

# Appendix B

---

## Air Quality Impact Analysis



---

**OLC3 (DPR22-00006, TPM22-  
05048, SPA22-05047)  
AIR QUALITY IMPACT ANALYSIS  
CITY OF PERRIS**

PREPARED BY:

Haseeb Qureshi  
hqureshi@urbanxroads.com

Michael Tirohn  
mtirohn@urbanxroads.com

JUNE 21, 2023



## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>I</b>
<b>APPENDICES</b> .....	<b>II</b>
<b>LIST OF EXHIBITS</b> .....	<b>II</b>
<b>LIST OF TABLES</b> .....	<b>II</b>
<b>LIST OF ABBREVIATED TERMS</b> .....	<b>IV</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
ES.1 Summary of Findings.....	1
ES.2 Regulatory Requirements .....	1
ES.3 Perris Valley Commerce Center Specific Plan (PVCCSP) Environmental Impact Report (PVCCSP EIR) Mitigation Measures .....	3
ES.4 Additional Mitigation Measures .....	8
<b>1 INTRODUCTION</b> .....	<b>14</b>
1.1 Site Location.....	14
1.2 Project Description.....	14
<b>2 AIR QUALITY SETTING</b> .....	<b>18</b>
2.1 South Coast Air Basin (SCAB) .....	18
2.2 Regional Climate .....	18
2.3 Wind Patterns and Project Location .....	19
2.4 Criteria Pollutants .....	20
2.5 Existing Air Quality .....	27
2.6 Regional Air Quality .....	30
2.7 Local Air Quality .....	30
2.8 Regulatory Background.....	31
2.9 Regional Air Quality Improvement .....	35
<b>3 PROJECT AIR QUALITY IMPACT</b> .....	<b>47</b>
3.1 Introduction .....	47
3.2 Standards of Significance .....	47
3.3 Models Employed To Analyze Air Quality .....	48
3.4 Construction Emissions.....	48
3.5 Operational Emissions .....	51
3.6 Localized Significance.....	55
3.7 Construction-Source Emissions LST Analysis .....	60
3.8 Operational-Source Emissions LST Analysis.....	61
3.9 CO “Hot Spot” Analysis .....	62
3.10 AQMP .....	64
3.11 Potential Impacts to Sensitive Receptors .....	67
3.12 Odors.....	68
3.13 Cumulative Impacts .....	69
<b>4 REFERENCES</b> .....	<b>72</b>
<b>5 CERTIFICATIONS</b> .....	<b>76</b>

**APPENDICES**

- APPENDIX 2.1: STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS
- APPENDIX 3.1: CALEEMOD EMISSIONS MODEL OUTPUTS
- APPENDIX 3.2: CALEEMOD EMISSIONS MODEL OUTPUTS – OPERATIONAL LOCALIZED SOURCE EMISSIONS
- APPENDIX 3.3: SCAQMD AMICUS BRIEF

**LIST OF EXHIBITS**

EXHIBIT 1-A: LOCATION MAP..... 15

EXHIBIT 1-B: SITE PLAN..... 16

EXHIBIT 2-A: DPM AND DIESEL VEHICLE MILES TREND ..... 44

EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS ..... 59

**LIST OF TABLES**

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS ..... 1

TABLE 2-1: CRITERIA POLLUTANTS ..... 20

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)..... 28

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)..... 29

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB ..... 30

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2019-2021..... 31

TABLE 2-5: SCAB O<sub>3</sub> TREND ..... 37

TABLE 2-6: SCAB AVERAGE 24-HOUR CONCENTRATION PM<sub>10</sub> TREND (BASED ON FEDERAL STANDARD)<sup>1</sup> ..... 38

TABLE 2-7: SCAB ANNUAL AVERAGE CONCENTRATION PM<sub>10</sub> TREND (BASED ON STATE STANDARD)<sup>1</sup>.. 38

TABLE 2-8: SCAB 24-HOUR AVERAGE CONCENTRATION PM<sub>2.5</sub> TREND (BASED ON FEDERAL STANDARD)<sup>1</sup> ..... 39

TABLE 2-9: SCAB ANNUAL AVERAGE CONCENTRATION PM<sub>2.5</sub> TREND (BASED ON STATE STANDARD)<sup>1</sup> . 39

TABLE 2-10: SCAB 8-HOUR AVERAGE CONCENTRATION CO TREND<sup>1</sup> ..... 41

TABLE 2-11: SCAB 1-HOUR AVERAGE CONCENTRATION NO<sub>2</sub> TREND (BASED ON FEDERAL STANDARD) 42

TABLE 2-12: SCAB 1-HOUR AVERAGE CONCENTRATION NO<sub>2</sub> TREND (BASED ON STATE STANDARD) ... 42

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS ..... 47

TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS ..... 49

TABLE 3-3: CONSTRUCTION DURATION..... 50

TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS ..... 50

TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITHOUT MITIGATION ..... 51

TABLE 3-6: PASSENGER CAR FLEET MIX – INDUSTRIAL USE ..... 53

TABLE 3-7: TRUCK FLEET MIX – INDUSTRIAL USE ..... 53

TABLE 3-8: SUMMARY OF PEAK OPERATIONAL EMISSIONS ..... 54

TABLE 3-9: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS ..... 60

TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION..... 61

TABLE 3-11: MAXIMUM DAILY LOCALIZED OPERATIONAL EMISSIONS THRESHOLDS..... 62

TABLE 3-12: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS – WITHOUT MITIGATION ..... 62

TABLE 3-13: CO MODEL RESULTS ..... 63

**TABLE 3-14: TRAFFIC VOLUMES ..... 64**  
**TABLE 3-15: PEAK HOUR TRAFFIC VOLUMES ..... 64**

## LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
µg/m <sup>3</sup>	Microgram per Cubic Meter
<i>1992 CO Plan</i>	<i>1992 Federal Attainment Plan for Carbon Monoxide</i>
<i>1993 CEQA Handbook</i>	<i>SCAQMD's CEQA Air Quality Handbook (1993)</i>
<i>2016-2040 RTP/SCS</i>	<i>2016-2040 Regional Transportation Plan/Sustainable Communities Strategy</i>
AB 2595	California Clean Air Act
ADA	Americans with Disabilities Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
Ave.	Avenue
BACT	Best Available Control Technology
BC	Black Carbon
Blvd.	Boulevard
<i>Brief</i>	<i>Brief of Amicus Curiae by the SCAQMD in the Friant Ranch Case</i>
C <sub>2</sub> Cl <sub>4</sub>	Perchloroethylene
C <sub>4</sub> H <sub>6</sub>	1,3-butadiene
C <sub>6</sub> H <sub>6</sub>	Benzene
C <sub>2</sub> H <sub>3</sub> Cl	Vinyl Chloride
C <sub>2</sub> H <sub>4</sub> O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
<i>CEQA Guidelines</i>	<i>Guidelines for Implementation of the California Environmental Quality Act</i>

CH <sub>2</sub> O	Formaldehyde
City	City of Perris
CO	Carbon Monoxide
COH	Coefficient of Haze
COHb	Carboxyhemoglobin
Cr(VI)	Chromium
CTP	Clean Truck Program
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EC	Elemental Carbon
EIR	Environmental Impact Report
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
Exwy.	Expressway
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H <sub>2</sub> S	Hydrogen Sulfide
HDT	Heavy Duty Trucks
HHDT	Heavy-Heavy-Duty Trucks
HI	Hazard Index
hp	Horsepower
HRA	Health Risk Assessment
HVIP	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
Hwy.	Highway
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
<i>LST Methodology</i>	<i>Final Localized Significance Threshold Methodology</i>
MARB/IPA	March Air Reserve Base/Inland Port Airport
MATES	Multiple Air Toxics Exposure Study
MCY	Motorcycles
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks



MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
mph	Miles Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N <sub>2</sub>	Nitrogen
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NO	Nitric Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
O <sub>2</sub>	Oxygen
O <sub>3</sub>	Ozone
O <sub>2</sub> Deficiency	Chronic Hypoxemia
OBD-II	On-Board Diagnostic
ODC	Ozone Depleting Compounds
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
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	OLC3
PVCCSP	Perris Valley Commerce Center Specific Plan
PVCCSP EIR	<i>Perris Valley Commerce Center Specific Plan Environmental Impact Report SCH No. 2009081086</i>
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
RTA	Riverside Transit Agency
SB	Southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	Square Feet
SIPs	State Implementation Plans
SO <sub>2</sub>	Sulfur Dioxide

SO <sub>4</sub>	Sulfates
SO <sub>x</sub>	Sulfur Oxides
SoCalGas	The Southern California Gas Company
SOON	Surplus Off-Road Opt-in for Nitrogen Oxides
SRA	Source Receptor Area
St.	Street
TA	<i>OLC3 Traffic Analysis</i>
TAC	Toxic Air Contaminant
TDM	Transportation Demand Management
Title 24	California Building Code
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
TRU	Transport Refrigeration Unit
UFP	Ultrafine Particles
URBEMIS	URBan EMISsions
VICS	Voluntary Interindustry Commerce Solutions
VIP	On-road Heavy Duty Voucher Incentive Program
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
vph	Vehicles Per Hour

*This page intentionally left blank*

## EXECUTIVE SUMMARY

### ES.1 SUMMARY OF FINDINGS

The results of this *OLC3 Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *Guidelines for Implementation of the California Environmental Quality Act* (State CEQA Guidelines) (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures (MM) described below.

**TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS**

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	<i>Less Than Significant</i>	<i>n/a</i>
Localized Construction Emissions	3.7	<i>Less Than Significant</i>	<i>n/a</i>
Regional Operational Emissions	3.5	<i>Potentially Significant</i>	<i>Significant and Unavoidable</i>
Localized Operational Emissions	3.8	<i>Less Than Significant</i>	<i>n/a</i>
CO “Hot Spot” Analysis	3.9	<i>Less Than Significant</i>	<i>n/a</i>
Air Quality Management Plan	3.10	<i>Potentially Significant</i>	<i>Significant and Unavoidable</i>
Sensitive Receptors	3.11	<i>Less Than Significant</i>	<i>n/a</i>
Odors	3.12	<i>Less Than Significant</i>	<i>n/a</i>
Cumulative Impacts	3.13	<i>Potentially Significant</i>	<i>Significant and Unavoidable</i>

### ES.2 REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality.

Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or

other forms of property, or can cause excessive soiling on any other parcel shall conform to the requirements of the South Coast Air Quality Management District (SCAQMD).

### **SCAQMD RULES**

SCAQMD Rules that are currently applicable during construction activity for this Project are described below.

#### **SCAQMD RULE 201**

A person shall not build, erect, install, alter, or replace any equipment permit unit, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed as granted or denied, or the application is canceled.

#### **SCAQMD RULE 401**

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

#### **SCAQMD RULE 402**

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

#### **SCAQMD RULE 403**

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

#### **SCAQMD RULE 1113**

This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

**SCAQMD RULE 1301**

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS), while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

**SCAQMD RULE 1401**

This rule requires the inspection of new gas transfer and dispensing facilities by SCAQMD staff to evaluate cancer risk, which must be no more than 10 in one million over a 70-year lifespan.

**SCAQMD RULE 2305**

The SCAQMD adopted Rule 2305, the Warehouse Indirect Source Rule, on May 7, 2021. Owners and operators associated with warehouses 100,000 square feet (sf) or larger are required to directly reduce nitrogen oxides (NO<sub>x</sub>) and particulate matter emissions, or to otherwise facilitate emission and exposure reductions of these pollutants in nearby communities.

Although the Project would comply with the above regulatory requirements, it should be noted that emission reductions associated with Rules 201, 401, 402, 461, 1301, 1401, and 2305 cannot be quantified in the California Emissions Estimator Model (CalEEMod) and are therefore not reflected in the emissions presented herein. Conversely, Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3) can be modeled in CalEEMod. As such, credit for Rule 403 and Rule 1113 have been taken in the analysis.

### **ES.3 PERRIS VALLEY COMMERCE CENTER SPECIFIC PLAN (PVCCSP) ENVIRONMENTAL IMPACT REPORT (PVCCSP EIR) MITIGATION MEASURES**

The Project site is located within the PVCCSP planning area. As such, and unless otherwise noted, the Project is required to comply with the following applicable *Perris Valley Commerce Center Specific Plan Environmental Impact Report (PVCCSP EIR) SCH No. 2009081086* mitigation measures (MMs) (4).

**MM Air 1**

To identify potential implementing development project-specific impacts resulting from construction activities, proposed development projects that are subject to CEQA shall have construction-related air quality impacts analyzed using the latest available URBan EMISsions (URBEMIS) model, or other analytical method determined in conjunction with the SCAQMD. The results of the construction-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold (LST) analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify

potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

*Project-specific construction-related air quality and LST analyses have been included in this AQIA to comply with this PVCCSP EIR mitigation measure. The URBEMIS model has been replaced by CalEEMod.*

### **MM Air 2**

Each individual implementing development project shall submit a traffic control plan prior to the issuance of a grading permit. The traffic control plan shall describe in detail safe detours and provide temporary traffic control during construction activities for that project. To reduce traffic congestion, the plan shall include, as necessary, appropriate, and practicable, the following: temporary traffic controls such as a flag person during all phases of construction to maintain smooth traffic flow, dedicated turn lanes for movement of construction trucks and equipment on- and off-site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hour, consolidating truck deliveries, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow.

