

December 2021 | Initial Study

# 4416 AZUSA CANYON ROAD

City of Irwindale

## APPENDICES VOLUME I: A – D

*Prepared for:*

**City of Irwindale**

Contact: Brandi Jones, Senior Planner  
5050 Irwindale Avenue  
Irwindale, California 91706  
626.430.2260

*Prepared by:*

**PlaceWorks**

Contact: JoAnn C. Hadfield, Principal  
3 MacArthur Place, Suite 1100  
Santa Ana, California 92707  
714.966.9220  
info@placeworks.com  
www.placeworks.com



## Appendices

### **APPENDICES: Volume I**

|            |  |
|------------|--|
| Appendix A | Air Quality and GHG Background and Modeling                    |
| Appendix B | Health Risk Assessment   |
| Appendix C | Cultural and Paleontological Resources Assessment Report       |
| Appendix D | Geotechnical Investigation and Results of Infiltration Testing |
| Appendix E | Phase I Environmental Assessment                               |
| Appendix F | LID Report and Hydrology and Detention Report                  |
| Appendix G | Noise Background   |
| Appendix H | Public Services and Utility Provider Responses                 |
| Appendix I | Transportation Analysis  |

## Appendices

*This page intentionally left blank.*

# Appendix A Air Quality and GHG Background and Modeling

## Appendix

*This page intentionally left blank.*

# Air Quality and Greenhouse Gas Background and Modeling Data

---

## AIR QUALITY

### Climate/Meteorology

#### SOUTH COAST AIR BASIN

The project site lies in the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.<sup>1</sup>

#### Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The lowest average temperature for the City of Irwindale is 45°F in January, and the highest average temperature is 87°F in August.<sup>2</sup> Overall mean average temperature for the City is 76°F.<sup>3</sup>

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall historically averages 22.36 inches per year in the City.<sup>4</sup>

#### Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the

---

<sup>1</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>2</sup> USA.com. 2021. Irwindale, CA Weather. Accessed August 13. <http://www.usa.com/irwindale-ca-weather.htm>.

<sup>3</sup> USA.com. 2021. Irwindale, CA Weather. Accessed August 13. <http://www.usa.com/irwindale-ca-weather.htm>.

<sup>4</sup> USA.com. 2021. Irwindale, CA Weather. Accessed August 13. <http://www.usa.com/irwindale-ca-weather.htm>.

SoCAB by offshore winds, the “ocean effect” is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB.<sup>5</sup>

## Wind

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

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.<sup>6</sup>

## Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area.<sup>7</sup>

## Air Quality Regulations

The proposed project has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (South Coast AQMD). However, South Coast AQMD reports to California Air Resources board (CARB), and all criteria emissions are also governed by the California and national

---

<sup>5</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.

<sup>6</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>7</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

## AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, these pollutants include ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table 1     Ambient Air Quality Standards for Criteria Pollutants**

| Pollutant                            | Averaging Time         | California Standard <sup>1</sup> | Federal Primary Standard <sup>2</sup> | Major Pollutant Sources  |
|--------------------------------------|------------------------|----------------------------------|---------------------------------------|--|
| Ozone (O <sub>3</sub> ) <sup>3</sup> | 1 hour                 | 0.09 ppm                         | *                                     | Motor vehicles, paints, coatings, and solvents.  |
|                                      | 8 hours                | 0.070 ppm                        | 0.070 ppm                             |  |
| Carbon Monoxide (CO)                 | 1 hour                 | 20 ppm                           | 35 ppm                                | Internal combustion engines, primarily gasoline-powered motor vehicles.                            |
|                                      | 8 hours                | 9.0 ppm                          | 9 ppm                                 |  |
| Nitrogen Dioxide (NO <sub>2</sub> )  | Annual Arithmetic Mean | 0.030 ppm                        | 0.053 ppm                             | Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads. |
|                                      | 1 hour                 | 0.18 ppm                         | 0.100 ppm                             |  |
| Sulfur Dioxide (SO <sub>2</sub> )    | Annual Arithmetic Mean | *                                | 0.030 ppm                             | Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.                    |

