

## **Appendix B1. Air Quality Technical Memorandum**

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# AIR QUALITY TECHNICAL MEMORANDUM

**To:** Adam Finestone, City Planner, City of Escondido  
**From:** Sharon Toland, Senior Technical Specialist, and Kelsey Hawkins, Air Quality Analyst/ Project Manager  
**RE:** Air Quality Technical Memorandum for the East Valley Specific Plan  
**Date:** March 24, 2023  
**CC:** Diane Sandman, Vice President, Environmental + Planning Consulting, Harris & Associates  
**Att:** 1, CalEEMod Results

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## Introduction

This memorandum presents the results of Harris & Associates' analysis of the potential impacts to air quality from implementation of the East Valley Specific Plan (EVSP or Project) in the City of Escondido (City). The Project is immediately adjacent to and east of downtown. The EVSP is consistent with and implements the vision for the East Valley Target Area as identified in the General Plan Update, the potential impacts of the land use mix and rezoning was not evaluated at the Specific Plan level in the certified 2012 General Plan Update, Downtown Specific Plan Update, and Climate Action Plan (CAP) Program Environmental Impact Report (PEIR). Therefore, this analysis focuses on the land use mix and zoning changes in the EVSP.

The EVSP Area (i.e., the 191-acre area in the City covered by the EVSP) is in central Escondido, immediately adjacent to and east of downtown. The EVSP Area is generally bounded by Escondido Creek to the north; Harding Street to the east; East Grand Avenue and East 2nd Avenue to the south; and North Hickory, South Hickory, and North Fig Streets to the west. The EVSP Area is adjacent to a variety of neighborhoods: Downtown Escondido to the west, residential neighborhoods to the north and south, and large commercial shopping centers to the east. The Escondido Transit Center is an approximately 20-minute walk southwest of the EVSP Area, and multiple transit stops exist throughout the EVSP Area.

The goal of the EVSP is to encourage new housing opportunities, improve economic vibrancy, and allow for flexibility in use and implementation as the EVSP Area changes over time. The EVSP rezones the existing EVSP Area to cluster uses to create a more cohesive pattern and design with a goal of revitalizing the physical character and economic health of the community. The EVSP presents goals, policies, design standards, and implementation strategies for topics such as land use, mobility, and parks. The EVSP is intended to provide guidance for private development and public investment through 2035. The EVSP includes the EVSP Density Transfer Program to enable the City to transfer densities from undeveloped or underutilized properties in the EVSP Area to other properties in the EVSP Area to enable a developing property to increase its density beyond what current zoning permits.

## Air Quality Analysis Background

Air quality laws and regulations have historically divided air pollutants into two broad categories: criteria air pollutants and non-criteria pollutants, or toxic air contaminants. The purpose of this memorandum is to evaluate the potential criteria air pollutant impacts of the Project. Criteria air pollutants are a group of common air

pollutants regulated by federal and state governments through ambient air quality standards based on criteria regarding the health and environmental effects of pollution (USEPA 2023). The criteria air pollutants pertinent to the analysis in this memorandum are carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter (particulate matter measuring no more than 10 microns in diameter (PM<sub>10</sub>) and particulate matter measuring no more than 2.5 microns in diameter (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). The following describes the health effects of these criteria air pollutants.

### **Carbon Monoxide**

CO is a colorless, odorless, poisonous gas produced by combustion processes, primarily mobile sources. When CO gets into the body, it combines with chemicals in the blood and prevents blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposure to CO can cause serious health effects, including death (USEPA 2022a).

### **Nitrogen Oxides**

NO<sub>x</sub> is a general term pertaining to compounds including nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), and other NO<sub>x</sub>. NO<sub>x</sub> is produced from burning fuels, including gasoline, diesel, and coal. NO<sub>x</sub> reacts with volatile organic compounds (VOCs) to form ground-level O<sub>3</sub> (smog). NO<sub>x</sub> is linked to a number of adverse respiratory systems effects (USEPA 2022b).

### **Ozone**

Ground-level O<sub>3</sub> is not emitted directly into the air but is formed by chemical reactions of “precursor” pollutants (NO<sub>x</sub> and VOCs) in the presence of sunlight. Major emissions sources include NO<sub>x</sub> and VOC emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents. O<sub>3</sub> can trigger a variety of health problems, particularly for sensitive receptors, including children, older adults, and people of all ages who have lung diseases, such as asthma (USEPA 2023).