### **MM Air 3**

To reduce fugitive dust emissions, the development of each individual implementing development project shall comply with SCAQMD Rule 403. The developer of each implementing project shall provide the City of Perris with the SCAQMD-approved dust control plan, or other sufficient proof of compliance with Rule 403, prior to grading permit issuance. Dust control measures shall include, but are not limited to:

- requiring the application of non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 20 days or more, assuming no rain),
- keeping disturbed/loose soil moist at all times,
- requiring trucks entering or leaving the site hauling dirt, sand, or soil, or other loose materials on public roads to be covered,
- installation of wheel washers or gravel construction entrances where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip,
- posting and enforcement of traffic speed limits of 15 miles per hour (mph) or less on all unpaved portions of the project sites,
- suspending all excavating and grading operations when wind gusts (as instantaneous gust) exceed 25 mph,
- appointment of a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to Particulate Matter 10 microns in diameter or less (PM10) generation,
- sweeping streets at the end of the day if visible soil material is carried onto adjacent paved public roads and use of SCAQMD Rule 1186 and 1186.1 certified street sweepers or roadway washing trucks when sweeping streets to remove visible soil materials,
- replacement of ground cover in disturbed areas as quickly as possible.

**MM Air 4**

Building and grading permits shall include a restriction that limits idling of construction equipment on site to no more than five minutes.

**MM Air 5**

Electricity from power poles shall be used instead of temporary diesel or gasoline-powered generators to reduce the associated emissions. Approval will be required by the City of Perris' Building Division prior to issuance of grading permits.

**MM Air 6**

The developer of each implementing development project shall require, by contract specifications, the use of alternative fueled off-road construction equipment, the use of construction equipment that demonstrates early compliance with off-road equipment with the California Air Resources Board (CARB) in-use off-road diesel vehicle regulation (SCAQMD Rule 2449) and/or meets or exceeds Tier 3 standards with available CARB verified or Environmental Protection Agency (EPA) certified technologies. Diesel equipment shall use water emulsified diesel fuel such as PuriNO<sub>x</sub> unless it is unavailable in Riverside County at the time of project construction activities. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Perris' Building Division prior to issuance of a grading permit.

**MM Air 7**

During construction, ozone (O<sub>3</sub>) precursor emissions from mobile construction equipment shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications to the satisfaction of the City of Perris' Building Division. Equipment maintenance records and equipment design specification data sheets shall be kept on-site during construction. Compliance with this measure shall be subject to periodic inspections by the City of Perris' Building Division.

**MM Air 8**

Each individual implementing development project shall apply paints using either high volume low pressure (HVLP) spray equipment with a minimum transfer efficiency of at least 50% or other application techniques with equivalent or higher transfer efficiency.

**MM Air 9**

To reduce VOC emissions associated with architectural coating, the project designer and contractor shall reduce the use of paints and solvents by utilizing pre-coated materials (e.g., bathroom stall dividers, metal awnings), materials that do not require painting, and require coatings and solvents with a VOC content lower than required under Rule 1113 to be utilized. The construction contractor shall be required to utilize "Super-Compliant" VOC paints, which are defined in SCAQMD's Rule 1113. Construction specifications shall be included in building specifications that assure these requirements are implemented. The specifications for each



implementing development project shall be reviewed by the City of Perris' Building Division for compliance with this MM prior to issuance of a building permit for that project.

**MM Air 10**

To identify potential implementing development project-specific impacts resulting from operational activities, proposed development projects that are subject to CEQA shall have long-term operational-related air quality impacts analyzed using the latest available URBEMIS model, or other analytical method determined by the City of Perris as lead agency in conjunction with the SCAQMD. The results of the operational-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's LST analysis, Carbon Monoxide (CO) Hot Spot analysis, or other appropriate analyses as determined by the City of Perris in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

*Project-specific operational air quality, LST, and CO hotspots analyses have been included in this AQIA to comply with this PVCCSP EIR mitigation measure. The URBEMIS model has been replaced by CalEEMod.*

**MM Air 11**

Signage shall be posted at loading docks and all entrances to loading areas prohibiting all on-site truck idling in excess of five minutes.

**MM Air 12**

Where transport refrigeration units (TRUs) are in use, electrical hookups will be installed at all loading and unloading stalls in order to allow TRUs with electric standby capabilities to use them.

**MM Air 13**

In order to promote alternative fuels, and help support "clean" truck fleets, the developer/successor-in-interest shall provide building occupants and businesses with information related to SCAQMD's Carl Moyer Program, or other state programs that restrict operations to "clean" trucks, such as 2007 or newer model year or 2010 compliant vehicles and information including, but not limited to, the health effect of diesel particulates, benefits of reduced idling time, CARB regulations, and importance of not parking in residential areas. If trucks older than 2007 model year would be used at a facility with three or more dock-high doors, the developer/successor-in-interest shall require, within one year of signing a lease, future tenants to apply in good-faith for funding for diesel truck replacement/retrofit through grant programs such as the Carl Moyer, Prop 1B, On-road Heavy Duty Voucher Incentive Program (VIP), Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), and Surplus Off-Road Opt-in for NO<sub>x</sub> (SOON) funding programs, as identified on SCAQMD's website (<http://www.aqmd.gov>). Tenants would be required to use those funds, if awarded.

*Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission*

*reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.*

**MM Air 14**

Each implementing development project shall designate parking spaces for high-occupancy vehicles and provide larger parking spaces to accommodate vans used for ride sharing. Proof of compliance would be required prior to the issuance of occupancy permits.

*Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.*

**MM Air 15**

To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with TRUs per day, or TRU operations exceeding 300 hours per week, and that are subject to CEQA and are located adjacent to sensitive land uses; shall have a facility-specific Health Risk Assessment (HRA) performed to assess the diesel particulate matter (DPM) impacts from mobile-source traffic generated by that implementing development project. The proposed Project is expected to result in 242 truck trips per day and is therefore required to prepare an HRA. The results of the HRA shall be included in the CEQA documentation for each implementing development project.

*A project-specific HRA has been prepared under separate cover to comply with this PVCCSP EIR mitigation measure.*

**MM Air 18**

Prior to the approval of each implementing development project, the Riverside Transit Agency (RTA) shall be contacted to determine if the RTA has plans for the future provision of bus routing within any street that is adjacent to the implementing development project that would require bus stops at the project access points. If the RTA has future plans for the establishment of a bus route that will serve the implementing development project, road improvements adjacent to the Project sites shall be designed to accommodate future bus turnouts at locations established through consultation with the RTA. RTA shall be responsible for the construction and maintenance of the bus stop facilities. The area set aside for bus turnouts shall conform to RTA design standards, including the design of the contact between sidewalks and curb and gutter at bus stops and the use of Americans with Disabilities Act (ADA)-compliant paths to the major building entrances in the project.

*For purposes of analysis, the estimated Project-generated emissions presented in this GHGA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.*

**MM Air 19**

In order to reduce energy consumption from the individual implementing development projects, applicable plans (e.g., electrical plans, improvement maps) submitted to the City shall include the installation of energy-efficient street lighting throughout the Project sites. These plans shall be reviewed and approved by the applicable City Department (e.g., City of Perris' Building Division) prior to conveyance of applicable streets.

*Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.*

**MM Air 20**

Each implementing development project shall be encouraged to implement, at a minimum, an increase in each building's energy efficiency 15% beyond Title 24, and reduce indoor water use by 25%. All reductions would be documented through a checklist to be submitted prior to issuance of building permits for the implementing development project with building plans and calculations.

*Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.*

**ES.4 ADDITIONAL MITIGATION MEASURES**

For regional emissions, the Project has the potential to exceed the numerical thresholds of significance established by the SCAQMD for emissions of VOCs and NO<sub>x</sub>. It is important to note that over 85% of the Project's VOC emissions are derived from consumer products and vehicle usage, while over 90% of the Project's NO<sub>x</sub> emissions are derived from vehicle usage. Many of the following measures are designed to reduce Project operational-source VOC and NO<sub>x</sub> emissions. However, it should be noted that there is no way to meaningfully quantify these reductions. Accordingly, emissions reductions resulting from implementation of operational-source mitigation measures are not quantified within this analysis.

The following Project-specific mitigation measures (MM AQ-1 through MM AQ-13) are designed to reduce Project operational-source VOC and NO<sub>x</sub> emissions. However, it should be noted that there is no way to quantify these reductions in the CalEEMod. Furthermore, as the City of Perris or the Project Applicant do not have regulatory authority to control tailpipe emissions, no feasible MM beyond the measures identified exist that would reduce VOC and NO<sub>x</sub> emissions to levels that are less-than-significant, thus these emissions are considered significant and unavoidable.

**MM AQ-1**

Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas of the warehouse portion of the Project that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

**MM AQ-2**

Prior to the issuing of each building permit, the project proponent and its contractors shall provide plans and specifications to the City of Perris Building Department that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.

**MM AQ-3**

Prior to the issuing of each building permit, the project proponent and its contractors shall provide plans and specifications to the City of Perris Building Department that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

**MM AQ-4**

Once constructed, the project proponent shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.

**MM AQ-5**

Once constructed, the project proponent shall ensure that all building tenants in the warehouse portion of the Project shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.

**MM AQ-6**

Upon occupancy, the facility operator for the warehouse portion of the Project shall require tenants that do not already operate 2010 and newer trucks to apply in good faith for funding to replace/retrofit their trucks, such as Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel

trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways. The facility operator shall provide an annual report to the City of Perris Planning Division. The report shall: one, list each engine design; two, describe the effort made by each tenant to obtain funding to upgrade their fleet and the results of that effort; and three, describe the change in each fleet composition from the prior year.

#### **MM AQ-7**

Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City of Perris. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a “commuter club” to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).
- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.
- Coordinate with the Riverside Transit Agency and employers in the surrounding area to maximize the benefits of the TDM program.”

Related to this measure, the Ramona Gateway Vehicle Miles Traveled (VMT) Analysis (Urban Crossroads, 2022) includes the following TDM strategies:

- Implementation of pedestrian network improvements that would provide a pedestrian access network to link areas of the Project site that would encourage people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The project will provide a pedestrian access network that internally links all uses and connects to existing pedestrian facilities contiguous with the project site. The project will minimize barriers to pedestrian access and interconnectivity. There is existing sidewalk east of the Project along Webster Avenue. The Project would provide pedestrian connections on-site that would connect to the existing sidewalk along Webster Avenue. Notably a sidewalk would be provided along the south side of Ramona Expressway adjacent to the Project site, which would connect to the sidewalk along the west side of Webster Avenue. The proposed Ramona Expressway sidewalk would also connect to the

sidewalk to be constructed along the east side of Nevada Avenue, adjacent to the Project site.

- The Project would further reduce its VMT impact through the implementation of a voluntary commute trip reduction (CTR) program that would discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, transit usage, walking and biking. The CTR program will provide employees assistance in using alternative modes of travel and provide incentives to encourage employee usage. CTR program would be a multi-strategy program that could include the following individual measures:
  - Carpooling encouragement
  - Ride-matching assistance
  - Preferential carpool parking
  - Flexible work schedules for carpools
  - Half-time transportation coordinator
  - New employee orientation of trip reduction and alternative travel mode options
  - Vanpool assistance
  - Bicycle end-trip facilities (parking and lockers)

#### **MM AQ-8**

Prior to the issuance of a building permit, the project proponent shall provide evidence to the City that loading docks are designed to be compatible with SmartWay trucks.

#### **MM AQ-9**

Upon occupancy and annually thereafter, the facility operator shall provide information to all tenants, with instructions that the information shall be provided to employees and truck drivers as appropriate, regarding:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.
- Participation in the Voluntary Interindustry Commerce Solutions (VICS) "Empty Miles" program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

#### **MM AQ-10**

Prior to issuance of a building permit, the project proponent shall provide the City with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

**MM AQ-11**

Prior to issuance of an occupancy permit, the City shall confirm that signs clearly identifying approved truck routes have been installed along the truck routes to and from the Project sites.

**MM AQ-12**

Prior to issuance of an occupancy permit, the project proponent shall install a sign on the property with telephone, email, and regular mail contact information for a designated representative of the tenant who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The tenant's representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The tenant's representative shall endeavor to resolve complaints within 24 hours.

**MM AQ-13**

Prior to issuance of a building permit, the project proponent shall provide the City with project specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer's data. Electrical system upgrades that exceed reasonable costs shall not be required.

*This page intentionally left blank*



# 1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed OLC3 (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

## 1.1 SITE LOCATION

The proposed OLC3 site is located on the southeast corner of Perris Boulevard and Perry Street within the City of Perris' *Perris Valley Commerce Center Specific Plan* (PVCCSP) planning area as shown on Exhibit 1-A. March Air Reserve Base/Inland Port Airport (MARB/IPA) is located approximately 1.5 miles northwest of the Project site boundary.

The Project site is currently undeveloped. According to the PVCCSP, the Project site is designated for Commercial uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This zone combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood (5).

