potential to conflict with the applicable AQMP.

### *Odors*

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances (1). Consistent with County requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

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## 6 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed 801 Opal Avenue Project. The information contained in this air quality impact report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5987.

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### EDUCATION

Master of Science in Environmental Studies  
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design  
University of California, Irvine • June, 2006

### PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners  
AWMA – Air and Waste Management Association  
ASTM – American Society for Testing and Materials

### PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013  
Planned Communities and Urban Infill – Urban Land Institute • June, 2011  
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008  
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007  
AB2588 Regulatory Standards – Trinity Consultants • November, 2006  
Air Dispersion Modeling – Lakes Environmental • June, 2006

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**APPENDIX 3.1:**  
**CALEEMOD EMISSIONS MODEL OUTPUTS**

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801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**801 Opal Ave. Warehouse Construction and Passenger Cars**  
**San Bernardino-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	126.22	1000sqft	2.90	126,224.00	0
Unrefrigerated Warehouse-No Rail	115.33	1000sqft	2.65	115,329.00	0
Other Asphalt Surfaces	27.61	Acre	27.61	1,202,691.60	0
Parking Lot	224.00	Space	2.02	89,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2018
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

Project Characteristics -

Land Use - Net Acreage: 35.18

Construction Phase - Based on information provided by the client

Off-road Equipment - Based on 8 hour workday

Off-road Equipment - Based on information provided by the client

Off-road Equipment -

Off-road Equipment - Based on information provided by the client

Trips and VMT -

Demolition -

Architectural Coating - Based on Rule 1113: all flat, nonflat, and floor coatings shall be no more than 100 g/L low VOC paint

Vehicle Trips - Based on traffic study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Construction Off-road Equipment Mitigation -

Fleet Mix - Passenger Cars only

Landscape Equipment -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	55.00	25.00

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

tblConstructionPhase	NumDays	740.00	132.00
tblConstructionPhase	NumDays	55.00	45.00
tblEnergyUse	T24E	2.31	2.19
tblEnergyUse	T24E	0.39	3.06
tblEnergyUse	T24NG	15.43	14.66
tblEnergyUse	T24NG	2.02	3.32
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

## 801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	126,220.00	126,224.00
tblLandUse	BuildingSpaceSquareFeet	115,330.00	115,329.00
tblLandUse	LandUseSquareFeet	126,220.00	126,224.00
tblLandUse	LandUseSquareFeet	115,330.00	115,329.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00

## 801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	3.00
tblVehicleTrips	ST_TR	1.68	2.83
tblVehicleTrips	SU_TR	0.62	3.00
tblVehicleTrips	SU_TR	1.68	2.83
tblVehicleTrips	WD_TR	3.82	3.00
tblVehicleTrips	WD_TR	1.68	2.83

## 2.0 Emissions Summary

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801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.4209	2.0115	28.0201	0.0843	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		8,397.8799	8,397.8799	0.2084		8,403.0899
<b>Total</b>	<b>7.2288</b>	<b>3.1936</b>	<b>29.0636</b>	<b>0.0914</b>	<b>8.8915</b>	<b>0.1391</b>	<b>9.0306</b>	<b>2.3570</b>	<b>0.1353</b>	<b>2.4923</b>		<b>9,815.8808</b>	<b>9,815.8808</b>	<b>0.2359</b>	<b>0.0260</b>	<b>9,829.5240</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.4209	2.0115	28.0201	0.0843	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		8,397.8799	8,397.8799	0.2084		8,403.0899
<b>Total</b>	<b>7.2288</b>	<b>3.1936</b>	<b>29.0636</b>	<b>0.0914</b>	<b>8.8915</b>	<b>0.1391</b>	<b>9.0306</b>	<b>2.3570</b>	<b>0.1353</b>	<b>2.4923</b>		<b>9,815.8808</b>	<b>9,815.8808</b>	<b>0.2359</b>	<b>0.0260</b>	<b>9,829.5240</b>

## 801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

---

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2018	5/9/2018	5	50	
2	Building Construction	Building Construction	3/1/2018	8/31/2018	5	132	
3	Paving	Paving	6/30/2018	8/31/2018	5	45	
4	Architectural Coating	Architectural Coating	7/30/2018	8/31/2018	5	25	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 29.63**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 362,330; Non-Residential Outdoor: 120,777; Striped Parking Area: 77,537 (Architectural Coating – sqft)**