### **Particulate Matter**

Particulate matter includes dust, metals, organic compounds, and other tiny particles of solid materials that are released into and move around in the air. Particulates are produced by many sources, including the burning of diesel fuel by trucks and buses, industrial processes, and fires. Particulate pollution can cause nose and throat irritation and heart and lung problems. Particulate matter is measured in microns, which are one millionth of one meter in length (or one thousandth of one millimeter). PM<sub>10</sub> is small (i.e., respirable) particulate matter measuring no more than 10 microns in diameter, while PM<sub>2.5</sub> is fine particulate matter measuring no more than 2.5 microns in diameter (CARB 2023a).

### **Sulfur Dioxide**

SO<sub>2</sub> is formed primarily by the combustion of sulfur-containing fossil fuels, especially at power plants and industrial facilities. SO<sub>2</sub> is linked to a number of adverse effects on the respiratory system (USEPA 2022c).

## **Existing Ambient Air Quality**

The Project is within the San Diego Air Basin (SDAB). The San Diego Air Pollution Control District (SDAPCD) manages air quality in the SDAB. The SDAPCD operates a network of ambient air monitoring stations throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS). The City operates the Escondido–East Valley Parkway Monitoring Station, which measures O<sub>3</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> concentrations, on East Valley Parkway. However, data is not available past 2016 for these pollutants because the monitoring station has been closed for remodeling. Therefore, concentrations of pollutants from the next closest monitoring station, San Diego–Kearny Villa Road Monitoring Station, from 2018 through 2021 are presented in Table 1, Ambient Air Quality Monitored at the San Diego – Kearny Villa Road Monitoring Station. Concentrations of one-hour O<sub>3</sub> exceeded CAAQS in 2018, 2020, and 2021,

and eight-hour O<sub>3</sub> exceeded CAAQS and NAAQS in 2018, 2019, and 2020. The NAAQS and CAAQS for PM<sub>10</sub> were not exceeded in 2018. The monitored 24-hour PM<sub>2.5</sub> values were exceeded in 2020 and 2021. The one-hour and annual NAAQS and CAAQS for NO<sub>2</sub> were not exceeded.

No CO data is available from monitoring sites in the SDAB after 2012, and no data are available for SO<sub>2</sub> after 2013. However, with one exception for CO during the October 2003 firestorms, the SDAB has not violated the state or federal standards for CO or SO<sub>2</sub> in the last 20 years (SDAPCD 2017).

**Table 1. Ambient Air Quality Monitored at the San Diego – Kearny Villa Road Monitoring Station**

Pollutant	Standard	2018	2019	2020	2021
<b>O<sub>3</sub></b>					
Maximum 1-hour concentration (ppm)		0.102	0.083	0.123	0.095
Number of days exceeded	State: > 0.12 ppm	1	0	2	1
Maximum 8-hour concentration (ppm)		0.077	0.076	0.102	0.071
Number of days exceeded	State: > 0.07 ppm	5	1	10	1
	Federal: > 0.07 ppm	5	1	10	1
<b>PM<sub>10</sub></b>					
Maximum 24-hour concentration (µg/m <sup>3</sup> )		38	—	—	—
Number of days exceeded	State: > 50 µg/m <sup>3</sup>	0	—	—	—
	Federal: > 150 µg/m <sup>3</sup>	0	—	—	—
Annual arithmetic average concentration (µg/m <sup>3</sup> )		ND	ND	ND	ND
Exceeded for the year	State: > 20 µg/m <sup>3</sup>	ND	ND	ND	ND
<b>PM<sub>2.5</sub></b>					
Maximum 24-hour concentration (µg/m <sup>3</sup> )		32.2	15	47.5	20.9
Number of days exceeded	Federal: > 35 µg/m <sup>3</sup>	0	0	2	0
Annual arithmetic average concentration (µg/m <sup>3</sup> )		8	8	8	7.8
Exceeded for the year	State: > 12 µg/m <sup>3</sup>	No <sup>1</sup>	No	Yes	ND
	Federal: > 15 µg/m <sup>3</sup>	No	No	Yes	ND
<b>NO<sub>2</sub></b>					
Maximum 1-hour concentration (ppm)		0.045	0.046	0.052	0.060
Number of days exceeded	State: > 0.18 ppm	0	0	0	0
Annual arithmetic average concentration (ppm)		0.008	0.008	0.007	0.007
Exceeded for the year	State: > 0.030 ppm	No	No	No	No
	Federal: > 0.053 ppm	No	No	No	No

Source: CARB 2023b.