## 1.2 PROJECT DESCRIPTION

The Project is to consist of 774,419 square feet of non-refrigerated High-Cube Fulfillment Center Warehouse use and up to 70,000 square feet of Retail and Restaurant uses (comprised of 30,825 square feet of Strip Retail Plaza use, 5,000 square feet of High Turnover (Sit-Down) Restaurant use, 23,775 square feet of Fast-Food Restaurant Without Drive-Through Window use in-line with the retail use, and 10,400 square feet of Fast-Food Restaurant With Drive-Through Window use). The Project is anticipated to be constructed in a single phase by the year 2024. A preliminary site plan is shown on Exhibit 1-B.

It should be noted, the Project description for the retail portion of the site has been updated since the time this study has been prepared. The updated Project description for the retail portion now consists of 39,825 square feet of retail use and 14,775 square feet of Fast-food Restaurant with Drive-Through Window use. The land uses evaluated within this study generate more trips, and consequently more emissions compared to the updated Project description. Therefore, the analysis provided in this report presents a conservative analysis of anticipated impacts.

**EXHIBIT 1-A: LOCATION MAP**



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS

**LEGEND:**  

 Site Boundary

EXHIBIT 1-B: SITE PLAN



*This page intentionally left blank*

## 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 (SCAB)

The Project site is located in the SCAB within the jurisdiction of SCAQMD (6). 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 previously stated, the Project site is located within the SCAB, 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 SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east and includes all of Orange County as well as the non-desert portions of San Bernardino, Los Angeles, and Riverside Counties.

### 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 (°F). 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 (SO<sub>2</sub>) to sulfates (SO<sub>4</sub>) 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% along the coast and 59% 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% 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 14½ 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 NO<sub>x</sub> 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 SCAB 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 onshore 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 CRITERIA POLLUTANTS

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 health effects are identified below (7):

**TABLE 2-1: CRITERIA POLLUTANTS**

Criteria Pollutant	Description	Sources	Health Effects
CO	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 O <sub>3</sub> , motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	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 (O <sub>2</sub> ) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O <sub>2</sub> transport and competing with O <sub>2</sub> to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O <sub>2</sub> 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 (O <sub>2</sub> deficiency) as seen at high altitudes.
SO <sub>2</sub>	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	Coal or oil burning power plants and industries, refineries, diesel engines	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

Criteria Pollutant	Description	Sources	Health Effects
	<p>occurring at chemical plants and refineries. When SO<sub>2</sub> oxidizes in the atmosphere, it forms SO<sub>4</sub>. Collectively, these pollutants are referred to as sulfur oxides (SO<sub>x</sub>).</p>		<p>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>.</p> <p>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.</p> <p>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.</p>
NO <sub>x</sub>	<p>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 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. NO<sub>x</sub> is typically created during</p>	<p>Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.</p>	<p>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</p>



Criteria Pollutant	Description	Sources	Health Effects
	<p>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 NO<sub>x</sub> 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 monitoring station.</p>		<p>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.</p> <p>In animals, exposure to levels of NO<sub>2</sub> considerably higher than ambient concentrations result 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 O<sub>3</sub> exposure increases when animals are exposed to a combination of O<sub>3</sub> and NO<sub>2</sub>.</p>
O <sub>3</sub>	<p>O<sub>3</sub> is a highly reactive and unstable gas that is formed when VOCs and NO<sub>x</sub>, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O<sub>3</sub> 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.</p>	<p>Formed when reactive organic gases (ROG) and NO<sub>x</sub> react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.</p>	<p>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 O<sub>3</sub> effects. Short-term exposure (lasting for a few hours) to O<sub>3</sub> 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.</p>

Criteria Pollutant	Description	Sources	Health Effects
			<p>Elevated O<sub>3</sub> levels are associated with increased school absences. In recent years, a correlation between elevated ambient O<sub>3</sub> 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 outdoor sports and reside in communities with high O<sub>3</sub> levels.</p> <p>O<sub>3</sub> 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 O<sub>3</sub> may be more toxic than exposure to O<sub>3</sub> 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.</p>
Particulate Matter	<p>PM<sub>10</sub>: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. 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. Additionally, it should be noted that PM<sub>10</sub> is</p>	<p>Sources of PM<sub>10</sub> include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO<sub>x</sub>, SO<sub>x</sub>, organics). Incomplete combustion of any fuel.</p> <p>PM<sub>2.5</sub> comes from fuel combustion in motor vehicles, equipment, and industrial sources,</p>	<p>A consistent correlation between elevated ambient fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) 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</p>

Criteria Pollutant	Description	Sources	Health Effects
	<p>considered a criteria air pollutant.</p> <p>PM<sub>2.5</sub>: A similar air pollutant to PM<sub>10</sub> 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 SO<sub>4</sub> 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.</p>	<p>residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO<sub>x</sub>, SO<sub>x</sub>, organics).</p>	<p>fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer.</p> <p>Daily fluctuations in PM<sub>2.5</sub> 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.</p> <p>The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM<sub>10</sub> and PM<sub>2.5</sub>.</p>
<p>VOC</p>	<p>VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O<sub>3</sub> 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 CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and</p>	<p>Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some</p>	<p>Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.</p>

Criteria Pollutant	Description	Sources	Health Effects
	ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O <sub>3</sub> , which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O <sub>3</sub> 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 NO <sub>x</sub> react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O <sub>3</sub> , which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of Pb emissions.	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	<p>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.</p> <p>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</p>

Criteria Pollutant	Description	Sources	Health Effects
			<p>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.</p>
<p>Odor</p>	<p>Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (8).</p>	<p>Odors can come from many sources including animals, human activities, industry, natures, and vehicles.</p>	<p>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.</p>

## 2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated 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. NAAQS and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (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. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May 4, 2016, as presented in Table 2-2. 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 (except 8-hour Lake Tahoe), SO<sub>2</sub> (1 and 24 hour), NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> do not exceed standards. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, CARB has implemented a State Implementation Plan (SIP). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (10).

**TABLE 2-2: 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>3,8</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 (PM10) <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 (PM2.5) <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>		
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	<b>No National Standards</b>		
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

California Air Resources Board (5/4/16)

**TABLE 2-2: 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°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
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 SO<sub>2</sub> 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 SO<sub>2</sub> 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

California Air Resources Board (5/4/16)



## 2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O<sub>3</sub>, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), NO<sub>2</sub>, and SO<sub>2</sub> which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (11). On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (12). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

**TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB**

Criteria Pollutant	State Designation	Federal Designation
O <sub>3</sub> – 1-hour standard	Nonattainment	--
O <sub>3</sub> – 8-hour standard	Nonattainment	Nonattainment
PM <sub>10</sub>	Nonattainment	Attainment
PM <sub>2.5</sub>	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO <sub>2</sub>	Attainment	Unclassifiable/Attainment
SO <sub>2</sub>	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb <sup>1</sup>	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB  
 "--" = The national 1-hour O<sub>3</sub> standard was revoked effective June 15, 2005.

## 2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within the Perris Valley area (SRA 24). The Perris Valley monitoring station is located approximately 3.8 miles southwest of the Project site and reports air quality statistics for O<sub>3</sub> and PM<sub>10</sub>. The Metropolitan Riverside County monitoring station which is located 15.2 miles northwest of the Project site in SRA 23, records air quality data for CO, NO<sub>2</sub>, and PM<sub>2.5</sub>. It should be noted that data from Metropolitan Riverside County monitoring station was utilized in lieu of the Perris Valley monitoring station only in instances where data was not available.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Development Site. Data for O<sub>3</sub>, CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for 2019 through 2021 was obtained from the SCAQMD Air Quality Data Tables (13).

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

Additionally, data for SO<sub>2</sub> has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO<sub>2</sub> concentrations.

**TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2019-2021**

Pollutant	Standard	Year		
		2019	2020	2021
O <sub>3</sub>				
Maximum Federal 1-Hour Concentration (ppm)		0.118	0.125	0.117
Maximum Federal 8-Hour Concentration (ppm)		0.095	0.106	0.094
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	26	34	25
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	64	74	60
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.5	1.9	2.1
Maximum Federal 8-Hour Concentration	> 20 ppm	1.2	1.4	1.8
NO <sub>2</sub>				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.056	0.066	0.052
Annual Federal Standard Design Value		0.014	0.014	0.014
PM <sub>10</sub> <sup>1</sup>				
Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 150 µg/m <sup>3</sup>	97	77	76
Annual Federal Arithmetic Mean (µg/m <sup>3</sup> )		25.3	35.9	34.2
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m <sup>3</sup>	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m <sup>3</sup>	4	6	16
PM <sub>2.5</sub>				
Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 35 µg/m <sup>3</sup>	46.70	41.00	82.1
Annual Federal Arithmetic Mean (µg/m <sup>3</sup> )	> 12 µg/m <sup>3</sup>	11.13	12.63	12.58
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m <sup>3</sup>	4	4	10

ppm = Parts Per Million

µg/m<sup>3</sup> = Microgram per Cubic Meter

Source: Data for O<sub>3</sub>, CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> was obtained from SCAQMD Air Quality Data Tables.

<sup>1</sup> 2021 PM<sub>10</sub> data was obtained from the Metropolitan Riverside County monitoring station as data for Perris Valley was not available.

## 2.8 REGULATORY BACKGROUND

### 2.8.1 FEDERAL REGULATIONS

The 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 Pb (14). The 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 EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of 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 (15). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would 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) (16) (17). 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 Pb. 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 2-3 (previously presented) provides the NAAQS within the SCAB.

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 NO<sub>x</sub>. NO<sub>x</sub> is a collective term that includes all forms of NO<sub>x</sub> which are emitted as byproducts of the combustion process.

## 2.8.2 CALIFORNIA REGULATIONS

### CARB

CARB, which became part of the CalEPA 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. AB 2595 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. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO<sub>4</sub>, visibility, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride (C<sub>2</sub>H<sub>3</sub>Cl). However, at this time, H<sub>2</sub>S and C<sub>2</sub>H<sub>3</sub>Cl 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 (18) (14).

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 (AQMP) 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 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, 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 5% per year under certain circumstances.

#### **TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS**

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide \$1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (19). The Project would be required to comply with the applicable standards in place at the time building permit document submittals are made. These require, among other items (20):

#### **NONRESIDENTIAL MANDATORY MEASURES**

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106.5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, upright and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

### 2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (21). AQMPs are updated regularly to ensure an effective reduction in 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 3.10.

## 2.9 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 of is known as the SCAB. 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.

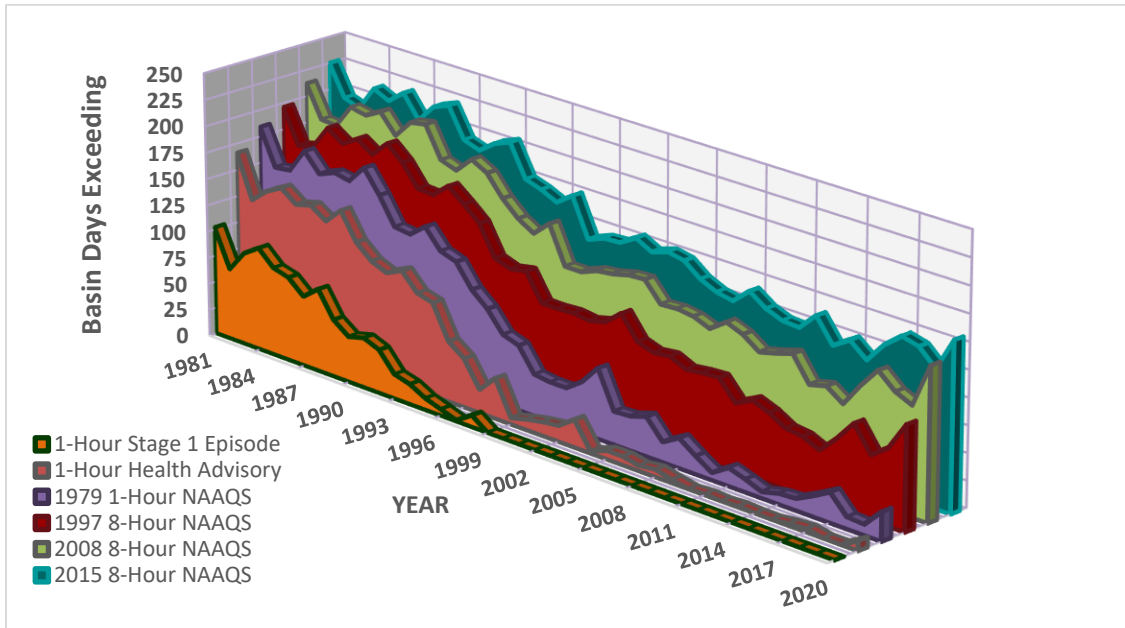
SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in SCAB air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the SCAB. 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 SCAB. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the SCAB. AQMPs are updated regularly to ensure an effective reduction in emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

Emissions of O<sub>3</sub>, NO<sub>x</sub>, VOC, and CO have been decreasing in the SCAB since 1975 (22). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled (VMT) in the SCAB 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. O<sub>3</sub> contour maps show that the number of days exceeding the 8-hour NAAQS has generally decreased between 1980 and 2020. For 2020, there was an overall decrease in exceedance days compared with the 1980 period. However, as shown on Table 2-5, O<sub>3</sub> levels have increased in the past three years due to higher temperatures and stagnant weather conditions. Notwithstanding, O<sub>3</sub> levels in the SCAB have decreased substantially over the last 30 years with the current maximum measured concentrations being approximately one-third of concentrations within the late 70's (23).