#### OffRoad Equipment

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	644.00	251.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	129.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.2 Demolition - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2731	0.0000	0.2731	0.0413	0.0000	0.0413			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
<b>Total</b>	<b>3.7190</b>	<b>38.3225</b>	<b>22.3040</b>	<b>0.0388</b>	<b>0.2731</b>	<b>1.9386</b>	<b>2.2116</b>	<b>0.0413</b>	<b>1.8048</b>	<b>1.8462</b>		<b>3,871.7665</b>	<b>3,871.7665</b>	<b>1.0667</b>		<b>3,898.4344</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9800e-003	0.3547	0.0506	1.0100e-003	0.0221	1.2400e-003	0.0233	6.0500e-003	1.1800e-003	7.2300e-003		107.2754	107.2754	5.8800e-003		107.4224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0673	0.8434	1.8200e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		181.1143	181.1143	6.6700e-003		181.2811
<b>Total</b>	<b>0.1068</b>	<b>0.4220</b>	<b>0.8941</b>	<b>2.8300e-003</b>	<b>0.1897</b>	<b>2.4000e-003</b>	<b>0.1921</b>	<b>0.0505</b>	<b>2.2500e-003</b>	<b>0.0528</b>		<b>288.3897</b>	<b>288.3897</b>	<b>0.0126</b>		<b>288.7035</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.2 Demolition - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1065	0.0000	0.1065	0.0161	0.0000	0.0161			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
<b>Total</b>	<b>3.7190</b>	<b>38.3225</b>	<b>22.3040</b>	<b>0.0388</b>	<b>0.1065</b>	<b>1.9386</b>	<b>2.0450</b>	<b>0.0161</b>	<b>1.8048</b>	<b>1.8210</b>	<b>0.0000</b>	<b>3,871.7665</b>	<b>3,871.7665</b>	<b>1.0667</b>		<b>3,898.4344</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9800e-003	0.3547	0.0506	1.0100e-003	0.0221	1.2400e-003	0.0233	6.0500e-003	1.1800e-003	7.2300e-003		107.2754	107.2754	5.8800e-003		107.4224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0673	0.8434	1.8200e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		181.1143	181.1143	6.6700e-003		181.2811
<b>Total</b>	<b>0.1068</b>	<b>0.4220</b>	<b>0.8941</b>	<b>2.8300e-003</b>	<b>0.1897</b>	<b>2.4000e-003</b>	<b>0.1921</b>	<b>0.0505</b>	<b>2.2500e-003</b>	<b>0.0528</b>		<b>288.3897</b>	<b>288.3897</b>	<b>0.0126</b>		<b>288.7035</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.3 Building Construction - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4110	3.8755	3.2559	4.2500e-003		0.2887	0.2887		0.2656	0.2656		427.4666	427.4666	0.1331		430.7935
<b>Total</b>	<b>0.4110</b>	<b>3.8755</b>	<b>3.2559</b>	<b>4.2500e-003</b>		<b>0.2887</b>	<b>0.2887</b>		<b>0.2656</b>	<b>0.2656</b>		<b>427.4666</b>	<b>427.4666</b>	<b>0.1331</b>		<b>430.7935</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0115	30.7645	6.6048	0.0693	1.6077	0.2136	1.8213	0.4629	0.2044	0.6673		7,302.2411	7,302.2411	0.5006		7,314.7560
Worker	4.2015	2.8889	36.2117	0.0782	7.1984	0.0500	7.2484	1.9091	0.0461	1.9551		7,775.8405	7,775.8405	0.2865		7,783.0033
<b>Total</b>	<b>5.2129</b>	<b>33.6534</b>	<b>42.8165</b>	<b>0.1475</b>	<b>8.8061</b>	<b>0.2636</b>	<b>9.0697</b>	<b>2.3720</b>	<b>0.2505</b>	<b>2.6224</b>		<b>15,078.0816</b>	<b>15,078.0816</b>	<b>0.7871</b>		<b>15,097.7592</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.3 Building Construction - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4110	3.8755	3.2559	4.2500e-003		0.2887	0.2887		0.2656	0.2656	0.0000	427.4666	427.4666	0.1331		430.7935
<b>Total</b>	<b>0.4110</b>	<b>3.8755</b>	<b>3.2559</b>	<b>4.2500e-003</b>		<b>0.2887</b>	<b>0.2887</b>		<b>0.2656</b>	<b>0.2656</b>	<b>0.0000</b>	<b>427.4666</b>	<b>427.4666</b>	<b>0.1331</b>		<b>430.7935</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0115	30.7645	6.6048	0.0693	1.6077	0.2136	1.8213	0.4629	0.2044	0.6673		7,302.2411	7,302.2411	0.5006		7,314.7560
Worker	4.2015	2.8889	36.2117	0.0782	7.1984	0.0500	7.2484	1.9091	0.0461	1.9551		7,775.8405	7,775.8405	0.2865		7,783.0033
<b>Total</b>	<b>5.2129</b>	<b>33.6534</b>	<b>42.8165</b>	<b>0.1475</b>	<b>8.8061</b>	<b>0.2636</b>	<b>9.0697</b>	<b>2.3720</b>	<b>0.2505</b>	<b>2.6224</b>		<b>15,078.0816</b>	<b>15,078.0816</b>	<b>0.7871</b>		<b>15,097.7592</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.4 Paving - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0798	11.2539	9.3337	0.0140		0.6497	0.6497		0.5977	0.5977		1,410.9507	1,410.9507	0.4393		1,421.9319
Paving	1.7251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.8049</b>	<b>11.2539</b>	<b>9.3337</b>	<b>0.0140</b>		<b>0.6497</b>	<b>0.6497</b>		<b>0.5977</b>	<b>0.5977</b>		<b>1,410.9507</b>	<b>1,410.9507</b>	<b>0.4393</b>		<b>1,421.9319</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0652	0.0449	0.5623	1.2100e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		120.7429	120.7429	4.4500e-003		120.8541
<b>Total</b>	<b>0.0652</b>	<b>0.0449</b>	<b>0.5623</b>	<b>1.2100e-003</b>	<b>0.1118</b>	<b>7.8000e-004</b>	<b>0.1126</b>	<b>0.0296</b>	<b>7.2000e-004</b>	<b>0.0304</b>		<b>120.7429</b>	<b>120.7429</b>	<b>4.4500e-003</b>		<b>120.8541</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.4 Paving - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0798	11.2539	9.3337	0.0140		0.6497	0.6497		0.5977	0.5977	0.0000	1,410.9507	1,410.9507	0.4393		1,421.9319
Paving	1.7251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.8049</b>	<b>11.2539</b>	<b>9.3337</b>	<b>0.0140</b>		<b>0.6497</b>	<b>0.6497</b>		<b>0.5977</b>	<b>0.5977</b>	<b>0.0000</b>	<b>1,410.9507</b>	<b>1,410.9507</b>	<b>0.4393</b>		<b>1,421.9319</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0652	0.0449	0.5623	1.2100e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		120.7429	120.7429	4.4500e-003		120.8541
<b>Total</b>	<b>0.0652</b>	<b>0.0449</b>	<b>0.5623</b>	<b>1.2100e-003</b>	<b>0.1118</b>	<b>7.8000e-004</b>	<b>0.1126</b>	<b>0.0296</b>	<b>7.2000e-004</b>	<b>0.0304</b>		<b>120.7429</b>	<b>120.7429</b>	<b>4.4500e-003</b>		<b>120.8541</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.5 Architectural Coating - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3982	2.6743	2.4723	3.9600e-003		0.2007	0.2007		0.2007	0.2007		375.2647	375.2647	0.0357		376.1562
<b>Total</b>	<b>63.5659</b>	<b>2.6743</b>	<b>2.4723</b>	<b>3.9600e-003</b>		<b>0.2007</b>	<b>0.2007</b>		<b>0.2007</b>	<b>0.2007</b>		<b>375.2647</b>	<b>375.2647</b>	<b>0.0357</b>		<b>376.1562</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8416	0.5787	7.2536	0.0157	1.4419	0.0100	1.4519	0.3824	9.2300e-003	0.3916		1,557.5830	1,557.5830	0.0574		1,559.0177
<b>Total</b>	<b>0.8416</b>	<b>0.5787</b>	<b>7.2536</b>	<b>0.0157</b>	<b>1.4419</b>	<b>0.0100</b>	<b>1.4519</b>	<b>0.3824</b>	<b>9.2300e-003</b>	<b>0.3916</b>		<b>1,557.5830</b>	<b>1,557.5830</b>	<b>0.0574</b>		<b>1,559.0177</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**3.5 Architectural Coating - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3982	2.6743	2.4723	3.9600e-003		0.2007	0.2007		0.2007	0.2007	0.0000	375.2647	375.2647	0.0357		376.1562
<b>Total</b>	<b>63.5659</b>	<b>2.6743</b>	<b>2.4723</b>	<b>3.9600e-003</b>		<b>0.2007</b>	<b>0.2007</b>		<b>0.2007</b>	<b>0.2007</b>	<b>0.0000</b>	<b>375.2647</b>	<b>375.2647</b>	<b>0.0357</b>		<b>376.1562</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8416	0.5787	7.2536	0.0157	1.4419	0.0100	1.4519	0.3824	9.2300e-003	0.3916		1,557.5830	1,557.5830	0.0574		1,559.0177
<b>Total</b>	<b>0.8416</b>	<b>0.5787</b>	<b>7.2536</b>	<b>0.0157</b>	<b>1.4419</b>	<b>0.0100</b>	<b>1.4519</b>	<b>0.3824</b>	<b>9.2300e-003</b>	<b>0.3916</b>		<b>1,557.5830</b>	<b>1,557.5830</b>	<b>0.0574</b>		<b>1,559.0177</b>

**4.0 Operational Detail - Mobile**

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801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4209	2.0115	28.0201	0.0843	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		8,397.8799	8,397.8799	0.2084		8,403.0899
Unmitigated	1.4209	2.0115	28.0201	0.0843	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		8,397.8799	8,397.8799	0.2084		8,403.0899

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	378.66	378.66	378.66	2,288,015	2,288,015
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	326.38	326.38	326.38	1,972,142	1,972,142
Total	705.04	705.04	705.04	4,260,157	4,260,157

**4.3 Trip Type Information**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Parking Lot	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
NaturalGas Unmitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10993.6	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1058.5	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**5.2 Energy by Land Use - Natural Gas**

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10.9936	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.0585	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Unmitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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Fire Pumps and Emergency Generators

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**801 Opal Ave. Warehouse Construction and Passenger Cars**  
**San Bernardino-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	126.22	1000sqft	2.90	126,224.00	0
Unrefrigerated Warehouse-No Rail	115.33	1000sqft	2.65	115,329.00	0
Other Asphalt Surfaces	27.61	Acre	27.61	1,202,691.60	0
Parking Lot	224.00	Space	2.02	89,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2018
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

Project Characteristics -

Land Use - Net Acreage: 35.18

Construction Phase - Based on information provided by the client

Off-road Equipment - Based on 8 hour workday

Off-road Equipment - Based on information provided by the client

Off-road Equipment -

Off-road Equipment - Based on information provided by the client

Trips and VMT -

Demolition -

Architectural Coating - Based on Rule 1113: all flat, nonflat, and floor coatings shall be no more than 100 g/L low VOC paint

Vehicle Trips - Based on traffic study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Construction Off-road Equipment Mitigation -

Fleet Mix - Passenger Cars only

Landscape Equipment -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	55.00	25.00

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

tblConstructionPhase	NumDays	740.00	132.00
tblConstructionPhase	NumDays	55.00	45.00
tblEnergyUse	T24E	2.31	2.19
tblEnergyUse	T24E	0.39	3.06
tblEnergyUse	T24NG	15.43	14.66
tblEnergyUse	T24NG	2.02	3.32
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

## 801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	126,220.00	126,224.00
tblLandUse	BuildingSpaceSquareFeet	115,330.00	115,329.00
tblLandUse	LandUseSquareFeet	126,220.00	126,224.00
tblLandUse	LandUseSquareFeet	115,330.00	115,329.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00

## 801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	3.00
tblVehicleTrips	ST_TR	1.68	2.83
tblVehicleTrips	SU_TR	0.62	3.00
tblVehicleTrips	SU_TR	1.68	2.83
tblVehicleTrips	WD_TR	3.82	3.00
tblVehicleTrips	WD_TR	1.68	2.83