Notes: µg/m<sup>3</sup> = micrograms per cubic meter; ND = no data; NO<sub>2</sub> = nitrogen dioxide; O<sub>3</sub> = ozone; PM<sub>2.5</sub> = particulate matter smaller than or equal to 2.5 microns in diameter; PM<sub>10</sub> = particulate matter smaller than or equal to 10 microns in diameter; ppm = parts per million

<sup>1</sup> Meaning the pollutant did not exceed the allowed maximum concentration for that year.

Existing operational criteria air pollutant emissions for existing development in the EVSP Area (see Table 2, Existing East Valley Specific Plan Area Emissions) were estimated using the most recent version of the California Emissions Estimator Model (CalEEMod) (version 2020.4.0) (CAPCOA 2020). Model default assumptions for the existing land use mix were assumed with the exception of vehicle use data obtained from the project-specific Transportation Analysis (LLG 2023).

**Table 2. Existing East Valley Specific Plan Area Emissions**

Emissions Source	Pollutant (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area <sup>1</sup>	949.3	17.9	1,145.6	2	154.2	154.2
Energy	0.7	6.1	4.2	<0.1	0.5	0.5
Mobile	100.9	90.7	794.3	1.6	172.8	46.9
<b>Total Existing Emissions</b>	<b>1,050.9</b>	<b>114.7</b>	<b>1,944.1</b>	<b>3.7</b>	<b>327.5</b>	<b>201.6</b>

Source: CAPCOA 2020. See Attachment 1 for model output.

Notes: CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>2.5</sub> = particulate matter smaller than or equal to 2.5 microns in diameter; PM<sub>10</sub> = particulate matter smaller than or equal to 10 microns in diameter; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound

<sup>1</sup> Conservatively assumes model default assumptions for hearth use.

## Regulatory Setting

The Clean Air Act (CAA) of 1970 requires the U.S. Environmental Protection Agency (USEPA) to establish NAAQS while retaining the option for states to adopt more stringent standards or to include other specific pollutants. NAAQS were developed for six criteria pollutants: O<sub>3</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>, particulate matter, and lead. The 1990 CAA Amendments require each state to have an Air Pollution Control Plan called a State Implementation Plan (SIP). A SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The 1990 CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The USEPA reviews the SIPs to determine whether the plans conform to the 1990 CAA Amendments and achieve the established air quality goals.

The USEPA has classified air basins (or portions thereof) as being in “attainment,” in “non-attainment,” or “unclassified” for each criteria air pollutant based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a non-attainment or attainment designation. Table 3, San Diego Air Basin Attainment Status, lists the attainment status of the SDAB for the criteria pollutants. The USEPA classifies the SDAB as in non-attainment for O<sub>3</sub> (eight-hour) with respect to federal air quality standards. The State of California, under the California CAA, established standards for criteria pollutants that are generally stricter than federal standards. As shown in Table 3, the SDAB is currently in state non-attainment status for PM<sub>10</sub>, PM<sub>2.5</sub>, and O<sub>3</sub> (one-hour and eight-hour).

**Table 3. San Diego Air Basin Attainment Status**

Pollutant	California Standards	Federal Standards
O <sub>3</sub> (1-Hour)	Non-Attainment	No Federal Standard
O <sub>3</sub> (8-Hour)	Non-Attainment	Non-Attainment
PM <sub>10</sub>	Non-Attainment	Unclassified <sup>1</sup>
PM <sub>2.5</sub>	Non-Attainment	Attainment
CO	Attainment	Attainment
NO <sub>2</sub>	Attainment	Unclassifiable <sup>1</sup> /Attainment
Lead	Attainment	Unclassifiable/Attainment
SO <sub>2</sub>	Attainment	Unclassifiable/Attainment

Source: SDAPCD 2023.

Notes: CO = carbon monoxide; NO<sub>2</sub> = nitrogen dioxide; O<sub>3</sub> = ozone; PM<sub>10</sub> = particulate matter smaller than or equal to 10 microns in diameter; PM<sub>2.5</sub> = particulate matter smaller than or equal to 2.5 microns in diameter; SO<sub>2</sub> = sulfur dioxide

<sup>1</sup> Unclassified; indicates data are not sufficient for determining attainment or non-attainment.