**TABLE 2-5: SCAB O<sub>3</sub> TREND**



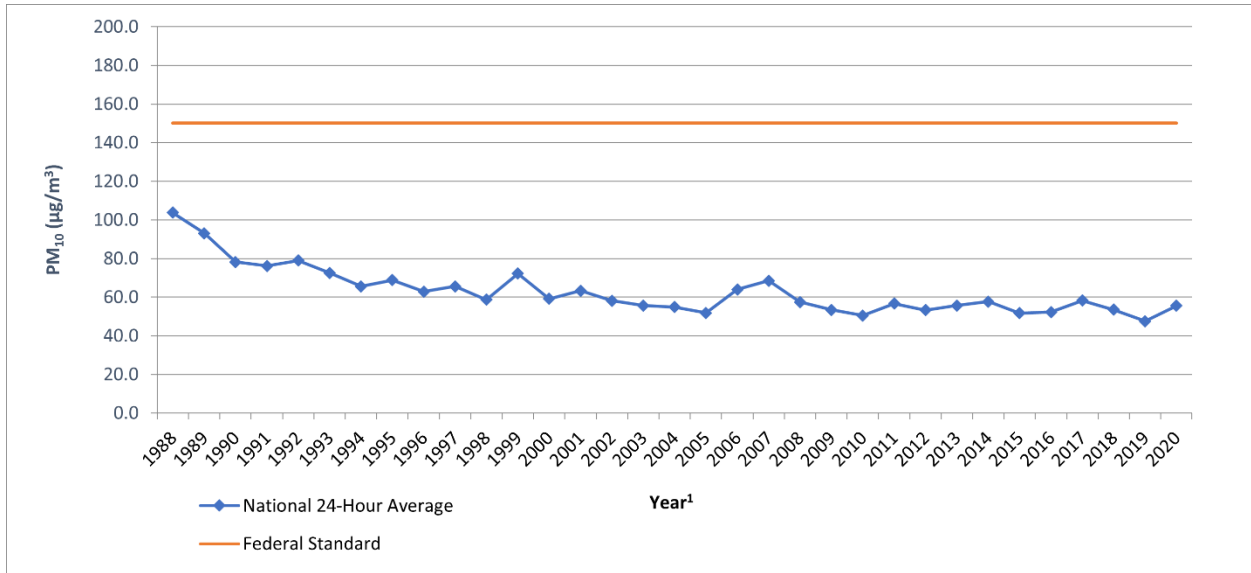
Source: 2020 SCAQMD, Historical O<sub>3</sub> Air Quality Trends (1976-2020)

The overall trends of PM<sub>10</sub> and PM<sub>2.5</sub> levels in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM<sub>10</sub> have remained somewhat constant in the SCAB 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 other sources) contribute the greatest amount of direct particulate matter emissions.

As with other pollutants, the most recent PM<sub>10</sub> statistics show an overall improvement as illustrated in Tables 2-6 and 2-7. During the period for which data are available, the 24-hour national annual average concentration for PM<sub>10</sub> decreased by approximately 46%, from 103.7 microgram per cubic meter (µg/m<sup>3</sup>) in 1988 to 55.5 µg/m<sup>3</sup> in 2020 (24). Although the values are below the federal standard, it should be noted that there are days within the year where the concentrations would exceed the threshold. The 24-hour state annual average for emissions for PM<sub>10</sub>, have decreased by approximately 64%, from 93.9 µg/m<sup>3</sup> in 1989 to 33.9 µg/m<sup>3</sup> in 2020 (24). Although data in the late 1990's show some variability, this is probably due to the advances in meteorological science rather than a change in emissions. 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.



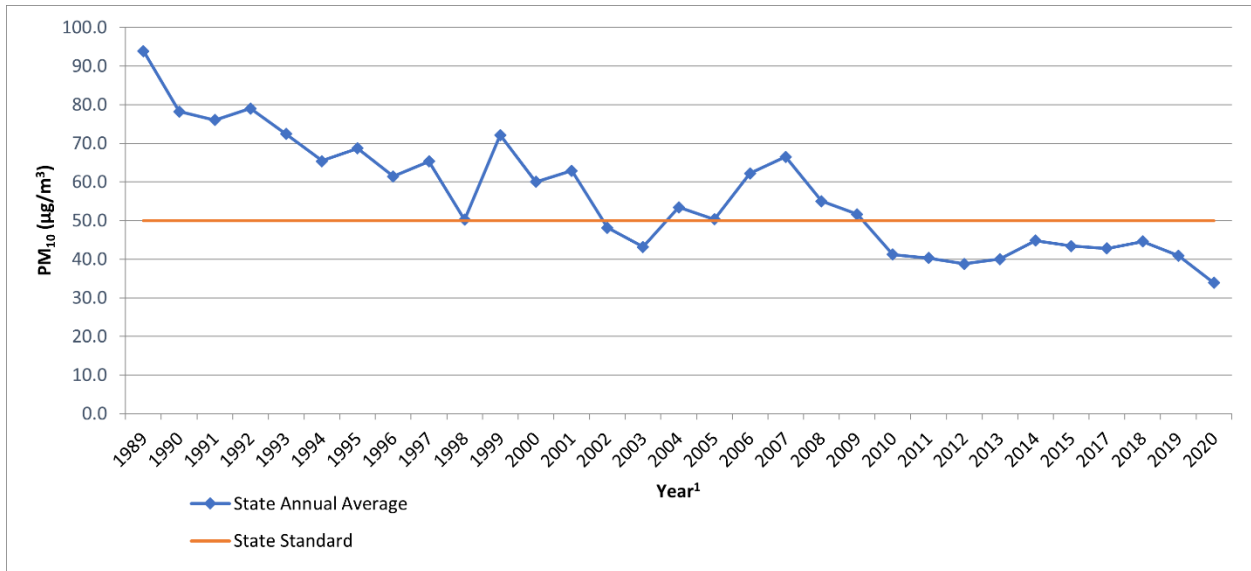
**TABLE 2-6: SCAB AVERAGE 24-HOUR CONCENTRATION PM<sub>10</sub> TREND (BASED ON FEDERAL STANDARD)<sup>1</sup>**



Source: 2020 CARB, iADAM: Top Four Summary: PM<sub>10</sub> 24-Hour Averages (1988-2020)

<sup>1</sup> Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

**TABLE 2-7: SCAB ANNUAL AVERAGE CONCENTRATION PM<sub>10</sub> TREND (BASED ON STATE STANDARD)<sup>1</sup>**

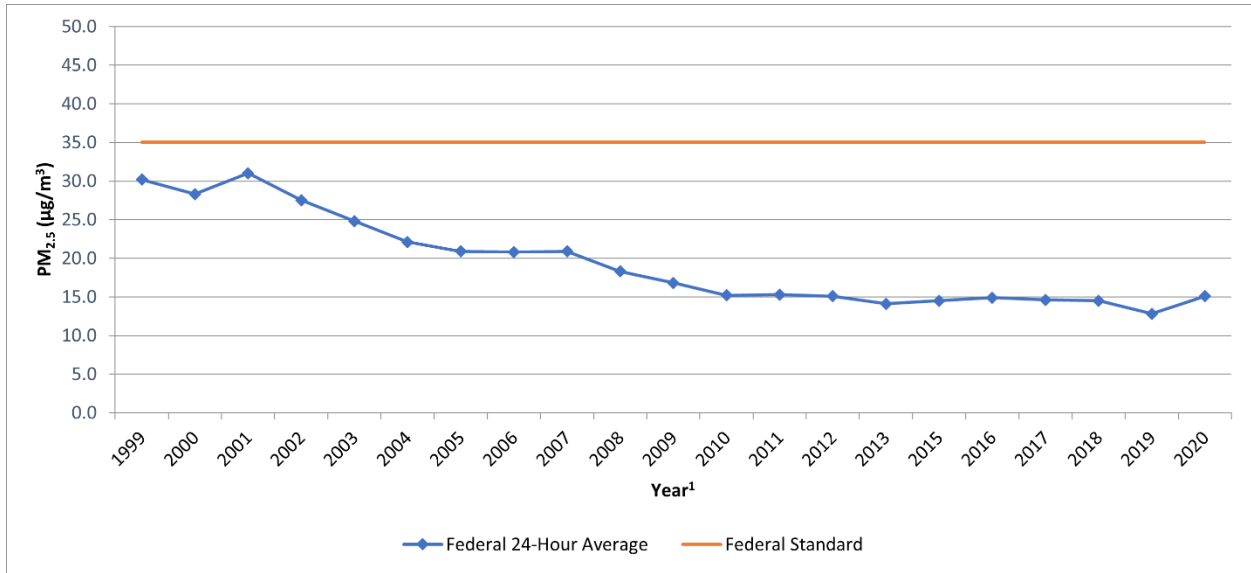


Source: 2020 CARB, iADAM: Top Four Summary: PM<sub>10</sub> 24-Hour Averages (1988-2020)

<sup>1</sup> Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

Tables 2-8 and 2-9 shows the most recent 24-hour average PM<sub>2.5</sub> concentrations in the SCAB from 1999 through 2020. Overall, the national and state annual average concentrations have decreased by almost 50% and 31% respectively (24). It should be noted that the SCAB is currently designated as nonattainment for the state and federal PM<sub>2.5</sub> standards.

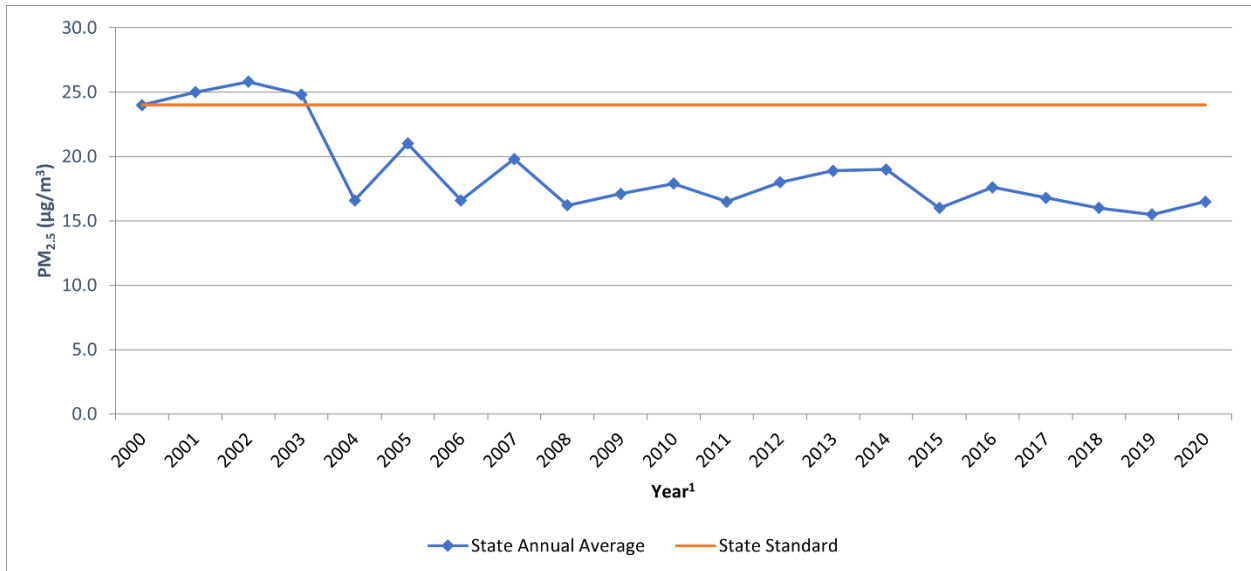
**TABLE 2-8: SCAB 24-HOUR AVERAGE CONCENTRATION PM<sub>2.5</sub> TREND (BASED ON FEDERAL STANDARD)<sup>1</sup>**



Source: 2020 CARB, iADAM: Top Four Summary: PM<sub>2.5</sub> 24-Hour Averages (1999-2020)

<sup>1</sup> Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

**TABLE 2-9: SCAB ANNUAL AVERAGE CONCENTRATION PM<sub>2.5</sub> TREND (BASED ON STATE STANDARD)<sup>1</sup>**



Source: 2020 CARB, iADAM: Top Four Summary: PM<sub>2.5</sub> 24-Hour Averages (1999-2020)

<sup>1</sup> Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

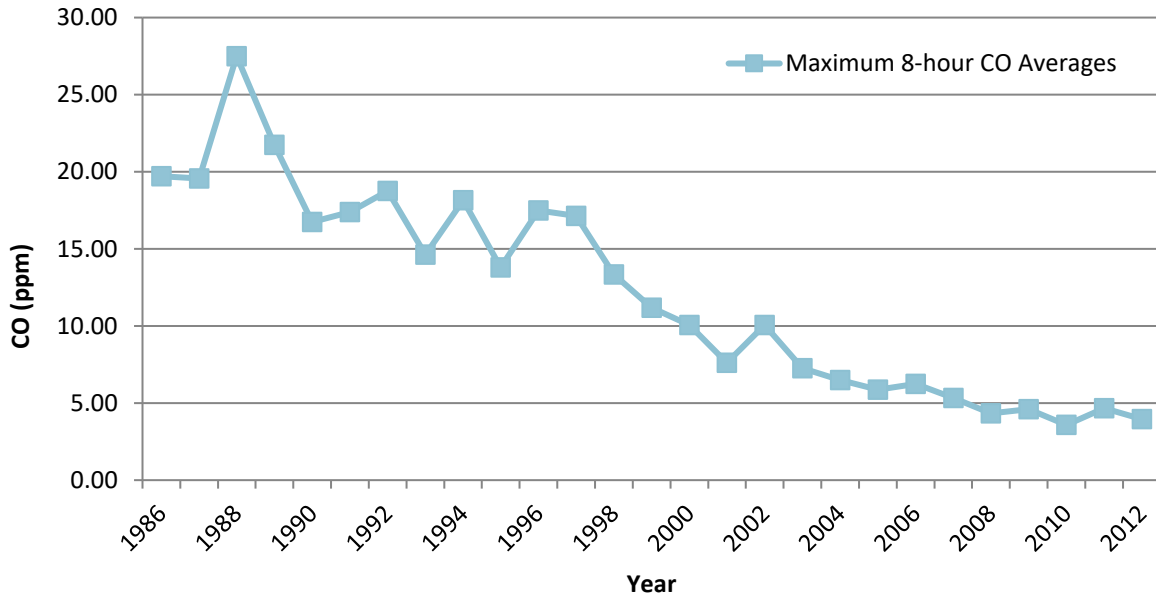
While the 2012 AQMP PM<sub>10</sub> attainment demonstration and the 2015 associated supplemental SIP submission indicated that attainment of the 24-hour standard was predicted to occur by the end of 2015, it could not anticipate the effect of the ongoing drought on the measured PM<sub>2.5</sub>.