## 2.0 Emissions Summary

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801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.1700	2.1015	22.6439	0.0754	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		7,512.3637	7,512.3637	0.1821		7,516.9158
<b>Total</b>	<b>6.9780</b>	<b>3.2836</b>	<b>23.6875</b>	<b>0.0824</b>	<b>8.8915</b>	<b>0.1391</b>	<b>9.0306</b>	<b>2.3570</b>	<b>0.1353</b>	<b>2.4923</b>		<b>8,930.3647</b>	<b>8,930.3647</b>	<b>0.2096</b>	<b>0.0260</b>	<b>8,943.3500</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.1700	2.1015	22.6439	0.0754	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		7,512.3637	7,512.3637	0.1821		7,516.9158
<b>Total</b>	<b>6.9780</b>	<b>3.2836</b>	<b>23.6875</b>	<b>0.0824</b>	<b>8.8915</b>	<b>0.1391</b>	<b>9.0306</b>	<b>2.3570</b>	<b>0.1353</b>	<b>2.4923</b>		<b>8,930.3647</b>	<b>8,930.3647</b>	<b>0.2096</b>	<b>0.0260</b>	<b>8,943.3500</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2018	5/9/2018	5	50	
2	Building Construction	Building Construction	3/1/2018	8/31/2018	5	132	
3	Paving	Paving	6/30/2018	8/31/2018	5	45	
4	Architectural Coating	Architectural Coating	7/30/2018	8/31/2018	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 29.63

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 362,330; Non-Residential Outdoor: 120,777; Striped Parking Area: 77,537 (Architectural Coating – sqft)

#### OffRoad Equipment

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	644.00	251.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	129.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**3.2 Demolition - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2731	0.0000	0.2731	0.0413	0.0000	0.0413			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
<b>Total</b>	<b>3.7190</b>	<b>38.3225</b>	<b>22.3040</b>	<b>0.0388</b>	<b>0.2731</b>	<b>1.9386</b>	<b>2.2116</b>	<b>0.0413</b>	<b>1.8048</b>	<b>1.8462</b>		<b>3,871.7665</b>	<b>3,871.7665</b>	<b>1.0667</b>		<b>3,898.4344</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.3800e-003	0.3573	0.0580	9.9000e-004	0.0221	1.2600e-003	0.0233	6.0500e-003	1.2100e-003	7.2500e-003		104.5400	104.5400	6.3700e-003		104.6992
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0709	0.6959	1.6300e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		162.4845	162.4845	5.8700e-003		162.6312
<b>Total</b>	<b>0.1070</b>	<b>0.4282</b>	<b>0.7539</b>	<b>2.6200e-003</b>	<b>0.1897</b>	<b>2.4200e-003</b>	<b>0.1921</b>	<b>0.0505</b>	<b>2.2800e-003</b>	<b>0.0528</b>		<b>267.0245</b>	<b>267.0245</b>	<b>0.0122</b>		<b>267.3304</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**3.2 Demolition - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1065	0.0000	0.1065	0.0161	0.0000	0.0161			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
<b>Total</b>	<b>3.7190</b>	<b>38.3225</b>	<b>22.3040</b>	<b>0.0388</b>	<b>0.1065</b>	<b>1.9386</b>	<b>2.0450</b>	<b>0.0161</b>	<b>1.8048</b>	<b>1.8210</b>	<b>0.0000</b>	<b>3,871.7665</b>	<b>3,871.7665</b>	<b>1.0667</b>		<b>3,898.4344</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.3800e-003	0.3573	0.0580	9.9000e-004	0.0221	1.2600e-003	0.0233	6.0500e-003	1.2100e-003	7.2500e-003		104.5400	104.5400	6.3700e-003		104.6992
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0709	0.6959	1.6300e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		162.4845	162.4845	5.8700e-003		162.6312
<b>Total</b>	<b>0.1070</b>	<b>0.4282</b>	<b>0.7539</b>	<b>2.6200e-003</b>	<b>0.1897</b>	<b>2.4200e-003</b>	<b>0.1921</b>	<b>0.0505</b>	<b>2.2800e-003</b>	<b>0.0528</b>		<b>267.0245</b>	<b>267.0245</b>	<b>0.0122</b>		<b>267.3304</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 3.3 Building Construction - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4110	3.8755	3.2559	4.2500e-003		0.2887	0.2887		0.2656	0.2656		427.4666	427.4666	0.1331		430.7935
<b>Total</b>	<b>0.4110</b>	<b>3.8755</b>	<b>3.2559</b>	<b>4.2500e-003</b>		<b>0.2887</b>	<b>0.2887</b>		<b>0.2656</b>	<b>0.2656</b>		<b>427.4666</b>	<b>427.4666</b>	<b>0.1331</b>		<b>430.7935</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0590	30.6326	7.5184	0.0667	1.6077	0.2164	1.8240	0.4629	0.2070	0.6699		7,023.7088	7,023.7088	0.5507		7,037.4771
Worker	4.1890	3.0438	29.8784	0.0701	7.1984	0.0500	7.2484	1.9091	0.0461	1.9551		6,976.0006	6,976.0006	0.2520		6,982.2999
<b>Total</b>	<b>5.2480</b>	<b>33.6763</b>	<b>37.3968</b>	<b>0.1368</b>	<b>8.8061</b>	<b>0.2664</b>	<b>9.0724</b>	<b>2.3720</b>	<b>0.2531</b>	<b>2.6250</b>		<b>13,999.7094</b>	<b>13,999.7094</b>	<b>0.8027</b>		<b>14,019.7770</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 3.3 Building Construction - 2018

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4110	3.8755	3.2559	4.2500e-003		0.2887	0.2887		0.2656	0.2656	0.0000	427.4666	427.4666	0.1331		430.7935
<b>Total</b>	<b>0.4110</b>	<b>3.8755</b>	<b>3.2559</b>	<b>4.2500e-003</b>		<b>0.2887</b>	<b>0.2887</b>		<b>0.2656</b>	<b>0.2656</b>	<b>0.0000</b>	<b>427.4666</b>	<b>427.4666</b>	<b>0.1331</b>		<b>430.7935</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0590	30.6326	7.5184	0.0667	1.6077	0.2164	1.8240	0.4629	0.2070	0.6699		7,023.7088	7,023.7088	0.5507		7,037.4771
Worker	4.1890	3.0438	29.8784	0.0701	7.1984	0.0500	7.2484	1.9091	0.0461	1.9551		6,976.0006	6,976.0006	0.2520		6,982.2999
<b>Total</b>	<b>5.2480</b>	<b>33.6763</b>	<b>37.3968</b>	<b>0.1368</b>	<b>8.8061</b>	<b>0.2664</b>	<b>9.0724</b>	<b>2.3720</b>	<b>0.2531</b>	<b>2.6250</b>		<b>13,999.7094</b>	<b>13,999.7094</b>	<b>0.8027</b>		<b>14,019.7770</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**3.4 Paving - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0798	11.2539	9.3337	0.0140		0.6497	0.6497		0.5977	0.5977		1,410.9507	1,410.9507	0.4393		1,421.9319
Paving	1.7251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.8049</b>	<b>11.2539</b>	<b>9.3337</b>	<b>0.0140</b>		<b>0.6497</b>	<b>0.6497</b>		<b>0.5977</b>	<b>0.5977</b>		<b>1,410.9507</b>	<b>1,410.9507</b>	<b>0.4393</b>		<b>1,421.9319</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0651	0.0473	0.4640	1.0900e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		108.3230	108.3230	3.9100e-003		108.4208
<b>Total</b>	<b>0.0651</b>	<b>0.0473</b>	<b>0.4640</b>	<b>1.0900e-003</b>	<b>0.1118</b>	<b>7.8000e-004</b>	<b>0.1126</b>	<b>0.0296</b>	<b>7.2000e-004</b>	<b>0.0304</b>		<b>108.3230</b>	<b>108.3230</b>	<b>3.9100e-003</b>		<b>108.4208</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 3.4 Paving - 2018

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0798	11.2539	9.3337	0.0140		0.6497	0.6497		0.5977	0.5977	0.0000	1,410.9507	1,410.9507	0.4393		1,421.9319
Paving	1.7251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.8049</b>	<b>11.2539</b>	<b>9.3337</b>	<b>0.0140</b>		<b>0.6497</b>	<b>0.6497</b>		<b>0.5977</b>	<b>0.5977</b>	<b>0.0000</b>	<b>1,410.9507</b>	<b>1,410.9507</b>	<b>0.4393</b>		<b>1,421.9319</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0651	0.0473	0.4640	1.0900e-003	0.1118	7.8000e-004	0.1126	0.0296	7.2000e-004	0.0304		108.3230	108.3230	3.9100e-003		108.4208
<b>Total</b>	<b>0.0651</b>	<b>0.0473</b>	<b>0.4640</b>	<b>1.0900e-003</b>	<b>0.1118</b>	<b>7.8000e-004</b>	<b>0.1126</b>	<b>0.0296</b>	<b>7.2000e-004</b>	<b>0.0304</b>		<b>108.3230</b>	<b>108.3230</b>	<b>3.9100e-003</b>		<b>108.4208</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