## San Diego Air Pollution Control District

The SDAPCD has jurisdiction over air quality programs in the County of San Diego. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD.

The SDAPCD is also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Development projects in the City are typically subject to the following SDAPCD rules; other rules may apply depending on the proposed specific operations:

- Rule 51, Nuisance. Prohibits emissions that cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public; endanger the comfort, repose, health, or safety of any such people or the public; or cause injury or damage to business or property.
- Rule 52, Particulate Matter. Establishes limits to the discharge of any particulate matter from non-stationary sources.
- Rule 54, Dust and Fumes: Establishes limits to the amount of dust or fume discharged into the atmosphere in any one hour.
- Rule 55, Fugitive Dust Control. Sets restrictions on visible fugitive dust from construction and demolition projects.
- Rule 67, Architectural Coatings. Establishes limits to the VOC content for coatings applied in the SDAPCD.

## Escondido General Plan

Multiple chapters in the Escondido General Plan include various goals and policies designed to help improve air quality in the City. The goals and policies for improving air quality in the Escondido General Plan are as follows (City of Escondido 2012a):

- Chapter II, Land Use and Community Form
  - Goal 7: Air Quality and Climate Protection
    - Districts containing a mix of uses enabling residents to live close to their jobs, shopping, entertainment, and recreation, reducing the need to use the automobile and promoting walking and healthy lifestyles.
    - Community Character Policy 1.9: Promote development in downtown, at transit stations, and other key districts to accommodate a mix of land uses and configure uses to promote walkability, bicycling, and transit uses, reducing the need for the automobile.
- Chapter III, Mobility and Infrastructure
  - Goal 1: An accessible, safe, convenient, and integrated multi-modal network that connects all users and moves goods and people within the community and region efficiently.
    - Pedestrian Network Policy 3.2: Develop and manage pedestrian facilities to maintain an acceptable Level of Service as defined in the Pedestrian Master Plan.
    - Bicycle Network Policy 4.3: Promote bicycling as a common mode of transportation and recreation to help reduce traffic congestion and improve public health.
- Chapter VII: Resource Conservation
  - Goal 7: Improved air quality in the city and the region to maintain the community's health and reduce greenhouse gas emissions that contribute to climate change.
    - Air Quality and Climate Protection Policy 7.1: Participate in regional planning efforts and coordinate with the San Diego Air Pollution Control District and San Diego Association of Governments in their efforts to reduce air quality impacts and attain state and federal air quality standards.
    - Air Quality and Climate Protection Policy 7.3: Require that new development projects incorporate feasible measures that reduce construction and operational emissions.

## Escondido Environmental Quality Regulations

The Environmental Quality Regulations (EQRs), as established in the Escondido Municipal Code, Chapter 33, Article 47, implement the California Environmental Quality Act (CEQA) and the CEQA Guidelines by applying the provisions and procedures in CEQA to development projects proposed in the City. The EQRs establish screening thresholds to determine if additional analysis is required to establish whether a project results in significant impacts. Section 33-924(G) pertains to air quality impacts. A project requires a technical study if it exceeds the thresholds identified in the Escondido Municipal Code. However, a project that exceeds these criteria does not necessarily have a significant impact on the environment. The EQRs for air quality only determine if further analysis is required to determine the potential significant impacts of a project. It was reasonably assumed that the EVSP will exceed the screening level criteria identified in the EQRs; therefore, this memorandum was prepared for the EVSP.

### Significance Thresholds

Appendix G of the CEQA Guidelines states that significance criteria established by the applicable air quality management or air pollution control district may be relied on to make impact determinations. As discussed in Regulatory Setting section, the City adopted screening level thresholds to determine if an Air Quality Technical Report should be prepared for a project; however, the City has not adopted significance thresholds to evaluate the significance of air quality impacts once a report has been deemed necessary. In lieu of any set quantitative air quality significance thresholds, the Air Quality Impact Analysis trigger levels in the SDAPCD's Regulation II, Rule 20.2, Table 20-2-1, Air Quality Impact Analysis (AQIA) Trigger Levels, are used to determine the potential significance of air quality impacts, consistent with the certified 2012 General Plan Update, Downtown Specific Plan Update, and CAP PEIR (City of Escondido 2012b). These Air Quality Impact Analysis trigger levels generally apply to new or modified stationary sources of air pollutants, which include only one source of air pollutant emissions. For CEQA purposes, the thresholds can be used to demonstrate that a project's total emissions from all sources does not result in a significant impact to air quality (County of San Diego 2007). For PM<sub>2.5</sub>, the USEPA's Proposed Rule to Implement the Fine Particle NAAQS (USEPA 2005), which quantifies significant emissions as 10 tons per year (55 pounds per day), is used as the significance threshold. The thresholds are listed in Table 4, Screening Level Criteria Thresholds for Air Quality Impacts.