The 2006 to 2010 base period used for the 2012 attainment demonstration had near-normal rainfall. While the trend of PM<sub>2.5</sub>-equivalent emission reductions continued through 2015, the severe drought conditions contributed to the PM<sub>2.5</sub> increases observed after 2012. As a result of the disrupted progress toward attainment of the federal 24-hour PM<sub>2.5</sub> standard, SCAQMD submitted a request and the EPA approved, in January 2016, a “bump up” to the nonattainment classification from “moderate” to “serious,” with a new attainment deadline as soon as practicable, but not beyond December 31, 2019. As of March 14, 2019, the EPA approved portions of a SIP revision submitted by California to address CAA requirements for the 2006 24-hour PM<sub>2.5</sub> NAAQS in the Los Angeles-SCAB Serious PM<sub>2.5</sub> nonattainment area. The EPA also approved 2017 and 2019 motor vehicle emissions budgets for transportation conformity purposes and inter-pollutant trading ratios for use in transportation conformity analyses (25).

In December 2022, the SCAQMD released the Final 2022 AQMP. The 2022 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 (26). Similar to the 2016 AQMP, the 2022 AQMP incorporates scientific and technological information and planning assumptions, including the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS) and updated emission inventory methodologies for various source categories (27).

The most recent CO concentrations in the SCAB are shown in Table 2-10 (24). CO concentrations in the SCAB have decreased markedly — a total decrease of more about 80% in the peak 8-hour concentration from 1986 to 2012. It should be noted 2012 is the most recent year where 8-hour CO averages and related statistics are available in the SCAB. 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 2-10: SCAB 8-HOUR AVERAGE CONCENTRATION CO TREND<sup>1</sup>**



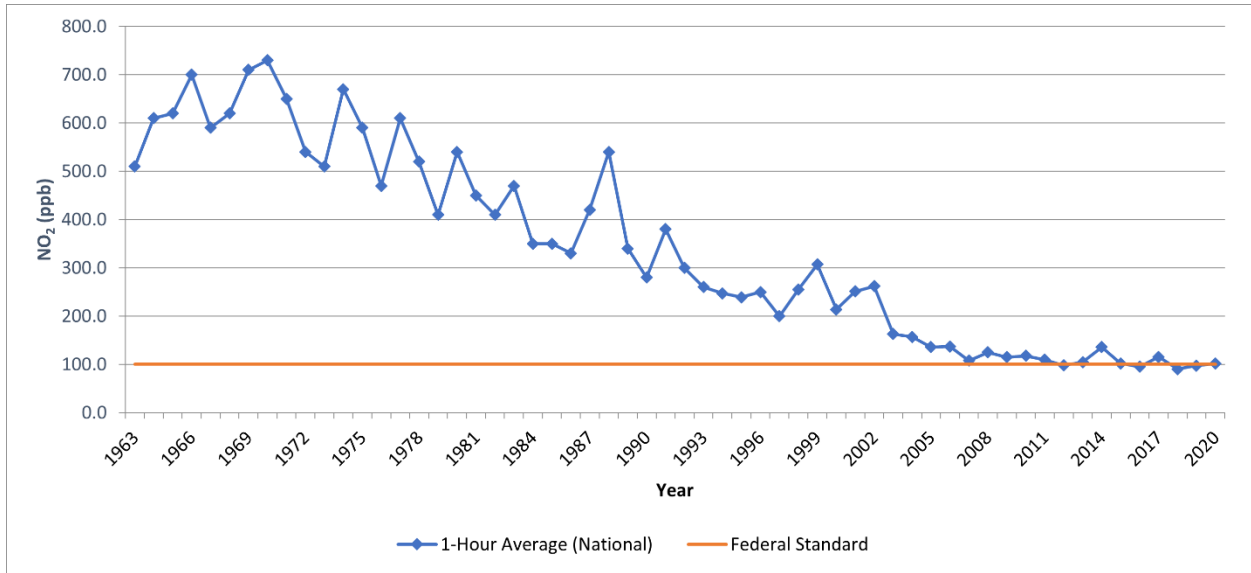
Source: 2020 CARB, iADAM: Top Four Summary: CO 8-Hour Averages (1986-2012)

<sup>1</sup> The most recent year where 8-hour concentration data is available is 2012.

Part of the control process of the SCAQMD’s duty to greatly improve the air quality in the SCAB is the uniform CEQA review procedures required by SCAQMD’s *CEQA Air Quality Handbook (1993) (1993 CEQA Handbook) (28)*. 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 SCAB 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.

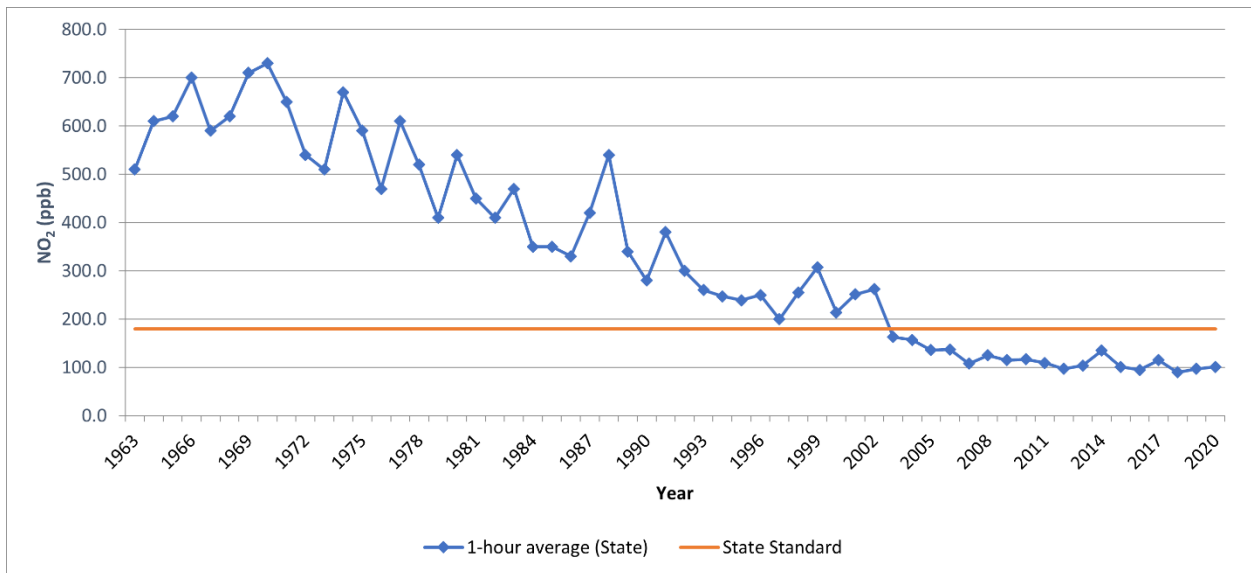
The most recent NO<sub>2</sub> data for the SCAB is shown in Tables 2-11 and 2-12 (24). Over the last 50 years, NO<sub>2</sub> values have decreased significantly; the peak 1-hour national and state averages for 2020 is approximately 80% lower than what it was during 1963. The SCAB attained the State 1-hour NO<sub>2</sub> standard in 1994, bringing the entire state into attainment. A new state annual average standard of 0.030 ppm was adopted by CARB in February 2007 (29). The new standard is just barely exceeded in the SCAQMD. NO<sub>2</sub> is formed from NO<sub>x</sub> emissions, which also contribute to O<sub>3</sub>. As a result, the majority of the future emission control measures would be implemented as part of the overall O<sub>3</sub> control strategy. Many of these control measures would 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 SCAQMD into attainment of the state annual average standard.

**TABLE 2-11: SCAB 1-HOUR AVERAGE CONCENTRATION NO<sub>2</sub> TREND (BASED ON FEDERAL STANDARD)**



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

**TABLE 2-12: SCAB 1-HOUR AVERAGE CONCENTRATION NO<sub>2</sub> TREND (BASED ON STATE STANDARD)**



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

### 2.9.1 TOXIC AIR CONTAMINANTS (TAC) TRENDS

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary sources, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article (30) 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 (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C<sub>6</sub>H<sub>6</sub>), and 1,3-butadiene (C<sub>4</sub>H<sub>6</sub>); those that are derived from stationary sources: perchloroethylene (C<sub>2</sub>Cl<sub>4</sub>) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH<sub>2</sub>O) and acetaldehyde (C<sub>2</sub>H<sub>4</sub>O)<sup>2</sup>. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

### **MOBILE SOURCE TACS**

CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. In California, light-duty vehicles sold after 1996 are equipped with California's second-generation On-Board Diagnostic (OBD-II) system. The OBD-II system monitors virtually every component that can affect the emission performance of the vehicle to ensure that the vehicle remains as clean as possible over its entire life and assists repair technicians in diagnosing and fixing problems with the computerized engine controls. If a problem is detected, the OBD-II system illuminates a warning lamp on the vehicle instrument panel to alert the driver. This warning lamp typically contains the phrase "Check Engine" or "Service Engine Soon." The system would also store important information about the detected malfunction so that a repair technician can accurately find and fix the problem. CARB has recently developed similar OBD requirements for heavy-duty vehicles over 14,000 pounds (lbs). CARB's phase II Reformulated Gasoline Regulation (RFG-2), 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 use of reformulated gasoline and motor vehicle regulations (30).

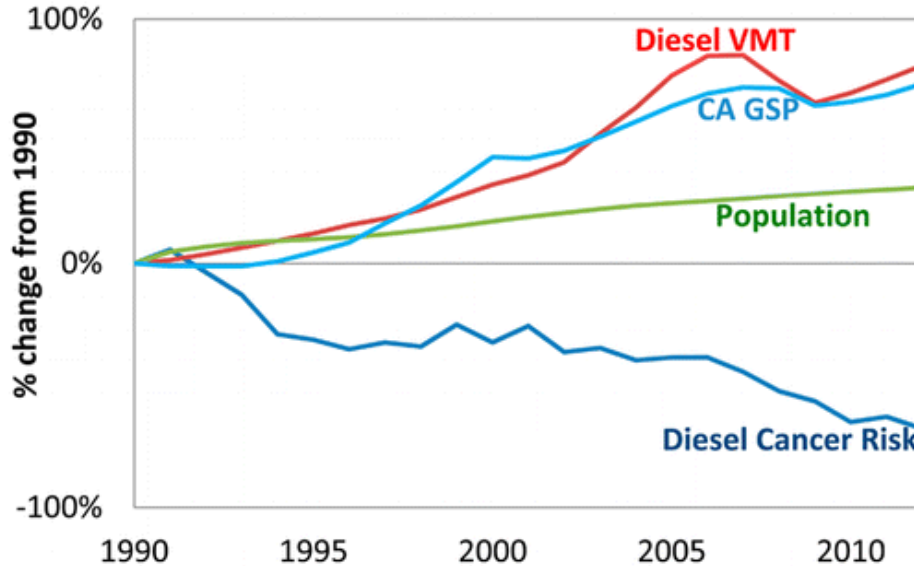
In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15 ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state's population increased 31% and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

---

<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.