**Table 1 Ambient Air Quality Standards for Criteria Pollutants**

| Pollutant  | Averaging Time          | California Standard <sup>1</sup>      | Federal Primary Standard <sup>2</sup> | Major Pollutant Sources  |
|--|-------------------------|---------------------------------------|---------------------------------------|--|
|  | 1 hour                  | 0.25 ppm                              | 0.075 ppm                             |  |
|  | 24 hours                | 0.04 ppm                              | 0.14 ppm                              |  |
| Respirable Coarse Particulate Matter (PM <sub>10</sub> )             | Annual Arithmetic Mean  | 20 µg/m <sup>3</sup>                  | *                                     | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).  |
|  | 24 hours                | 50 µg/m <sup>3</sup>                  | 150 µg/m <sup>3</sup>                 |  |
| Respirable Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>4</sup> | Annual Arithmetic Mean  | 12 µg/m <sup>3</sup>                  | 12 µg/m <sup>3</sup>                  | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).  |
|  | 24 hours                | *                                     | 35 µg/m <sup>3</sup>                  |  |
| Lead (Pb)  | 30-Day Average          | 1.5 µg/m <sup>3</sup>                 | *                                     | Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.   |
|  | Calendar Quarter        | *                                     | 1.5 µg/m <sup>3</sup>                 |  |
|  | Rolling 3-Month Average | *                                     | 0.15 µg/m <sup>3</sup>                |  |
| Sulfates (SO <sub>4</sub> ) <sup>5</sup>                             | 24 hours                | 25 µg/m <sup>3</sup>                  | *                                     | Industrial processes.  |
| Visibility Reducing Particles  | 8 hours                 | ExCo =0.23/km visibility of 10≥ miles | No Federal Standard                   | Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. |
| Hydrogen Sulfide   | 1 hour                  | 0.03 ppm                              | No Federal Standard                   | Hydrogen sulfide (H <sub>2</sub> S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation.  |
| Vinyl Chloride   | 24 hours                | 0.01 ppm                              | No Federal Standard                   | Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.  |

**Table 1      Ambient Air Quality Standards for Criteria Pollutants**

| Pollutant  | Averaging Time | California Standard <sup>1</sup> | Federal Primary Standard <sup>2</sup> | Major Pollutant Sources |
|--|----------------|----------------------------------|---------------------------------------|-------------------------|
| <p>Source: California Air Resources Board (CARB). 2016, October 1. Ambient Air Quality Standards. <a href="https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf">https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf</a>.<br/>                     Notes: ppm: parts per million; µg/m<sup>3</sup>: micrograms per cubic meter<br/>                     * Standard has not been established for this pollutant/duration by this entity.<br/>                     1 California standards for O<sub>3</sub>, CO (except 8-hour Lake Tahoe), SO<sub>2</sub> (1 and 24 hour), NO<sub>2</sub>, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, 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.<br/>                     2 National standards (other than O<sub>3</sub>, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> 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 PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, 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.<br/>                     3 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.<br/>                     4 On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.<br/>                     5 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. 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.</p> |                |                                  |                                       |                         |

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

## CRITERIA AIR POLLUTANTS

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are those that are emitted directly from sources and include CO, VOC, NO<sub>2</sub>, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and Pb. Of these, CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. VOC and oxides of nitrogen (NO<sub>x</sub>) are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O<sub>3</sub>) and NO<sub>2</sub> are the principal secondary pollutants. A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

**Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

<sup>8,9</sup> The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance) under the National AAQS.<sup>10</sup>

**Volatile Organic Compounds (VOC)** are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of VOCs include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of ozone (O<sub>3</sub>), South Coast AQMD has established a significance threshold for this pollutant.<sup>11</sup>

**Nitrogen Oxides (NO<sub>x</sub>)** are a byproduct of fuel combustion and contribute to the formation of O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The two major forms of NO<sub>x</sub> are nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). The principal form of NO<sub>2</sub> produced by combustion is NO, but NO reacts with oxygen to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO<sub>2</sub> is only potentially irritating. There is some indication of a relationship between NO<sub>2</sub> and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO<sub>2</sub> absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.<sup>12,13</sup> The SoCAB is designated as an attainment (maintenance) area under the National AAQS and attainment area under the California AAQS.<sup>14</sup>

**Sulfur Dioxide (SO<sub>2</sub>)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO<sub>2</sub>.<sup>15,16</sup> When sulfur dioxide forms sulfates (SO<sub>4</sub>) in the atmosphere, together

---

<sup>8</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>9</sup> US Environmental Protection Agency (USEPA). 2021. Criteria Air Pollutants. Accessed July 29. <https://www.epa.gov/criteria-air-pollutants>.