**3.5 Architectural Coating - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3982	2.6743	2.4723	3.9600e-003		0.2007	0.2007		0.2007	0.2007		375.2647	375.2647	0.0357		376.1562
<b>Total</b>	<b>63.5659</b>	<b>2.6743</b>	<b>2.4723</b>	<b>3.9600e-003</b>		<b>0.2007</b>	<b>0.2007</b>		<b>0.2007</b>	<b>0.2007</b>		<b>375.2647</b>	<b>375.2647</b>	<b>0.0357</b>		<b>376.1562</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8391	0.6097	5.9850	0.0141	1.4419	0.0100	1.4519	0.3824	9.2300e-003	0.3916		1,397.3666	1,397.3666	0.0505		1,398.6284
<b>Total</b>	<b>0.8391</b>	<b>0.6097</b>	<b>5.9850</b>	<b>0.0141</b>	<b>1.4419</b>	<b>0.0100</b>	<b>1.4519</b>	<b>0.3824</b>	<b>9.2300e-003</b>	<b>0.3916</b>		<b>1,397.3666</b>	<b>1,397.3666</b>	<b>0.0505</b>		<b>1,398.6284</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 3.5 Architectural Coating - 2018

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3982	2.6743	2.4723	3.9600e-003		0.2007	0.2007		0.2007	0.2007	0.0000	375.2647	375.2647	0.0357		376.1562
<b>Total</b>	<b>63.5659</b>	<b>2.6743</b>	<b>2.4723</b>	<b>3.9600e-003</b>		<b>0.2007</b>	<b>0.2007</b>		<b>0.2007</b>	<b>0.2007</b>	<b>0.0000</b>	<b>375.2647</b>	<b>375.2647</b>	<b>0.0357</b>		<b>376.1562</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8391	0.6097	5.9850	0.0141	1.4419	0.0100	1.4519	0.3824	9.2300e-003	0.3916		1,397.3666	1,397.3666	0.0505		1,398.6284
<b>Total</b>	<b>0.8391</b>	<b>0.6097</b>	<b>5.9850</b>	<b>0.0141</b>	<b>1.4419</b>	<b>0.0100</b>	<b>1.4519</b>	<b>0.3824</b>	<b>9.2300e-003</b>	<b>0.3916</b>		<b>1,397.3666</b>	<b>1,397.3666</b>	<b>0.0505</b>		<b>1,398.6284</b>

### 4.0 Operational Detail - Mobile

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1700	2.1015	22.6439	0.0754	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		7,512.3637	7,512.3637	0.1821		7,516.9158
Unmitigated	1.1700	2.1015	22.6439	0.0754	8.8915	0.0491	8.9406	2.3570	0.0453	2.4023		7,512.3637	7,512.3637	0.1821		7,516.9158

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	378.66	378.66	378.66	2,288,015	2,288,015
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	326.38	326.38	326.38	1,972,142	1,972,142
Total	705.04	705.04	705.04	4,260,157	4,260,157

### 4.3 Trip Type Information

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Parking Lot	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
NaturalGas Unmitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10993.6	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1058.5	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 5.2 Energy by Land Use - NaturalGas

#### Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10.9936	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.0585	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Unmitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

### 6.2 Area by SubCategory

#### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	lb/day										lb/day						
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004			0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>			<b>0.1153</b>

### 7.0 Water Detail

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#### 7.1 Mitigation Measures Water

### 8.0 Waste Detail

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#### 8.1 Mitigation Measures Waste

### 9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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### 10.0 Stationary Equipment

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#### Fire Pumps and Emergency Generators

801 Opal Ave. Warehouse Construction and Passenger Cars - San Bernardino-South Coast County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**801 Opal Ave. Warehouse Trucks**  
**San Bernardino-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	126.22	1000sqft	2.90	126,224.00	0
Unrefrigerated Warehouse-No Rail	115.33	1000sqft	2.65	115,329.00	0
Other Asphalt Surfaces	27.61	Acre	27.61	1,202,691.60	0
Parking Lot	224.00	Space	2.02	89,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2018
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

Project Characteristics -

Land Use - Net Acreage: 35.18

Construction Phase - Operations only

Off-road Equipment - Operations only

Off-road Equipment - Based on information provided by the client

Trips and VMT - Operations only

On-road Fugitive Dust - Operations only

Architectural Coating - Operations only

Vehicle Trips - Based on traffic study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Construction Off-road Equipment Mitigation -

Fleet Mix - Trucks only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	120,777.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	362,330.00	0.00
tblArchitecturalCoating	ConstArea_Parking	77,537.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstructionPhase	NumDays	55.00	1.00
tblEnergyUse	T24E	2.31	2.19
tblEnergyUse	T24E	0.39	3.06

## 801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

tblEnergyUse	T24NG	15.43	14.66
tblEnergyUse	T24NG	2.02	3.32
tblFleetMix	FleetMixLandUseSubType	Unrefrigerated Warehouse-No Rail	Other Asphalt Surfaces
tblFleetMix	FleetMixLandUseSubType	Other Asphalt Surfaces	Parking Lot
tblFleetMix	FleetMixLandUseSubType	Parking Lot	Unrefrigerated Warehouse-No Rail
tblFleetMix	HHD	0.06	0.44
tblFleetMix	HHD	0.06	0.60
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.37
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	MHD	0.02	0.23
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

## 801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	126,220.00	126,224.00
tblLandUse	BuildingSpaceSquareFeet	115,330.00	115,329.00
tblLandUse	LandUseSquareFeet	126,220.00	126,224.00
tblLandUse	LandUseSquareFeet	115,330.00	115,329.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblTripsAndVMT	WorkerTripNumber	129.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	15.29
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00

## 801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.82
tblVehicleTrips	ST_TR	1.68	0.73
tblVehicleTrips	SU_TR	0.62	0.82
tblVehicleTrips	SU_TR	1.68	0.73
tblVehicleTrips	WD_TR	3.82	0.82
tblVehicleTrips	WD_TR	1.68	0.73

## 2.0 Emissions Summary

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.6249	47.3001	11.8152	0.1441	4.4067	0.3708	4.7775	1.2415	0.3547	1.5962		15,168.7266	15,168.7266	0.5979		15,183.6739
<b>Total</b>	<b>7.4329</b>	<b>48.4821</b>	<b>12.8588</b>	<b>0.1512</b>	<b>4.4067</b>	<b>0.4608</b>	<b>4.8675</b>	<b>1.2415</b>	<b>0.4446</b>	<b>1.6862</b>		<b>16,586.7276</b>	<b>16,586.7276</b>	<b>0.6254</b>	<b>0.0260</b>	<b>16,610.1080</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.6249	47.3001	11.8152	0.1441	4.4067	0.3708	4.7775	1.2415	0.3547	1.5962		15,168.7266	15,168.7266	0.5979		15,183.6739
<b>Total</b>	<b>7.4329</b>	<b>48.4821</b>	<b>12.8588</b>	<b>0.1512</b>	<b>4.4067</b>	<b>0.4608</b>	<b>4.8675</b>	<b>1.2415</b>	<b>0.4446</b>	<b>1.6862</b>		<b>16,586.7276</b>	<b>16,586.7276</b>	<b>0.6254</b>	<b>0.0260</b>	<b>16,610.1080</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	3/1/2018	3/1/2018	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 29.63

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**3.2 Architectural Coating - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>							

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**3.2 Architectural Coating - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>							

**4.0 Operational Detail - Mobile**

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6249	47.3001	11.8152	0.1441	4.4067	0.3708	4.7775	1.2415	0.3547	1.5962		15,168.7266	15,168.7266	0.5979		15,183.6739
Unmitigated	1.6249	47.3001	11.8152	0.1441	4.4067	0.3708	4.7775	1.2415	0.3547	1.5962		15,168.7266	15,168.7266	0.5979		15,183.6739

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	103.50	103.50	103.50	576,038	576,038
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	84.19	84.19	84.19	1,225,820	1,225,820
Total	187.69	187.69	187.69	1,801,857	1,801,857

**4.3 Trip Type Information**

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	15.29	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	40.00	0.00	0.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.374100	0.000000	0.182100	0.443800	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Parking Lot	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.169200	0.000000	0.227000	0.603800	0.000000	0.000000	0.000000	0.000000	0.000000

**5.0 Energy Detail**

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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
NaturalGas Unmitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10993.6	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1058.5	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**5.2 Energy by Land Use - Natural Gas**

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10.9936	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.0585	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Unmitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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Fire Pumps and Emergency Generators