**EXHIBIT 2-A: DPM AND DIESEL VEHICLE MILES TREND**

**California Population, Gross State Product (GSP), Diesel Cancer Risk, Diesel Vehicle-Miles-Traveled (VMT)**



Source: 2020 CARB

**DIESEL REGULATIONS**

CARB and the Ports of Los Angeles and Long Beach (POLA and POLB) have adopted several iterations of regulations for diesel trucks that are aimed at reducing DPM. More specifically, CARB Drayage Truck Regulation (31), CARB statewide On-road Truck and Bus Regulation (32), and the Ports of Los Angeles and Long Beach Clean Truck Program (CTP) require accelerated implementation of “clean trucks” into the statewide truck fleet (33). In other words, older more polluting trucks would be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HDT), in terms of grams of DPM generated per mile traveled, would 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 SCAB has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study called the Multiple Air Toxics Exposure Study (MATES). DPM accounts for more than 70% of the cancer risk.

In January 2018, as part of the overall effort to reduce air toxics exposure in the SCAB, SCAQMD began conducting the MATES V Program. MATES V field measurements were conducted at ten fixed sites (the same sites selected for MATES III and IV) to assess trends in air toxics levels. MATES V also included measurements of ultrafine particles (UFP) and black carbon (BC) concentrations, which can be compared to the UFP levels measured in MATES IV (34). The final report for the MATES V study was published in August 2021. In addition to new measurements and updated modeling results, several key updates were implemented in MATES V. First, MATES V estimates cancer risks by taking into account multiple exposure pathways, which includes inhalation and non-inhalation pathways. This approach is consistent with how cancer risks are estimated in South Coast AQMD's programs such as permitting, Air Toxics Hot Spots (AB2588), and CEQA. Previous MATES studies quantified the cancer risks based on the inhalation pathway only. Second, along with cancer risk estimates, MATES V includes information on the chronic non-cancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic non-cancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazard Assessment (OEHHA) and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time (35).

MATES-V calculated cancer risks based on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, MATES-V has extrapolated the excess cancer risk levels throughout the SCAB by modeling the specific grids. The Project is located within a quadrant of the geographic grid of the MATES-V model which predicted a cancer risk of 308 in one million for the area containing the Project site. The air toxic cancer risk in the Project area is higher than 15% of the SCAQMD population. DPM is included in this cancer risk along with all other TAC sources. As in previous MATES iterations, diesel PM is the largest contributor to overall air toxics cancer risk. However, the average levels of diesel PM in MATES V are 53% lower at the 10 monitoring sites compared to MATES IV. Cumulative Project generated TACs are limited to DPM.



*This page intentionally left blank*

### 3 PROJECT AIR QUALITY IMPACT

#### 3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the Project and addresses whether the Project conflicts with implementation of the SCAQMD’s AQMP and Lead Agency planning regulations. The analysis of Project-generated air emissions determines whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following sections.

#### 3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *State CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

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

The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table 3-1 (36). The SCAQMD’s *CEQA Air Quality Significance Thresholds* (April 2019) 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 REGIONAL EMISSIONS THRESHOLDS**

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO <sub>x</sub>	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM <sub>10</sub>	150 lbs/day	150 lbs/day
PM <sub>2.5</sub>	55 lbs/day	55 lbs/day
SO <sub>x</sub>	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day

### 3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

#### 3.3.1 CALFEEMOD

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

In May 2022 California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including the SCAQMD, released the latest version of CalFEEMod version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (37). Accordingly, the latest version of CalFEEMod 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 VOCs, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

#### GRADING ACTIVITIES

Dust is typically a major concern during 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.). CalFEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. This analysis assumes that approximately 60,000 cubic yards (CY) of soil import will be required during Project grading activities.

#### OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

In addition, to support the Project development, off-site utility and infrastructure improvements are anticipated on the immediately surrounding roadways. It is expected that the off-site construction activities would not take place at one location for the entire duration of construction. It is anticipated that off-site utility and infrastructure improvements would occur concurrent with other utility installation activities. 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.

**ON-ROAD TRIPS**

Construction generates on-road vehicle emissions from vehicle usage for workers and vendors commuting to and from the site, as well as haul trucks for the import of soil during grading activities. The number of worker, vendor, and hauling trips are presented below in Table 3-2. It should be noted that for Vendor Trips, specifically, CalEEMod only assigns Vendor Trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for Vendor Trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

**TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS**

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	18	4	0
Grading	20	12	250
Building Construction	352	122	0
Paving	15	0	0
Architectural Coating	70	0	0

**3.4.1 CONSTRUCTION DURATION**

For purposes of analysis, construction of the Project (retail and industrial components) is expected to last approximately 15 months, commencing in January 2023 and being completed in April 2024. The construction schedule utilized in the analysis, shown in Table 3-3, 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>. The duration of construction activity and associated equipment was based on information provided by the Project Applicant and represents a reasonable approximation of the expected construction fleet as required per the *State CEQA Guidelines* (1).

**3.4.2 CONSTRUCTION EQUIPMENT**

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code City’s Municipal Code, Section 7.34.060 (Appendix 3.1) (38).

<sup>3</sup> As shown in the CalEEMod User’s Guide Version 2020.4.0, Section 4.3 “Off-Road Equipment” 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 3-3: CONSTRUCTION DURATION**

Construction Activity	Start Date	End Date	Days
Site Preparation	1/1/2023	1/13/2023	10
Grading	1/14/2023	2/24/2023	30
Building Construction	2/25/2023	4/19/2024	300
Paving	3/23/2024	4/19/2024	20
Architectural Coating	2/24/2024	4/19/2024	40

**TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Construction Activity	Equipment <sup>1</sup>	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building/Vertical Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

<sup>1</sup> In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes during the site preparation and grading phases.

**3.4.3 CONSTRUCTION EMISSIONS SUMMARY**

**IMPACTS WITHOUT MITIGATION**

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction will not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

**TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITHOUT MITIGATION**

Year	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer (Smog Season)						
2023	3.35	19.10	47.50	0.05	6.29	1.97
2024	31.00	27.60	63.60	0.07	7.78	2.57
Winter						
2023	4.99	62.80	39.90	0.18	9.88	5.08
2024	30.80	28.20	54.70	0.07	7.78	2.57
<b>Maximum Daily Emissions</b>	<b>31.00</b>	<b>62.80</b>	<b>63.60</b>	<b>0.18</b>	<b>9.88</b>	<b>5.08</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>

Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1.

### 3.5 OPERATIONAL EMISSIONS

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

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions

#### 3.5.1 AREA SOURCE EMISSIONS

##### ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project will require maintenance and will therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using 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 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 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 are generally excluded from the evaluation of significance and only natural gas use is considered. Based on information provided by the Project Applicant, only the commercial portion of the Project would utilize natural gas. The emissions associated with natural gas use were calculated using CalEEMod.

### 3.5.3 MOBILE SOURCE EMISSIONS

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site, truck trips associated with the proposed uses, and retail customers. Trip characteristics available from the *OLC3 Traffic Analysis* (TA) were utilized in this analysis (39). Per the *OLC3 Traffic Analysis*, the proposed Project expected to generate approximately 9,266 total trips per day which includes 8,972 passenger car trips per day and 294 truck trips per day. It should be noted that the majority of trips, approximately 82%, were generated by the retail component of the Project.

#### APPROACH FOR ANALYSIS OF THE PROJECT

To determine emissions from passenger car vehicles, the CalEEMod defaults were utilized for trip length and trip purpose for the proposed commercial and industrial land uses. For the proposed commercial uses, the CalEEMod default fleet mix was used. For the proposed industrial uses, it is important to note that although the *OLC3 Traffic Analysis* does not breakdown passenger cars by type, this analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1<sup>4</sup> & LDT2<sup>5</sup>), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. In order to account for emissions generated by passenger cars, the fleet mix in Table 3-6 was utilized.

<sup>4</sup> Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

<sup>5</sup> Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

**TABLE 3-6: PASSENGER CAR FLEET MIX – INDUSTRIAL USE**

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
High-Cube Fulfillment Center Warehouse	54.02%	4.38%	21.48%	17.54%	2.58%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, and MDV vehicle types.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 14.2 miles for 2-axle and 3-axle (LHDT1, LHDT2, and MHDT) trucks and 40 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages taken from the *OLC3 Traffic Analysis*. The trip length function for the proposed industrial building use has been revised to 34.51 miles, with an assumption of 100% primary trips for the proposed industrial land uses. In order to be consistent with the *OLC3 Traffic Analysis*, trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided in the *OLC3 TA Scoping Agreement*. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1<sup>6</sup> & LHDT2<sup>7</sup>)/2-axle, Medium-Heavy-Duty Trucks (MHD)/3-axle, and Heavy-Heavy-Duty Trucks (HHD)/4+-axle. To account for emissions generated by trucks, the following fleet mix was utilized in this analysis:

**TABLE 3-7: TRUCK FLEET MIX – INDUSTRIAL USE**

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
High-Cube Fulfillment Center Warehouse	8.36%	2.36%	10.71%	78.57%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

**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 brake and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

**3.5.4 EMERGENCY FIRE PUMPS**

It is conservatively assumed that the proposed Project would include installation of two diesel-fueled emergency fire pumps rated at 190 brake horsepower (bhp) each. The analysis assumed that each pump could potentially operate for up to half an hour per day, one day per week, for a total of 26 hours per year for maintenance and testing purposes. Emissions resulting from the two emergency fire pumps were modeled using CalEEMod.

<sup>6</sup> Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

<sup>7</sup> Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.



### 3.5.5 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building’s truck court areas. For this particular Project, on-site modeled operational equipment includes up to three (3) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractors operating at 4 hours a day<sup>8</sup> for 365 days of the year.

### 3.5.6 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-8. As indicated, the Project would exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs, NO<sub>x</sub>, and CO. Over 90% of operational-source VOC emissions would be generated from the use of consumer products and mobile activities, and mobile source emissions alone would exceed the regional significance threshold for VOCs. Similarly, over 98% of operational-source NO<sub>x</sub> emissions and 88% of CO operational source emissions would be generated from mobile activities. As previously stated, the Project is required to comply with the applicable PVCCSP EIR mitigation measures identified in Section ES.3 and additional Project-specific mitigation measures identified in Section ES.4. In particular, PVCCSP EIR mitigation measures MM Air 8 and MM Air 9 would reduce VOC emissions resulting from the application of architectural coatings. It should be noted that no additional feasible mitigation measures, beyond the measures identified in Section ES.2 and ES.4, exist that would further reduce these emissions to levels that are less-than-significant.

Although the Project would implement the mitigation measures listed in section ES.2 and ES.4, it should be noted that there is no way to definitively quantify these reductions in CalEEMod. As such, no reductions are shown as a conservative measure (i.e., impacts are overstated). Neither the Project applicant nor the Lead Agency (City) can substantively or materially affect reductions in Project mobile-source emissions beyond the regulatory requirements and mitigation measures identified herein. Thus, these emissions are considered significant and unavoidable.

**TABLE 3-8: SUMMARY OF PEAK OPERATIONAL EMISSIONS**

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer (Smog Season)						
Mobile Source	60.50	110.00	655.00	1.92	58.50	12.10
Area Source	26.30	0.31	36.70	< 0.005	0.05	0.07
Energy Source	0.07	1.25	1.05	0.01	0.09	0.09
On-Site Equipment	0.35	1.13	49.33	0.00	0.09	0.08
Emergency Fire Pumps	0.31	0.87	0.80	< 0.005	0.05	0.05

<sup>8</sup> Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB’s Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Total Maximum Daily Emissions</b>	<b>87.53</b>	<b>113.56</b>	<b>742.88</b>	<b>1.93</b>	<b>58.78</b>	<b>12.39</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
Winter						
Mobile Source	56.50	117.00	541.00	1.82	58.50	12.10
Area Source	20.30	0.00	0.00	0.00	0.00	0.00
Energy Source	0.07	1.25	1.05	0.01	0.09	0.09
On-Site Equipment	0.35	1.13	49.33	0.00	0.09	0.08
Emergency Fire Pumps	0.31	0.87	0.80	< 0.005	0.05	0.05
<b>Total Maximum Daily Emissions</b>	<b>77.53</b>	<b>120.25</b>	<b>592.18</b>	<b>1.83</b>	<b>58.73</b>	<b>12.32</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Source: CalEEMod operation-source emissions are presented in Appendix 3.1.

### 3.6 LOCALIZED SIGNIFICANCE

#### BACKGROUND ON LST DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). 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 LSTs.

The SCAQMD established LSTs in response to the SCAQMD Governing Board’s Environmental Justice Initiative I-4<sup>9</sup>. LSTs represent the maximum emissions from a project that would 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 *LST Methodology* (40).

<sup>9</sup> The purpose of SCAQMD’s Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as “...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution.”

## APPLICABILITY OF LSTs FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Perris Valley (SRA 24). LSTs apply to CO, NO<sub>2</sub>, PM<sub>10</sub>, and 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:

- Identify the maximum daily on-site emissions that will occur during construction activity:
  - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
  - The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and *CalEEMod User's Guide Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (41) (42).
- If the total acreage disturbed is less than or equal to 5 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 look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The *LST Methodology* presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

## EMISSIONS CONSIDERED

Based on SCAQMD's *LST Methodology*, emissions for concern during construction activities are on-site NO<sub>x</sub>, CO, PM<sub>2.5</sub>, and PM<sub>10</sub>. The *LST Methodology* clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs (43)." As such, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

## MAXIMUM DAILY DISTURBED-ACREAGE

As a conservative measure, it is assumed that a maximum of 20 acres per day can be actively disturbed during construction of the site. In CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot (42). TAG is a function of the maximum acreage disturbed per

day times the number of days of the subphase of construction. As such, the TAG field in CalEEMod has been revised to 200 acres (20 acres per day x 10 days) for site preparation and 600 acres (20 acres per day x 30 days) for grading<sup>10</sup>.

## RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

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, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as “sensitive receptors”. These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site has been used to determine construction and operational air quality impacts for emissions of PM<sub>10</sub> and PM<sub>2.5</sub>, since PM<sub>10</sub> and PM<sub>2.5</sub> thresholds are based on a 24-hour averaging time<sup>11</sup>.

LSTs apply, even for non-sensitive land uses, consistent with *LST Methodology* and SCAQMD guidance. Per the *LST Methodology*, commercial, educational, and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. However, *LST Methodology* explicitly states that “LSTs based on shorter averaging periods, such as the NO<sub>2</sub> and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours (43).” Therefore, any adjacent land use where an individual could remain for 1 or 8-hours, that is located at a closer distance to the Project site than the receptor used for PM<sub>10</sub> and PM<sub>2.5</sub> analysis, must be considered to determine construction and operational LST air impacts for emissions of NO<sub>2</sub> and CO since these pollutants have an averaging time of 1 and 8-hours.

## RECEPTORS

Receptors relative to the Project area are described below and shown on Exhibit 3-A. Localized air quality impacts were evaluated at receptor land uses nearest the Project site.

- R1: Location R1 represents the existing residence at 4310 Almaterra Drive, approximately 3,431 feet northeast of the Project site.
- R2: Location R2 represents the existing residence at 3896 Akina Avenue, approximately 2,279 feet southeast of the Project site.

<sup>10</sup> CalEEMod does not provide a “Total Acres Graded” field for Demolition, Building Construction, Paving, or Architectural Coating activities.

<sup>11</sup> It should be noted that a school use is not included in SCAQMD’s specific definition of sensitive land uses for LST purposes, since the LST definition includes locations where an individual has a likelihood to remain for 24-hours per day. School receptors are considered for localized emissions of NO<sub>2</sub> and CO – which have averaging times of 1 and 8-hours as noted above.

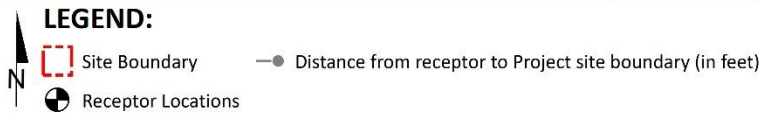
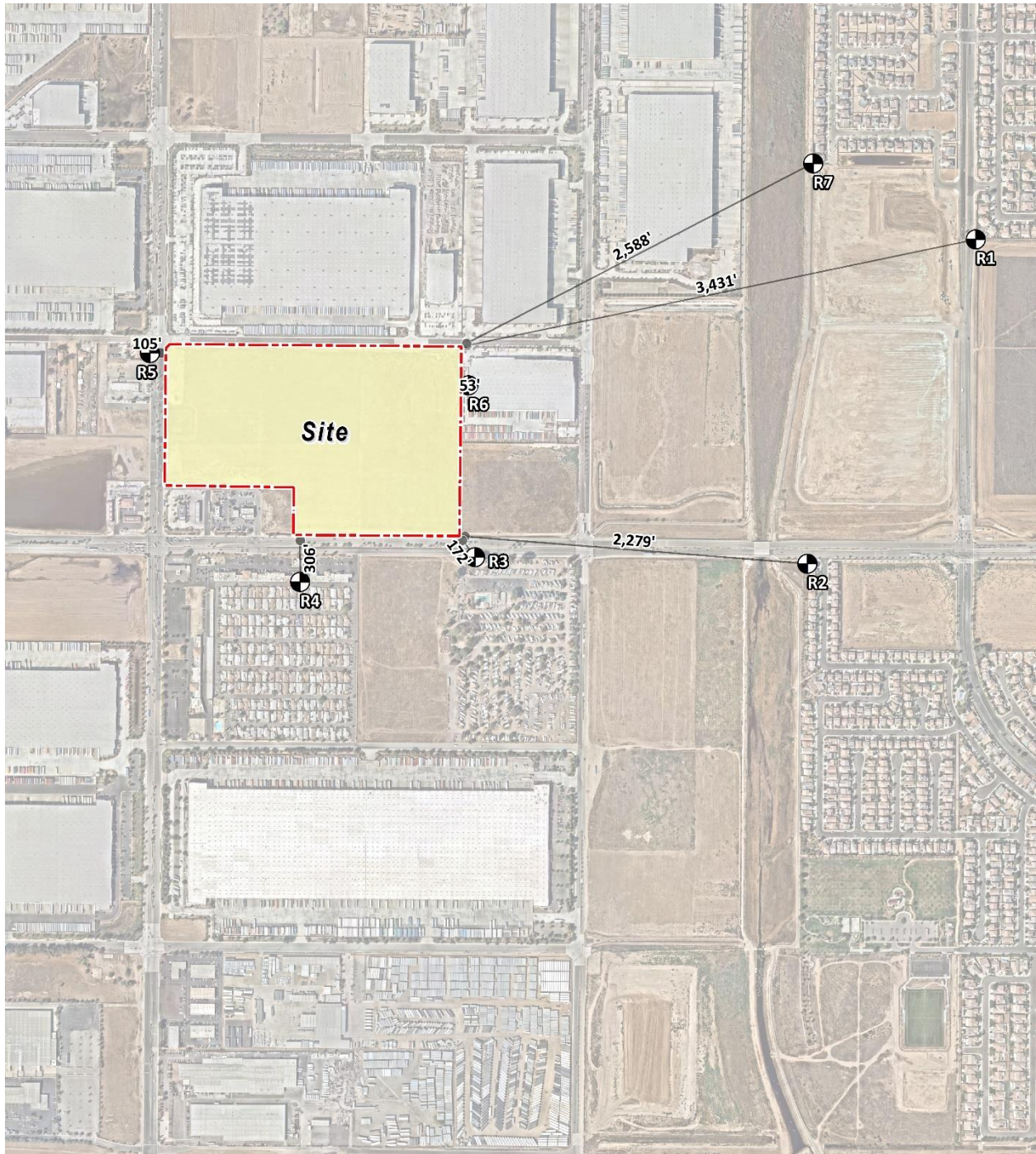
- R3: Location R3 represents Camper Resorts of America at 375 Ramona Expressway, approximately 172 feet southeast of the Project site.
- R4: Location R4 represents the Park Place Mobile Home Park at 80 E. Dawes Street, approximately 306 feet south of the Project site.
- R5: Location R5 represents Katana Motors at 4194 N. Perris Boulevard, approximately 105 feet west of the Project site.
- R6: Location R6 represents First Perry Logistics at 353 Perry Street, approximately 53 feet east of the Project site.
- R7: Location R7 represents the existing residence at Albatross Avenue, approximately 2,588 feet northeast of the Project site.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of  $PM_{10}$  and  $PM_{2.5}$  (since  $PM_{10}$  and  $PM_{2.5}$  thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of  $PM_{10}$  and  $PM_{2.5}$  is represented by location R3 which represents Camper Resorts of America at 375 Ramona Expressway, approximately 172 feet/50 meters southeast of the Project site. As such, for evaluation of localized  $PM_{10}$  and  $PM_{2.5}$ , a 50-meter distance will be used.

As previously stated, and consistent with *LST Methodology*, the nearest commercial, educational, or industrial use to the Project site is used to determine construction and operational LST air impacts for emissions of  $NO_x$  and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. The nearest receptor used for evaluation of localized impacts of  $NO_x$  and CO is represented by location R6 which represents First Perry Logistics at 353 Perry Street, approximately 53 feet/16 meters east of the Project site.

It should be noted that the *LST 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 (44).*" As such a 25-meter receptor distance will be used for evaluation of localized  $NO_x$  and CO.

### EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS



### 3.7 CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

#### 3.7.1 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

Although the total acreage disturbed is more than 5 acres per day for construction activities, the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the Project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site construction activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the Project-site boundary. As such, LSTs for a 5-acre site during construction are used as a screening tool to determine if further detailed analysis is required. The thresholds used in for the construction-source LST analysis are presented below in Table 3-9.

**TABLE 3-9: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS**

Construction Activity	Construction Localized Thresholds			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Preparation	270 lbs/day	1,577 lbs/day	40 lbs/day	10 lbs/day
Grading				
Building Construction				
Paving				
Architectural Coating				

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

#### 3.7.2 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

##### IMPACTS WITHOUT MITIGATION

Table 3-10 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any critical pollutant. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1.

**TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION**

On-Site Emissions	Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
2023	47.00	38.00	8.19	5.02
2024	21.22	25.73	0.97	0.89
<b>Maximum Daily Emissions</b>	<b>47.00</b>	<b>38.00</b>	<b>8.19</b>	<b>5.02</b>
SCAQMD Localized Threshold	270	1,577	40	10
<b>Threshold Exceeded?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

**3.8 OPERATIONAL-SOURCE EMISSIONS LST ANALYSIS**

The Project is located on an approximately 50.0-acre parcel. As noted previously, the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine whether pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site operational activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the project-site boundary. As such, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required.

The LST analysis generally includes on-site sources (area, energy, mobile, and on-site cargo handling equipment – are previously discussed in Section 3.5 of this report). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. As such, in an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-13 represent all on-site Project-related stationary (area) sources and Project-related mobile sources. It should be noted that the longest on-site distance is roughly 0.50 mile for both trucks and passenger cars. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

**3.8.1 LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY**

As previously stated, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required.



**TABLE 3-11: MAXIMUM DAILY LOCALIZED OPERATIONAL EMISSIONS THRESHOLDS**

Operational Localized Thresholds			
NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
270 lbs/day	1,577 lbs/day	4 lbs/day	2 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

**3.8.2 OPERATIONAL-SOURCE LOCALIZED EMISSIONS**

**IMPACTS WITHOUT MITIGATION**

As shown on Table 3-12 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 3-12: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS – WITHOUT MITIGATION**

On-Site Emissions	Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	21.65	184.68	2.17	0.71
SCAQMD Localized Threshold	270	1,577	4	2
Threshold Exceeded?	NO	NO	NO	NO

Source: CalEEMod localized operational-source emissions are presented in Appendix 3.2.

**3.9 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 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.

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.

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 3-13.

**TABLE 3-13: CO MODEL RESULTS**

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

Blvd. = Boulevard

Highway = Hwy.

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak CO 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 (45). In contrast, an adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 1.9 ppm and 1.4 ppm, respectively (data from Perris Valley station for 2020). 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 (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (46). Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 3-14. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (45). 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 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm)<sup>12</sup>.

<sup>12</sup> Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

**TABLE 3-14: TRAFFIC VOLUMES**

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

Source: 2003 AQMP

As summarized on Table 3-15 below, the intersection of Perris Boulevard and Ramona Expressway (Exwy.) would have the highest AM and PM traffic volumes of 5,772 vph and 6,294 vph, respectively. As such, total traffic volumes at the intersections considered are less than the traffic volumes identified in the 2003 AQMP. As such, the Project considered herein along with background and cumulative development 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. Therefore, CO “hot spots” are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

**TABLE 3-15: 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)
Perris Blvd./Ramona Exwy.	1,407/982	982/1,458	1,703/2,125	1,681/1,729	5,772/6,294
Evans Rd./Ramona Exwy.	775/517	725/1,113	1,461/2,302	1,651/1,615	4,612/5,548
I-215 NB Ramps/Ramona Exwy.	1,089/926	0/0	1,778/2,219	1,675/2,220	4,542/5,366
Redlands Ave./Ramona Exwy.	434/355	419/645	1,459/2,221	2,125/1,948	4,437/5,169

Bld. = Boulevard  
 Exwy. = Expressway  
 Ave. = Avenue  
 Rd. = Road

Source: OLC3 Traffic Analysis (Urban Crossroads, Inc., 2022)

### 3.10 AQMP

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 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 SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the *Final 2022 AQMP (2022 AQMP)*. The *2022 AQMP* continues to evaluate current integrated strategies and control measures to meet the CAAQS, 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 (47). Similar to the 2016 AQMP, the *2022 AQMP* incorporates scientific and technological information and planning assumptions, including the *2020-2045 RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (27). The Project's consistency with the AQMP will be determined using the *2022 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (48). These indicators are discussed below:

### **3.10.1 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.***

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

#### ***Construction Impacts – Consistency Criterion 1***

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized or regional significance thresholds were exceeded. As evaluated, the Project's localized and regional construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

#### ***Operational Impacts – Consistency Criterion 1***

The Project would not exceed the applicable LSTs for operational activity. However, the Project's operational-source emissions are anticipated to exceed the regional thresholds of significance for VOC, NO<sub>x</sub>, and CO emissions. MM AQ-7 through MM AQ-20 are designed to reduce Project operational-source emissions. However, as there is no way to meaningfully quantify these reductions in CalEEMod, no emissions credit has been taken in the analysis. As such, even with application of MM AQ-7 through MM AQ-20, Project operational-source emissions impacts

would be significant and unavoidable. Project operational-source emissions would therefore conflict with Consistency Criterion 1.