<sup>10</sup> California Air Resources Board (CARB). 2021, Area Designations Maps/State and National. Accessed July 29, 2021. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

<sup>11</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>12</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>13</sup> US Environmental Protection Agency (USEPA). 2021. Criteria Air Pollutants. Accessed July 29. <https://www.epa.gov/criteria-air-pollutants>.

<sup>14</sup> California Air Resources Board (CARB). 2021, Area Designations Maps/State and National. Accessed July 29, 2021. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

<sup>15</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>16</sup> US Environmental Protection Agency (USEPA). 2021. Criteria Air Pollutants. Accessed July 29. <https://www.epa.gov/criteria-air-pollutants>.

these pollutants are referred to as sulfur oxides (SO<sub>x</sub>). Thus, SO<sub>2</sub> is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO<sub>2</sub> may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO<sub>2</sub> may do greater harm by injuring lung tissue. The SoCAB is designated as attainment under the California and National AAQS.<sup>17</sup>

**Suspended Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM<sub>10</sub>, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM<sub>2.5</sub>, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading (i.e., fugitive dust). Both PM<sub>10</sub> and PM<sub>2.5</sub> may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems.<sup>18</sup>

The US Environmental Protection Agency's (EPA) scientific review concluded that PM<sub>2.5</sub>, which penetrates deeply into the lungs, is more likely than PM<sub>10</sub> to contribute to health effects and at concentrations that extend well below those allowed by the current PM<sub>10</sub> standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms.<sup>19</sup> There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs.<sup>20</sup> However, the EPA or CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is classified by the CARB as a carcinogen.<sup>21</sup> Particulate matter can also cause environmental effects such as visibility impairment,<sup>22</sup> environmental damage,<sup>23</sup>

---

<sup>17</sup> California Air Resources Board (CARB). 2021, Area Designations Maps/State and National. Accessed July 29, 2021. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

<sup>18</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>19</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>20</sup> South Coast Air Quality Management District (South Coast AQMD). 2013, February. 2012 Final Air Quality Management Plan. <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>.

<sup>21</sup> California Air Resources Board (CARB). 1998, April 22. The Report on Diesel Exhaust. <http://www.arb.ca.gov/toxics/dieseltac/de-fnds.htm>.

<sup>22</sup> PM<sub>2.5</sub> is the main cause of reduced visibility (haze) in parts of the United States.

<sup>23</sup> Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

and aesthetic damage.<sup>24,25,26</sup> The SoCAB is in nonattainment and serious nonattainment for PM<sub>2.5</sub> under the California and National AAQS, respectively. For PM<sub>10</sub>, the SoCAB is nonattainment under the California AAQS and in attainment (serious maintenance) under the National AAQS.<sup>27</sup>

**Ozone (O<sub>3</sub>)** is commonly referred to as “smog” and is a gas that is formed when VOCs and NO<sub>x</sub>, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O<sub>3</sub> is a secondary criteria air pollutant. O<sub>3</sub> concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O<sub>3</sub> poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O<sub>3</sub> can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O<sub>3</sub> also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O<sub>3</sub> also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O<sub>3</sub> harms sensitive vegetation during the growing season.<sup>28,29</sup> The SoCAB is designated as extreme nonattainment under the National AAQS (8-hour) and as nonattainment under the California AAQS (1-hour and 8-hour).<sup>30</sup>

**Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ.<sup>31,32</sup> The major sources of lead emissions have historically been mobile and

---

<sup>24</sup> Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

<sup>25</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>26</sup> US Environmental Protection Agency (USEPA). 2019, June 11 (updated). Criteria Air Pollutants. <https://www.epa.gov/criteria-air-pollutants>.