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

**801 Opal Ave. Warehouse Trucks**  
**San Bernardino-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	126.22	1000sqft	2.90	126,224.00	0
Unrefrigerated Warehouse-No Rail	115.33	1000sqft	2.65	115,329.00	0
Other Asphalt Surfaces	27.61	Acre	27.61	1,202,691.60	0
Parking Lot	224.00	Space	2.02	89,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2018
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

Project Characteristics -

Land Use - Net Acreage: 35.18

Construction Phase - Operations only

Off-road Equipment - Operations only

Off-road Equipment - Based on information provided by the client

Trips and VMT - Operations only

On-road Fugitive Dust - Operations only

Architectural Coating - Operations only

Vehicle Trips - Based on traffic study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Construction Off-road Equipment Mitigation -

Fleet Mix - Trucks only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	120,777.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	362,330.00	0.00
tblArchitecturalCoating	ConstArea_Parking	77,537.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstructionPhase	NumDays	55.00	1.00
tblEnergyUse	T24E	2.31	2.19
tblEnergyUse	T24E	0.39	3.06

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

tblEnergyUse	T24NG	15.43	14.66
tblEnergyUse	T24NG	2.02	3.32
tblFleetMix	FleetMixLandUseSubType	Unrefrigerated Warehouse-No Rail	Other Asphalt Surfaces
tblFleetMix	FleetMixLandUseSubType	Other Asphalt Surfaces	Parking Lot
tblFleetMix	FleetMixLandUseSubType	Parking Lot	Unrefrigerated Warehouse-No Rail
tblFleetMix	HHD	0.06	0.44
tblFleetMix	HHD	0.06	0.60
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.37
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	MHD	0.02	0.23
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

## 801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	126,220.00	126,224.00
tblLandUse	BuildingSpaceSquareFeet	115,330.00	115,329.00
tblLandUse	LandUseSquareFeet	126,220.00	126,224.00
tblLandUse	LandUseSquareFeet	115,330.00	115,329.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblTripsAndVMT	WorkerTripNumber	129.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	15.29
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00

## 801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.82
tblVehicleTrips	ST_TR	1.68	0.73
tblVehicleTrips	SU_TR	0.62	0.82
tblVehicleTrips	SU_TR	1.68	0.73
tblVehicleTrips	WD_TR	3.82	0.82
tblVehicleTrips	WD_TR	1.68	0.73

## 2.0 Emissions Summary

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.6567	48.4017	12.3392	0.1421	4.4067	0.3726	4.7793	1.2415	0.3564	1.5980		14,956.8101	14,956.8101	0.6346		14,972.6739
<b>Total</b>	<b>7.4647</b>	<b>49.5838</b>	<b>13.3828</b>	<b>0.1492</b>	<b>4.4067</b>	<b>0.4626</b>	<b>4.8693</b>	<b>1.2415</b>	<b>0.4464</b>	<b>1.6879</b>		<b>16,374.8110</b>	<b>16,374.8110</b>	<b>0.6620</b>	<b>0.0260</b>	<b>16,399.1081</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Energy	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
Mobile	1.6567	48.4017	12.3392	0.1421	4.4067	0.3726	4.7793	1.2415	0.3564	1.5980		14,956.8101	14,956.8101	0.6346		14,972.6739
<b>Total</b>	<b>7.4647</b>	<b>49.5838</b>	<b>13.3828</b>	<b>0.1492</b>	<b>4.4067</b>	<b>0.4626</b>	<b>4.8693</b>	<b>1.2415</b>	<b>0.4464</b>	<b>1.6879</b>		<b>16,374.8110</b>	<b>16,374.8110</b>	<b>0.6620</b>	<b>0.0260</b>	<b>16,399.1081</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	3/1/2018	3/1/2018	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 29.63

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

**3.2 Architectural Coating - 2018**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>							

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

**3.2 Architectural Coating - 2018**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>							

**4.0 Operational Detail - Mobile**

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801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6567	48.4017	12.3392	0.1421	4.4067	0.3726	4.7793	1.2415	0.3564	1.5980		14,956.8101	14,956.8101	0.6346		14,972.6739
Unmitigated	1.6567	48.4017	12.3392	0.1421	4.4067	0.3726	4.7793	1.2415	0.3564	1.5980		14,956.8101	14,956.8101	0.6346		14,972.6739

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	103.50	103.50	103.50	576,038	576,038
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	84.19	84.19	84.19	1,225,820	1,225,820
Total	187.69	187.69	187.69	1,801,857	1,801,857

### 4.3 Trip Type Information

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	15.29	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	40.00	0.00	0.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.374100	0.000000	0.182100	0.443800	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Parking Lot	0.536558	0.040171	0.178324	0.131133	0.021173	0.005906	0.016602	0.058581	0.001315	0.001778	0.006379	0.000829	0.001251
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.169200	0.000000	0.227000	0.603800	0.000000	0.000000	0.000000	0.000000	0.000000

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189
NaturalGas Unmitigated	0.1300	1.1816	0.9925	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,417.8930	1,417.8930	0.0272	0.0260	1,426.3189

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10993.6	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1058.5	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

### 5.2 Energy by Land Use - Natural Gas

#### Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	10.9936	0.1186	1.0778	0.9054	6.4700e-003		0.0819	0.0819		0.0819	0.0819		1,293.3637	1,293.3637	0.0248	0.0237	1,301.0495
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.0585	0.0114	0.1038	0.0872	6.2000e-004		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		124.5293	124.5293	2.3900e-003	2.2800e-003	125.2693
<b>Total</b>		<b>0.1300</b>	<b>1.1816</b>	<b>0.9925</b>	<b>7.0900e-003</b>		<b>0.0898</b>	<b>0.0898</b>		<b>0.0898</b>	<b>0.0898</b>		<b>1,417.8930</b>	<b>1,417.8930</b>	<b>0.0272</b>	<b>0.0260</b>	<b>1,426.3189</b>

### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
Unmitigated	5.6780	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

### 6.2 Area by SubCategory

#### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2405					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8800e-003	4.8000e-004	0.0511	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1079	0.1079	3.0000e-004		0.1153
<b>Total</b>	<b>5.6780</b>	<b>4.8000e-004</b>	<b>0.0511</b>	<b>0.0000</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>1.8000e-004</b>	<b>1.8000e-004</b>		<b>0.1079</b>	<b>0.1079</b>	<b>3.0000e-004</b>		<b>0.1153</b>

### 7.0 Water Detail

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#### 7.1 Mitigation Measures Water

### 8.0 Waste Detail

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#### 8.1 Mitigation Measures Waste

### 9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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### 10.0 Stationary Equipment

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#### Fire Pumps and Emergency Generators

801 Opal Ave. Warehouse Trucks - San Bernardino-South Coast County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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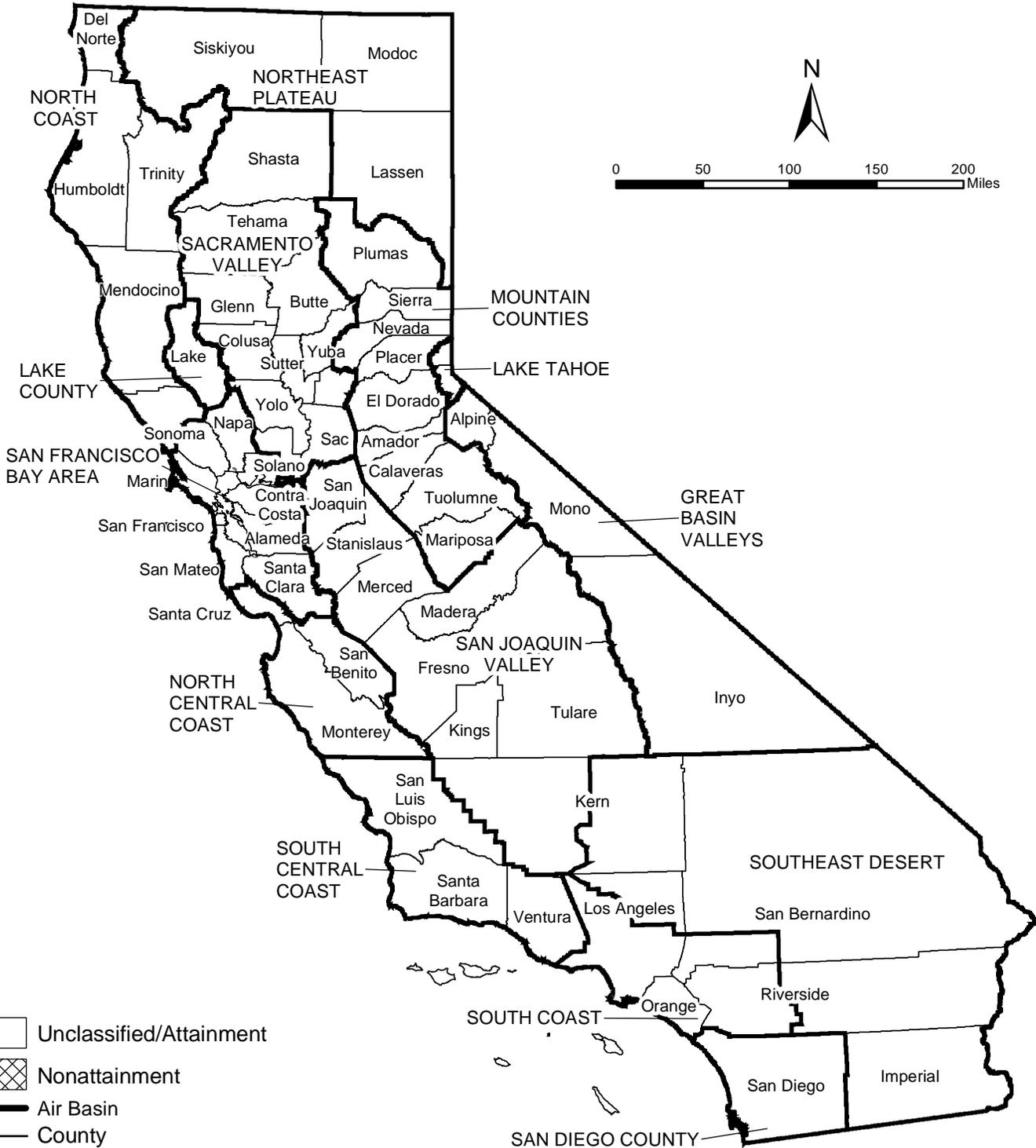
**APPENDIX 3.2:**

**STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS**

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# Area Designations for National Ambient Air Quality Standards

## CARBON MONOXIDE



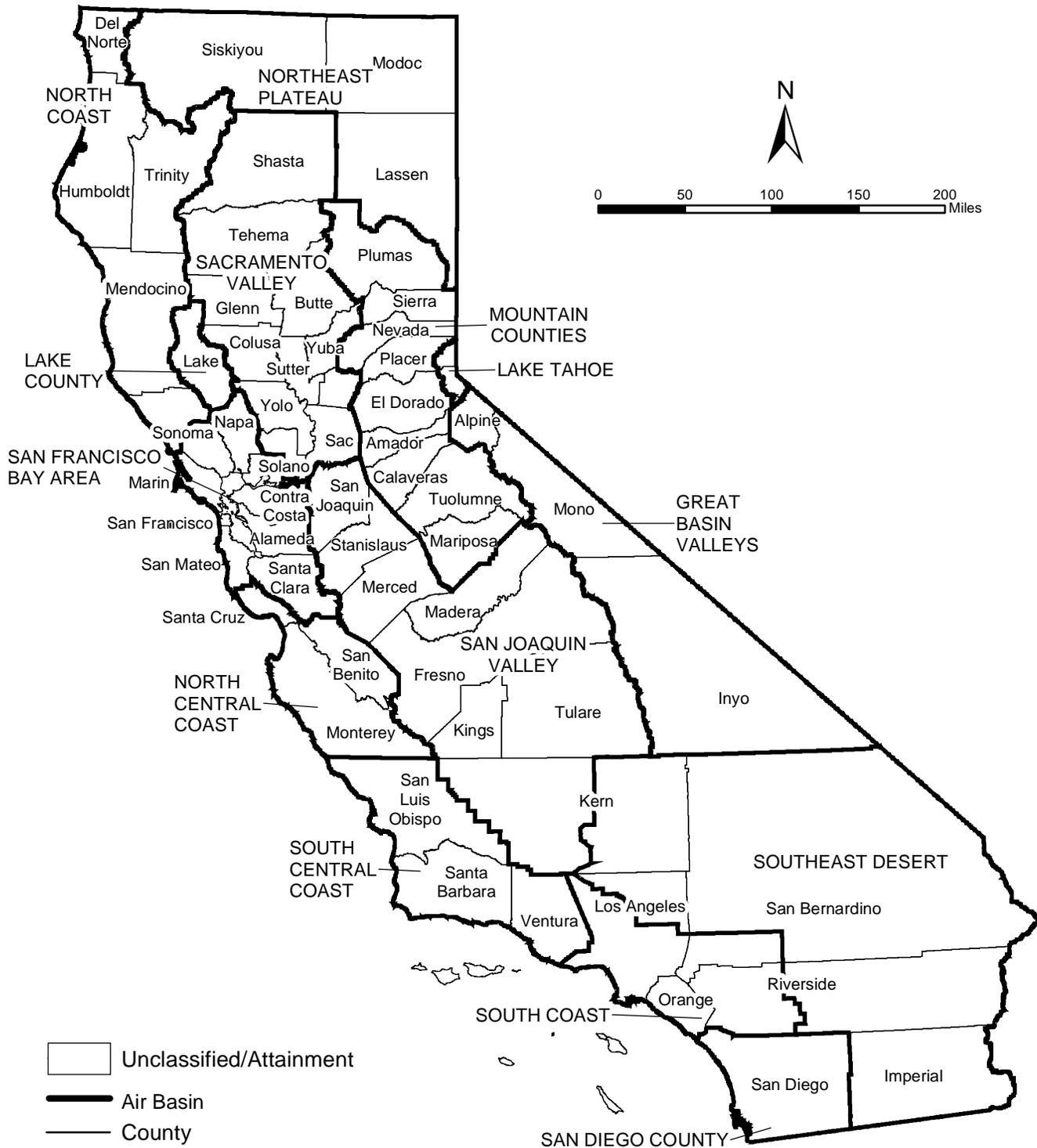
# Area Designations for National Ambient Air Quality Standards

## LEAD



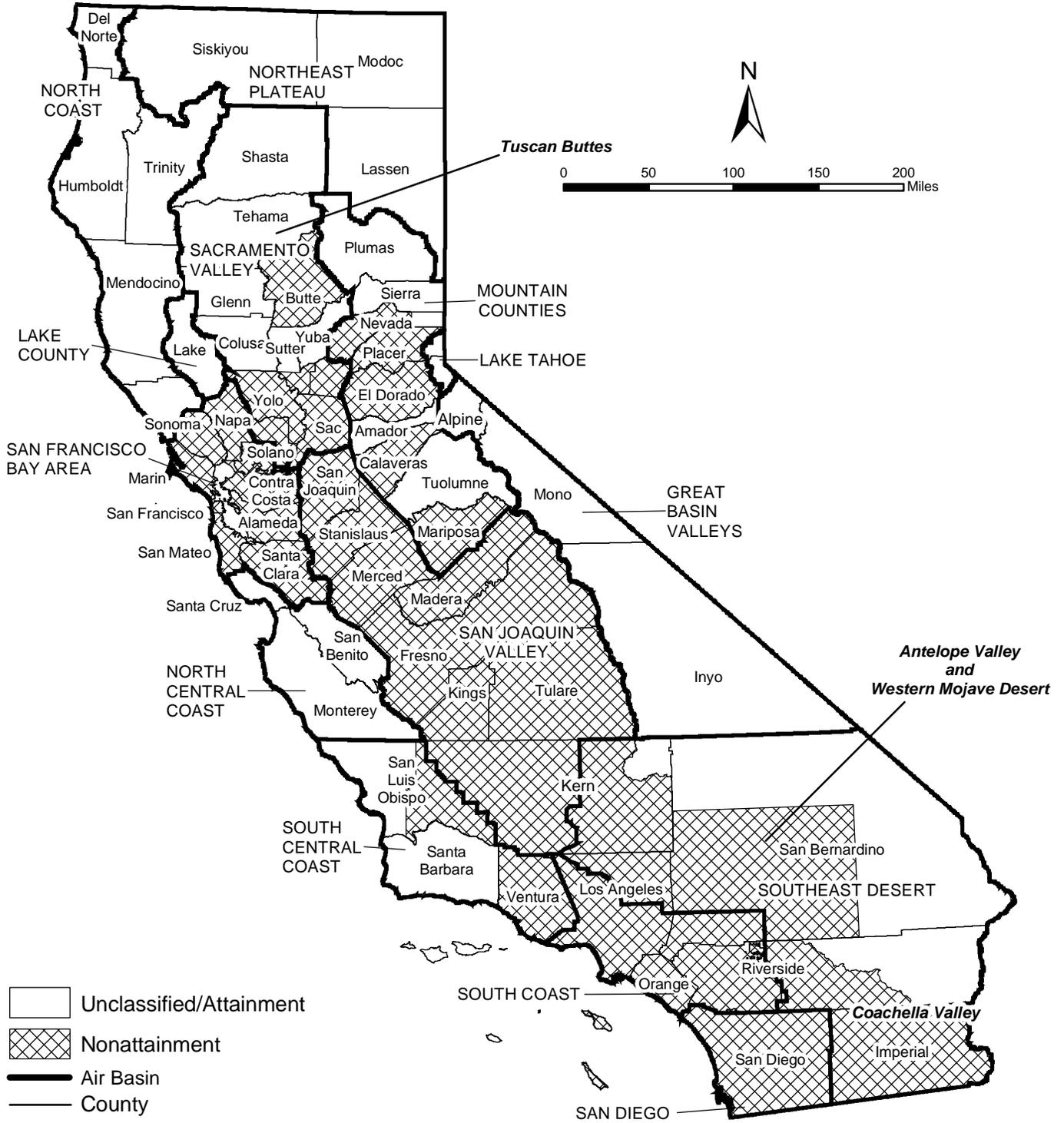
# Area Designations for National Ambient Air Quality Standards