On the basis of the preceding discussion, the Project is determined to be inconsistent with Consistency Criterion No. 1.

### **3.10.2 CONSISTENCY CRITERION NO. 2**

***The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.***

The 2022 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 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 City of Perris General Plan is considered to be consistent with the AQMP.

#### ***Construction Impacts – Consistency Criterion 2***

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. As such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

#### ***Operational Impacts – Consistency Criterion 2***

As previously stated, according to the PVCCSP, the Project site is designated for Commercial uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This zone combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood (5).

The Project is to consist of 774,419 square feet of High-Cube Fulfillment Center Warehouse use and up to 70,000 square feet of Retail and Restaurant uses (comprised of 30,825 square feet of Strip Retail Plaza use, 5,000 square feet of High Turnover (Sit-Down) Restaurant use, 23,775 square feet of Fast-Food Restaurant Without Drive-Through Window use in-line with the retail use, and 10,400 square feet of Fast-Food Restaurant With Drive-Through Window use), which is consistent with the City's designation and intensity.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

#### **AQMP CONSISTENCY CONCLUSION**

The Project would not be consistent with AQMP Criterion No.1. As such, a significant and unavoidable impact would result.

### 3.11 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. 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.

Additionally, 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.

#### 3.11.1 FRIANT RANCH CASE

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5<sup>th</sup> 502, the California Supreme Court held that an EIR air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

As discussed in briefs filed in the Friant Ranch case, correlating a project’s criteria air pollutant emissions to specific health impacts is challenging. The SCAQMD, which has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes (49) noted that it may be “difficult to quantify health impacts for criteria pollutants.” SCAQMD used O<sub>3</sub> as an example of why it is impracticable to determine specific health outcomes from criteria pollutants for all but very large, regional-scale projects. First, forming O<sub>3</sub> “takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources.” (SCAQMD, 2015a, p. 11) Second, “it takes a large amount of additional precursor emissions (NO<sub>x</sub> and VOCs) to cause a modeled increase in ambient ozone levels over an entire region,” with a 2012 study showing that “reducing NO<sub>x</sub> by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD’s monitor site with the highest levels by only 9 parts per billion.” (SCAQMD, 2015a, pp. 12-14)

SCAQMD concluded that it “does not currently know of a way to accurately quantify ozone-related health impacts caused by NO<sub>x</sub> or VOC emissions from relatively small projects.” (SCAQMD, 2015a, pp. 12-14) The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) ties the difficulty of correlating the emission of criteria pollutants to health impacts to how ozone and particulate matter are formed, stating that “[b]ecause of the complexity of ozone formation, a specific tonnage amount of NO<sub>x</sub> or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area.” (SJVUAPCD, 2015, p. 4) Similarly, the tonnage of PM “emitted does not always equate to the local PM concentration because it can be transported long distances by wind,” and “[s]econdary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SO<sub>x</sub>) and NO<sub>x</sub>,” meaning that “the tonnage of PM-forming precursor emissions in an area does not

necessarily result in an equivalent concentration of secondary PM in that area.” (SJVUAPCD, 2015, p. 5) The disconnect between the amount of precursor pollutants and the concentration of ozone or PM formed makes it difficult to determine potential health impacts, which are related to the concentration of ozone and particulate matter experienced by the receptor rather than levels of NO<sub>x</sub>, SO<sub>x</sub>, and VOCs produced by a source.

Most local agencies lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally specific thresholds of significance based on potential health impacts from an individual development project. The use of national or “generic” data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in cause asthma), existing scientific tools cannot accurately estimate health impacts of the Project’s air emissions without undue speculation. Instead, readers are directed to the Project’s air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project’s construction and long-term operation.

The LST analysis above determined that the Project would not result in emissions exceeding SCAQMD’s LSTs. Additionally, it should be noted that the proposed Project is significantly smaller than the project evaluated in the Friant Ranch case, and consequently would be more difficult to analyze impacts. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

As the Project’s emissions will comply with federal, state, and local air quality standards, the proposed Project’s emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

### **3.12 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 contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. While restaurants may result in some odors from the cooking process, these odors are not typically considered objectionable. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (50).

### 3.13 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the Project site as nonattainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> while the NAAQS designates the Project site as nonattainment for O<sub>3</sub> and PM<sub>2.5</sub>.

The SCAQMD 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* (51). In this report the SCAQMD clearly states (Page D-3):

*"...the SCAQMD 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 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 SCAB 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.

#### **CONSTRUCTION IMPACTS**

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

#### **OPERATIONAL IMPACTS**

The proposed Project has the potential to result in cumulative impacts associated with on-going operations for emissions of VOCs, NO<sub>x</sub>, and CO. Therefore, the proposed Project would have the potential to result in a cumulatively considerable significant impact with respect to operational activity.

*This page intentionally left blank*

## 4 REFERENCES

1. **Association of Environmental Professionals.** *Guidelines for Implementation of the California Environmental Quality Act.* As Amended in 2018.
2. **South Coast Air Quality Management District.** RULE 403. FUGITIVE DUST. [Online] <https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4>.
3. —. RULE 1113. Architectural Coatings. [Online] <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>.
4. **City of Perris.** *Perris Valley Commerce Center Specific Plan Final Environmental Impact Report.* Perris : s.n., 2011.
5. —. *Perris Valley Commerce Center Specific Plan.* 2022.
6. **South Coast Air Quality Management District.** Southern California Air Basins. [Online] <https://www.arb.ca.gov/msprog/onroad/porttruck/maps/scabc7map.pdf>.
7. —. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.* 2005.
8. **St. Croix Sensory, Inc.** *The "Gray Line" Between Odor Nuisance and Health Effects.* 2000.
9. **California Air Resources Board.** Ambient Air Quality Standards (AAQS). [Online] 2016. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.
10. **United State Environmental Protection Agency.** Frequent Questions about General Conformity . EPA. [Online] <https://www.epa.gov/general-conformity/frequent-questions-about-general-conformity#8>.
11. **South Coast Air Quality Management District.** Annual Air Quality Monitoring Network Plan. [Online] July 2018. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-monitoring-network-plan/annual-air-quality-monitoring-network-plan-v2.pdf?sfvrsn=2>.
12. **Air Resources Board.** State and National Ambient Air Quality Standards. [Online] [https://www.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?\\_ga=2.169398369.1537615702.1554741141-1192937971.1505156621](https://www.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.169398369.1537615702.1554741141-1192937971.1505156621).
13. **South Coast Air Quality Management District.** Air Quality Data Tables. [Online] <https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year>.
14. **United States Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. <https://www.epa.gov/environmental-topics/air-topics>.
15. —. Air Pollution and the Clean Air Act. [Online] <http://www.epa.gov/air/caa/>.
16. —. 1990 Clean Air Act Amendment Summary: Title I. [Online] <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-i>.
17. —. 1990 Clean Air Act Amendment Summary: Title II. [Online] <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-ii>.
18. **California Air Resources Board.** California Ambient Air Quality Standards (CAAQS). [Online] 2009. [Cited: April 16, 2018.] <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>.
19. **California Energy Commission.** Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions from Homes and Businesses. [Online] August 11, 2021. <https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0>.

20. **California Department of General Services.** 2022 CALGreen Code. *CALGreen*. [Online] <https://codes.iccsafe.org/content/CAGBC2022P1>.
21. **Southern California Association of Governments.** 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. [Online] April 2016. <http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf>.
22. **California Air Resources Board.** *The California Almanac of Emissions and Air Quality*. 2013.
23. **South Coast Air Quality Management District.** South Coast Air Basin Ozone Trend. [Online] <https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historic-ozone-air-quality-trends>.
24. **California Air Resources Board.** iADAM: Air Quality Data Statistics. *California Air Resources Board*. [Online] <https://arb.ca.gov/adam/topfour/topfour1.php>.
25. **United States Environmental Protection Agency.** Approval and Promulgation of Implementation Plans; California; South Coast Serious Area Plan for the 2006 PM2.5. [Online] 2019. <https://www.federalregister.gov/documents/2019/02/12/2019-01922/approval-and-promulgation-of-implementation-plans-california-south-coast-serious-area-plan-for-the>.
26. **South Coast Air Quality Management District.** Final 2016 Air Quality Management Plan. *South Coast Air Quality Management District*. [Online] March 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf>.
27. **Southern California Association of Governments.** 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. [Online] September 2020. [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan\\_0.pdf?1606001176](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176).
28. **South Coast Air Quality Management District.** *CEQA Air Quality Handbook (1993)*. 1993.
29. **California Air Resources Board.** Nitrogen Dioxide- Overview. [Online] <http://www.arb.ca.gov/research/aaqs/caaqs/no2-1/no2-1.htm>.
30. **Ralph Propper, Patrick Wong, Son Bui, Jeff Austin, William Vance, Alvaro Alvarado, Bart Croes, and Dongmin Luo.** Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. 2015.
31. **California Air Resources Board.** ARB's Drayage Truck Regulatory Activities. [Online] <http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>.
32. **Air Resources Board.** Truck and Bus Regulation. *On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation*. [Online] <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>.
33. **The Port of Los Angeles.** Clean Truck Program. [Online] [http://www.portoflosangeles.org/ctp/idx\\_ctp.asp](http://www.portoflosangeles.org/ctp/idx_ctp.asp).
34. **South Coast Air Quality Management District.** Transfer Funds, Appropriate Funding, Execute Purchase Orders, Execute Contrat and Authorize Release of RFQs for the Fifth Multiple Air Toxics Exposure Study. *South Coast Air Quality Management District*. [Online] 2017. <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-jul7-009.pdf?sfvrsn=7>.
35. —. Executive Summary. *MATES V Draft Report*. [Online] 2021. [http://www.aqmd.gov/docs/default-source/planning/mates-v/draft-mates-v-executive-summary\\_v2.pdf?sfvrsn=6](http://www.aqmd.gov/docs/default-source/planning/mates-v/draft-mates-v-executive-summary_v2.pdf?sfvrsn=6).
36. —. SCAQMD Air Quality Significance Thresholds. [Online] <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.

37. **California Air Pollution Control Officers Association (CAPCOA)**. California Emissions Estimator Model (CalEEMod). [Online] May 2022. [www.caleemod.com](http://www.caleemod.com).
38. **City of Perris**. *Municipal Code, Chapter 7.34 Noise Control*.
39. **Urban Crossroads, Inc.** *OLC3 Traffic Analysis*. 2022.
40. **Lake Environmental**. US EPA Models. *Lake Environmental*. [Online] [http://www.weblakes.com/download/us\\_epa.html](http://www.weblakes.com/download/us_epa.html).
41. **South Coast Air Quality Management District**. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. [Online] <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf>.
42. **California Air Pollution Control Officers Association (CAPCOA)**. Appendix A: Calculation Details for CalEEMod. *CalEEMod*. [Online] October 2017. [http://www.aqmd.gov/docs/default-source/caleemod/02\\_appendix-a2016-3-2.pdf?sfvrsn=6](http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6).
43. **South Coast Air Quality Management District**. *Localized Significance Thresholds Methodology*. s.l. : South Coast Air Quality Management District, 2008.
44. —. *Localized Significance Thresholds Methodology*. s.l. : South Coast Air Quality Management District, 2003.
45. —. 2003 Air Quality Management Plan. [Online] 2003. <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>.
46. **Bay Area Air Quality Management District**. [Online] <http://www.baaqmd.gov/>.
47. **South Coast Air Quality Management District**. Final 2016 Air Quality Management Plan (AQMP). [Online] March 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=11>.
48. —. *CEQA Air Quality Handbook (1993)*. 1993.
49. —. Sierra Club, Revive the San Joaquin and League of Women Voters of Fresno, Plaintiffs and Appellants, v. County of Fresno, Defendant and Respondent and, Friant Ranchm L.P. Real Party in Interest and Respondent. [Online] 2015. <https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf>.
50. —. RULE 402 NUISANCE. [Online] <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf>.
51. **Goss, Tracy A and Kroeger, Amy**. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. [http://www.aqmd.gov/rules/ciwg/final\\_white\\_paper.pdf](http://www.aqmd.gov/rules/ciwg/final_white_paper.pdf).

*This page intentionally left blank*

## 5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed OLC3. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at [hqureshi@urbanxroads.com](mailto:hqureshi@urbanxroads.com)

Haseeb Qureshi  
Principal  
URBAN CROSSROADS, INC.  
[hqureshi@urbanxroads.com](mailto:hqureshi@urbanxroads.com)

### 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 Professionals  
AWMA – Air and Waste Management Association  
ASTM – American Society for Testing and Materials

### PROFESSIONAL CERTIFICATIONS

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 – CARB • August 2007  
AB2588 Regulatory Standards – Trinity Consultants • November 2006  
Air Dispersion Modeling – Lakes Environmental • June 2006

*This page intentionally left blank*



**APPENDIX 2.1:**

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

*This page intentionally left blank*

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

*This page intentionally left blank*

**APPENDIX 3.2:**

**CALEEMOD EMISSIONS MODEL OUTPUTS – OPERATIONAL LOCALIZED SOURCE  
EMISSIONS**

*This page intentionally left blank*

**APPENDIX 3.3:**  
**SCAQMD AMICUS BRIEF**

*This page intentionally left blank*