<sup>27</sup> CARB approved the South Coast AQMD’s request to redesignate the SoCAB from serious nonattainment for PM<sub>10</sub> to attainment for PM<sub>10</sub> under the National AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM<sub>10</sub> standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California’s request to redesignate the PM<sub>10</sub> nonattainment area to attainment of the PM<sub>10</sub> National AAQS, effective on July 26, 2013.

<sup>28</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>29</sup> US Environmental Protection Agency (USEPA). 2021. Criteria Air Pollutants. Accessed July 29. <https://www.epa.gov/criteria-air-pollutants>.

<sup>30</sup> California Air Resources Board (CARB). 2021, Area Designations Maps/State and National. Accessed July 29, 2021. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

<sup>31</sup> South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>.

<sup>32</sup> US Environmental Protection Agency (USEPA). 2021. Criteria Air Pollutants. Accessed July 29. <https://www.epa.gov/criteria-air-pollutants>.

industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted stricter lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.<sup>33</sup> As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead.<sup>34</sup> Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the project.

## TOXIC AIR CONTAMINANTS

The public's exposure to air pollutants classified as toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant (HAP) pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code §7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority

---

<sup>33</sup> Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

<sup>34</sup> South Coast Air Quality Management District (South Coast AQMD). 2012, May 4. Final 2012 Lead State Implementation Plan: Los Angeles County. <http://www3.aqmd.gov/hb/attachments/2011-2015/2012May/2012-May4-030.pdf>.

facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

By the December 1999 update to the TAC list, CARB had designated 244 compounds as TACs.<sup>35</sup> Subsequently, the list was updated in 2007 to include Environmental Tobacco Smoke.<sup>36</sup> Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

### **Diesel Particulate Matter**

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

### **Community Risk**

In addition, to reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective*<sup>37</sup> to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic, DPM from trucks, and benzene and 1,3-butadiene from passenger vehicles. CARB recommendations

---

<sup>35</sup> California Air Resources Board (CARB). 1999. California Air Resources Board (CARB). Final Staff Report: Update to the Toxic Air Contaminant List. <https://ww3.arb.ca.gov/toxics/id/finalstaffreport.htm>.

<sup>36</sup> California Air Resources Board (CARB). 2021, July 29 (accessed). CARB Identified Toxic Air Contaminants. <https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>.

<sup>37</sup> California Air Resources Board (CARB). 2005, April. Air Quality and Land Use Handbook: A Community Health Perspective. <https://www.arb.ca.gov/ch/handbook.pdf>.

are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

### **Multiple Airborne Toxics Exposure Study (MATES)**

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, the South Coast AQMD conducted its third update to the MATES study (MATES III). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk.<sup>38</sup>

The South Coast AQMD recently released the fourth update (MATES IV). The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources while 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basin-wide population-weighted risk decreased by approximately 57 percent compared to the analysis done for the MATES III time period.<sup>39</sup>

The Office of Environmental Health Hazard Assessment (OEHHA) updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, the South Coast AQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods identified in MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk).<sup>40</sup>

## **Air Quality Management Planning**

The South Coast AQMD is the agency responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

---

<sup>38</sup> South Coast Air Quality Management District (South Coast AQMD). 2008, September. Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III). <https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iii>.

<sup>39</sup> South Coast Air Quality Management District (South Coast AQMD). 2015, October 3. Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV). <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf>.

<sup>40</sup> South Coast Air Quality Management District (South Coast AQMD). 2015, October 3. Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV). <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf>.

## 2016 AQMP

On March 3, 2017, the South Coast AQMD adopted the 2016 AQMP as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031,
- 2012 National annual PM<sub>2.5</sub> standard by 2025<sup>41</sup>,
- 2006 National 24-hour PM<sub>2.5</sub> standard by 2019,
- 1997 National 8-hour ozone standard by 2023, and the
- 1979 National 1-hour ozone standard by year 2022.

It is projected that total NO<sub>x</sub> emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022<sup>42</sup>, which requires reducing NO<sub>x</sub> emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above existing regulations to meet the 2031 ozone standard.