## NITROGEN DIOXIDE



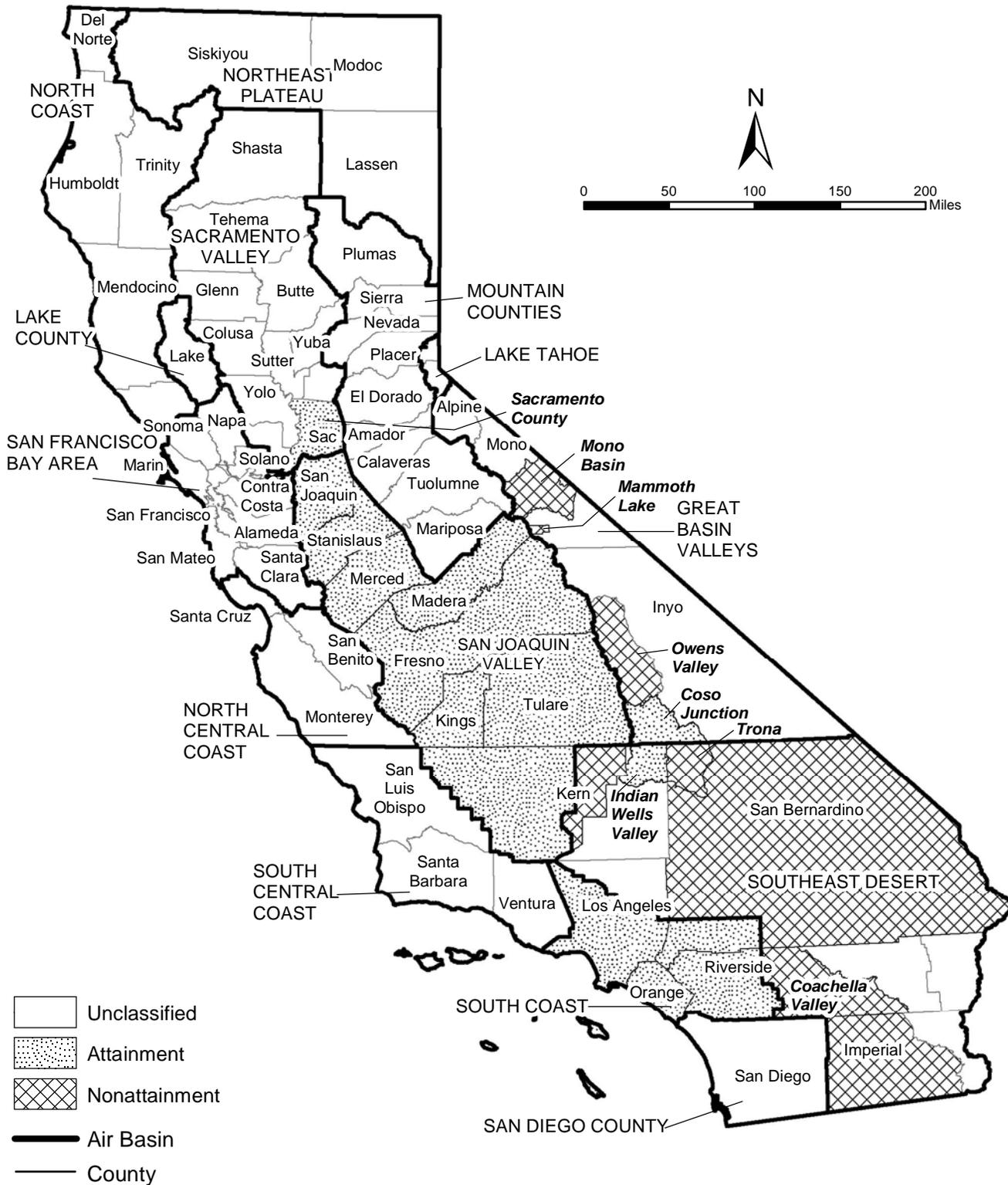
# Area Designations for National Ambient Air Quality Standards

## 8-HOUR OZONE



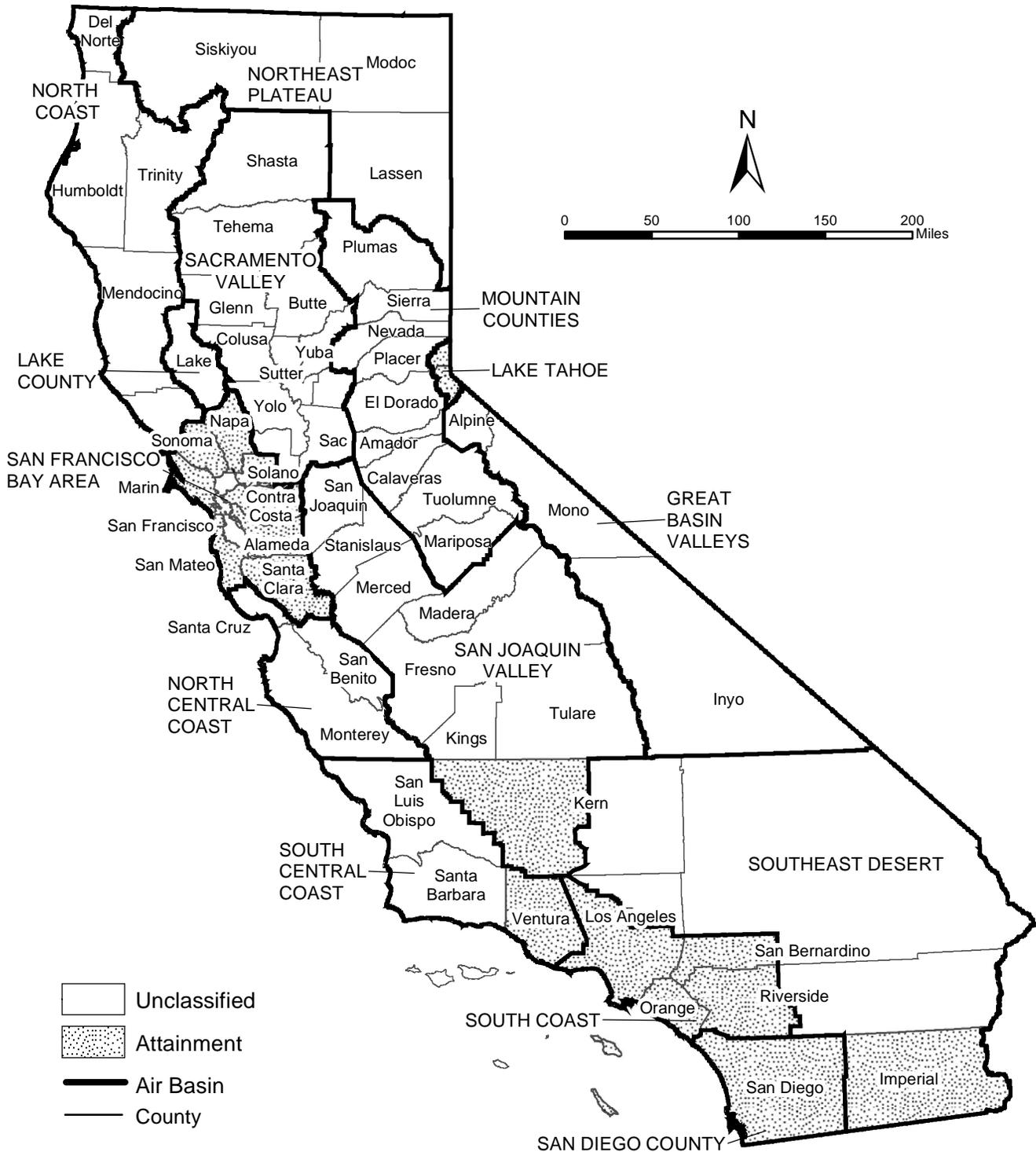
# Area Designations for National Ambient Air Quality Standards