**Table 4. Screening Level Criteria Thresholds for Air Quality Impacts**

Pollutant	Emission Rate (pounds/day)
PM <sub>10</sub>	100
PM <sub>2.5</sub>	55
NO <sub>x</sub>	250
SO <sub>x</sub>	250
CO	550
VOC	75

Sources: SDAPCD 2018; County of San Diego 2007.

Notes: CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>10</sub> = particulate matter less than 10 microns; PM<sub>2.5</sub> = particulate matter less than 2.5 microns; SO<sub>x</sub> = oxides of sulfur oxides; VOC = volatile organic compounds

The thresholds listed in Table 4 represent screening level thresholds that can be used to evaluate if project-related emissions cause a significant impact on air quality. Project emissions below the screening level thresholds would not cause a significant impact. For non-attainment pollutants (O<sub>3</sub>, with O<sub>3</sub> precursors NO<sub>x</sub> and VOCs, and PM<sub>10</sub>), if project emissions would exceed the thresholds in Table 4, the Project would result in a cumulatively considerable net increase in these pollutants and have a significant impact on ambient air quality.

## Construction Impact Analysis

Construction under the EVSP is discussed to evaluate the potential impacts of the proposed land use mix and rezoning, which were not analyzed at the Specific Plan level in the certified 2012 General Plan Update, Downtown



Specific Plan Update, and CAP PEIR. Construction of future projects under the EVSP would result in temporary air pollutants associated with soil disturbance, dust emissions, employee and material delivery vehicle exhaust, off-gassing from paving and coating activities, and combustion pollutants from off-road construction equipment. Construction-related air pollution emissions can vary from day to day, depending on the level of activity, type of activity, and prevailing weather conditions. The primary air pollutants of concern from construction activities are particulate matter (including both PM<sub>10</sub> and PM<sub>2.5</sub>), CO, and O<sub>3</sub> precursors (including NO<sub>x</sub> and VOCs).

Maximum daily construction emissions were estimated using CalEEMod, version 2020.4.0. The Project is a land use plan and does not propose any specific construction projects, and the details of future construction under the plan are currently unknown. Therefore, estimated maximum daily construction emissions were estimated using assumptions for a typical construction year consistent with the certified 2012 General Plan Update, Downtown Specific Plan Update, and CAP PEIR assumptions (City of Escondido 2012b). It was assumed that an equal amount of development will occur each year between the 2020 baseline and 2035 buildout year and that 75% of existing development will be demolished over the same period, which is higher than what was assumed in the certified 2012 General Plan Update, Downtown Specific Plan Update, and CAP PEIR. This is because the existing area is largely built out, and redevelopment will be necessary to accommodate the planned growth. It was also assumed that architectural coating phases will typically overlap with building construction. Detailed assumptions and modeling data sheets are provided in Attachment 1, CalEEMod Results. Estimated maximum daily construction emissions are provided in Table 5, Estimated Maximum Daily Construction Emissions (pounds/day).

**Table 5. Estimated Maximum Daily Construction Emissions (pounds/day)**

Construction Phase	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition	3.4	35.9	23.1	<0.1	7.3	2.4
Site Preparation	4	40.5	21.7	<0.1	21.8	12
Grading	4.3	46.4	31.5	0.1	8.7	5.2
Building Construction and Architectural Coating	70.6	23.5	30	<0.1	4.6	2
Paving	1.1	11.1	15	<0.1	0.7	0.5
<i>SDAPCD Threshold</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Sources:** CalEEMod, version 2020.4.0 (output data provided in Attachment 1); County of San Diego 2007; SDAPCD 2018.

**Notes:** CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = particulate matter less than 10 microns in diameter; PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound

As shown in Table 5, the construction emissions estimate indicates that development allowed under the EVSP would not result in significant air quality emissions during construction. These results reflect the assumption that equal amounts of development would occur each year. Realistically, construction emissions for all pollutants may be greater or lower depending on how development is implemented. It is assumed the future construction would include site watering twice per day in compliance with SDAPCD Rule 55, Fugitive Dust Rule, and low-VOC architectural coatings in compliance with SDAPCD Rule 67, Architectural Coatings, which would further reduce emissions.

Construction of future development consistent with the Project would not result in significant criteria pollutant emissions during construction, and impacts would be less than significant.

## Operational Impact Analysis

Long-term air pollutant emissions impacts are those associated with stationary sources and mobile sources involving any project-related changes. Stationary sources of emissions include the use of architectural coatings, consumer products, landscape equipment, and energy use. Area sources of air pollutant emissions associated with future development under the EVSP include fuel combustion emissions from space and water heating, fuel combustion emissions from landscape maintenance equipment, VOC emissions from periodic repainting of interior and exterior surfaces, and natural gas use. Increased traffic volumes also contribute to regional emissions of criteria pollutants.

The total estimated operational emissions from implementation of the EVSP were calculated using CalEEMod (version 2020.4) using default assumptions for the land use mix. Residential dwelling units, total lot acreage, and land use square footages at EVSP buildout were obtained from the EVSP prepared by Rick Engineering (Rick Engineering 2022). CalEEMod default vehicle mileage and trips rate assumptions were adjusted for consistency with the total daily vehicle miles traveled (VMT) for buildout of the EVSP provided by Linscott, Law & Greenspan, Engineers (LLG 2023). The change in Citywide retail VMT attributable to the project is modeled for project retail buildout. The project-generated retail VMT was proportionately reduced to represent VMT from existing retail development. It is assumed that new residential units would generally not include hearths due to increased regulations restricting them in new development. Buildout conditions assume that only 10% of residences include hearths and the remaining 90% do not.

Table 6, Net Change in Project Operational Emissions, provides calculated operational emissions for EVSP buildout. Buildout emissions are compared to existing emissions to calculate the net change in maximum daily emissions.

**Table 6. Net Change in Project Operational Emissions**

Source	Air Pollutant Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	266.8	16.1	511.3	0.1	3.6	3.6
Energy	2.1	18.2	9.6	0.1	1.4	1.4
Mobile	141.5	108.4	1,079.8	2.2	286.9	77.3
<b>Total Daily Buildout Emissions</b>	<b>410.4</b>	<b>142.7</b>	<b>1,600.7</b>	<b>2.4</b>	<b>291.9</b>	<b>82.3</b>
<i>Existing Emissions</i>	<i>1,050.9</i>	<i>114.7</i>	<i>1,944.1</i>	<i>3.7</i>	<i>327.5</i>	<i>201.6</i>
<b>Net Change</b>	<b>-640.5</b>	<b>+28.0</b>	<b>-343.4</b>	<b>-1.3</b>	<b>-35.6</b>	<b>-119.3</b>
<i>SDAPCD Thresholds</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. See Attachment 1 for model output.

Notes: CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; PM<sub>2.5</sub> = particulate matter measuring no more than 2.5 microns in diameter; PM<sub>10</sub> = particulate matter measuring no more than 10 microns in diameter; SDAPCD = San Diego Air Pollution Control District; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound

As shown in Table 6, operational emissions assumptions for buildout of the EVSP would not exceed the SDAPCD thresholds for any pollutant, primarily due to the replacement of older residences with new development that does not include natural gas hearths. Future development would be required to demonstrate consistency with the Escondido CAP (City of Escondido 2021), which includes reduction measures for VMT and energy use that would result in lower criteria pollutant emissions. Additionally, individual development projects would continue to be required to show consistency with the Escondido EQRs. Development under the Project would not contribute to existing significant cumulative impacts related to criteria pollutant emissions. Project impacts would be less than significant.

## Summary

Construction and buildout operation of the EVSP is not anticipated to exceed the SDAPCD significance thresholds for daily criteria pollutant emissions. Future development under the Project would continue to be required to comply with the California Air Resources Board motor vehicle standards, the SDAPCD regulations from stationary sources and architectural coatings, and the Escondido General Plan goals and policies and demonstrate Escondido CAP consistency. The Project's contribution to the regional air quality impacts would be less than significant.

## References

CAPCOA (California Air Pollution Control Officers Association). 2020. California Emissions Estimator Model. Version 2020.4.0.

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**Attachment 1. CalEEMod Results**

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