## PM10



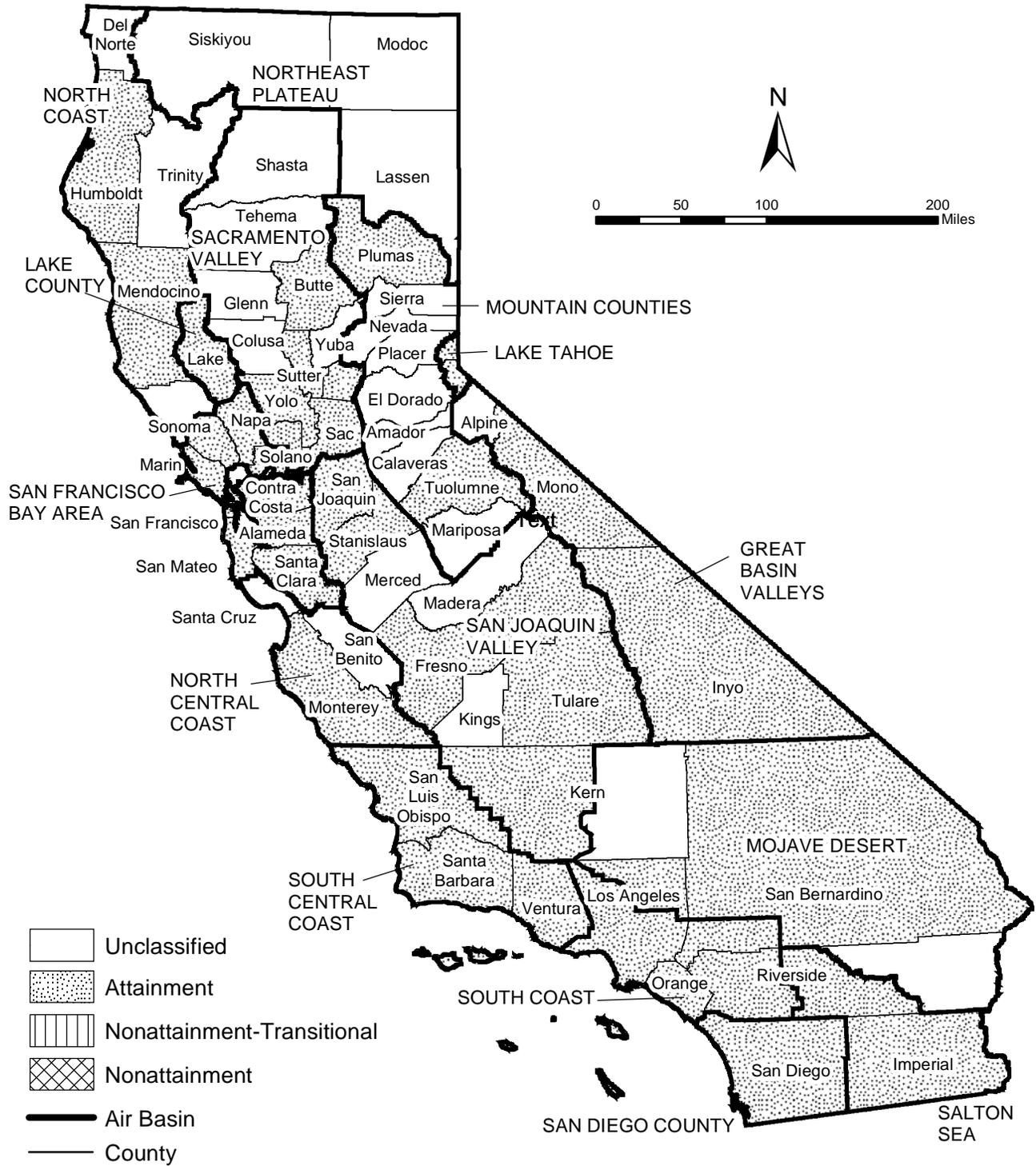


# Area Designations for National Ambient Air Quality Standards SULFUR DIOXIDE



# Area Designations for State Ambient Air Quality Standards

## CARBON MONOXIDE



# Area Designations for State Ambient Air Quality Standards

## LEAD



# Area Designations for State Ambient Air Quality Standards

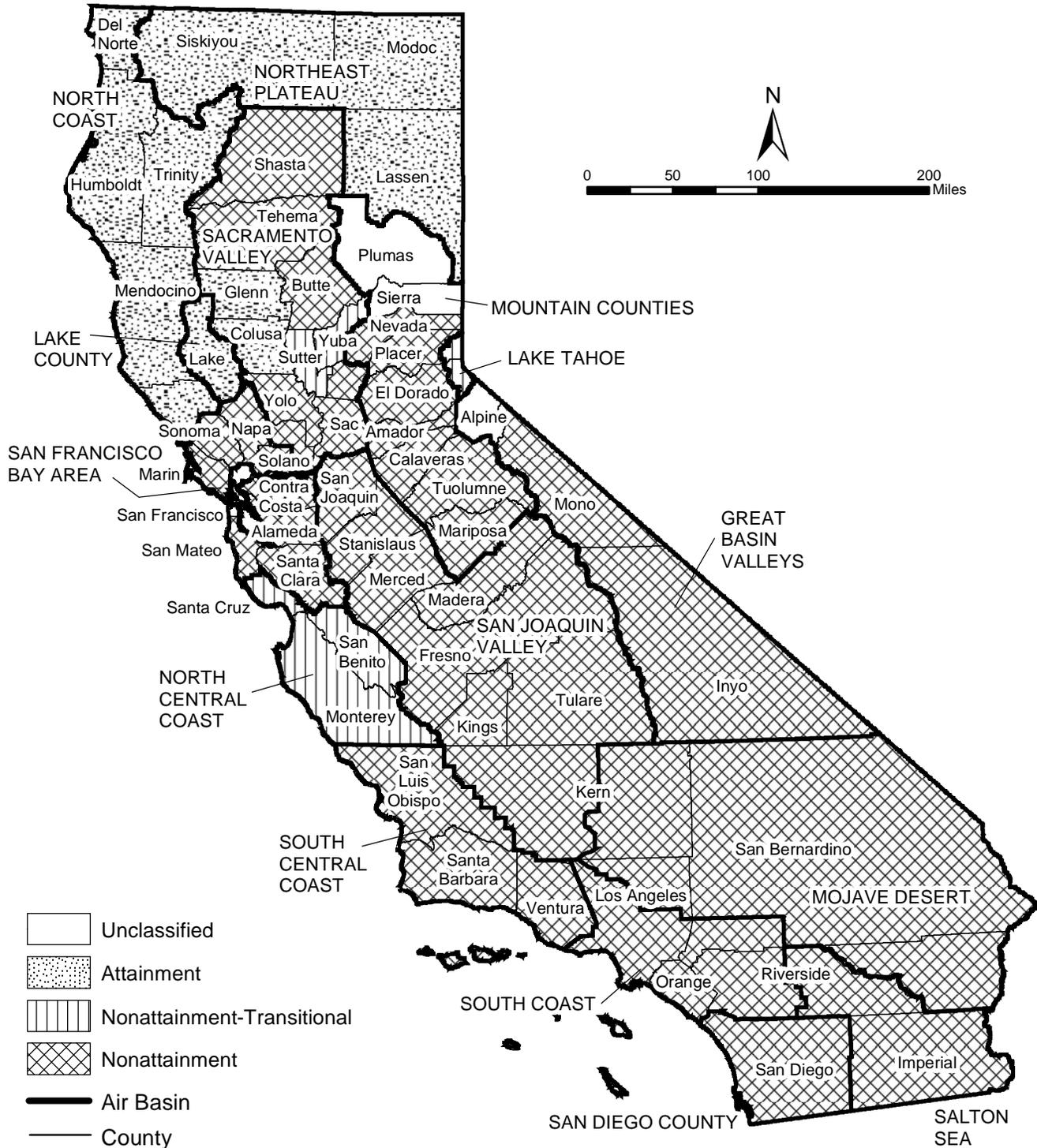
## NITROGEN DIOXIDE



Source Date:  
December 2015  
Air Quality Planning Branch, AQPSD

# Area Designations for State Ambient Air Quality Standards

## OZONE



# Area Designations for State Ambient Air Quality Standards

## PM10



# Area Designations for State Ambient Air Quality Standards

## PM2.5



# Area Designations for State Ambient Air Quality Standards SULFUR DIOXIDE