Reducing NO<sub>x</sub> emissions would also reduce PM<sub>2.5</sub> concentrations in the SoCAB. However, as the goal is to meet the 2012 federal annual PM<sub>2.5</sub> standard no later than year 2025, the South Coast AQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under this federal standard. A “moderate” non-attainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA.<sup>43</sup>

## LEAD STATE IMPLEMENTATION PLAN

In 2008, EPA designated the Los Angeles County portion of the SoCAB nonattainment under the federal lead (Pb) classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in Vernon and the City of Industry exceeding the new standard. The rest of the SoCAB, outside the Los Angeles County nonattainment area remains in attainment of the new standard. On May 24, 2012, CARB approved the SIP revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to EPA for approval.

---

<sup>41</sup> The 2016 AQMP requests a reclassification from moderate to serious non-attainment for the 2012 National PM<sub>2.5</sub> standard.

<sup>42</sup> South Coast Air Quality Management District (South Coast AQMD). 2017, March 4. Final 2016 Air Quality Management Plan. <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>.

<sup>43</sup> South Coast Air Quality Management District (South Coast AQMD). 2017, March 4. Final 2016 Air Quality Management Plan. <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>.

## AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 2. The SoCAB is designated in attainment of the California AAQS for sulfates. The SoCAB is designated as nonattainment for lead (Los Angeles County only) under the National AAQS.

**Table 2 Attainment Status of Criteria Pollutants in the South Coast Air Basin**

| Pollutant         | State                   | Federal  |
|-------------------|-------------------------|--|
| Ozone – 1-hour    | Nonattainment           | No Federal Standard                                  |
| Ozone – 8-hour    | Nonattainment           | Extreme Nonattainment                                |
| PM <sub>10</sub>  | Nonattainment           | Attainment (Serious Maintenance)                     |
| PM <sub>2.5</sub> | Nonattainment           | Serious Nonattainment                                |
| CO                | Attainment              | Attainment   |
| NO <sub>2</sub>   | Attainment              | Attainment (Maintenance)                             |
| SO <sub>2</sub>   | Attainment              | Attainment   |
| Lead              | Attainment              | Nonattainment (Los Angeles County only) <sup>1</sup> |
| All others        | Attainment/Unclassified | Attainment/Unclassified                              |

Source: CARB 2021a.

<sup>1</sup> In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

## Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the South Coast AQMD. The project site is located within Source Receptor Area (SRA) 9 – East San Gabriel Valley. The air quality monitoring station closest to the project site

is the Azusa Monitoring Station. The most current five years of data are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show regular violations of the state and federal O<sub>3</sub>, state PM<sub>10</sub>, and federal PM<sub>2.5</sub> standards in the last five years.

**Table 3 Ambient Air Quality Monitoring Summary**

| Pollutant/Standard  | Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations |        |        |        |        |
|---|--|--------|--------|--------|--------|
|   | 2015   | 2016   | 2017   | 2018   | 2019   |
| <b>Ozone (O<sub>3</sub>)<sup>1</sup></b>                        |  |        |        |        |        |
| State 1-Hour ≥ 0.09 ppm (days exceed threshold)                 | 21   | 30     | 38     | 24     | 34     |
| State 8-hour ≥ 0.07 ppm (days exceed threshold)                 | 28   | 40     | 64     | 43     | 43     |
| Federal 8-Hour > 0.075 ppm (days exceed threshold)              | 17   | 25     | 43     | 23     | 21     |
| Max. 1-Hour Conc. (ppm)   | 0.122  | 0.146  | 0.152  | 0.139  | 0.123  |
| Max. 8-Hour Conc. (ppm)   | 0.096  | 0.106  | 0.114  | 0.100  | 0.094  |
| <b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>1</sup></b>            |  |        |        |        |        |
| State 1-Hour ≥ 0.18 ppm (days exceed threshold)                 | 0  | 0      | 0      | 0      | 0      |
| Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)              | 0  | 0      | 0      | 0      | 0      |
| Max. 1-Hour Conc. (ppb)   | 0.0710   | 0.0742 | 0.0656 | 0.0708 | 0.0597 |
| <b>Coarse Particulates (PM<sub>10</sub>)<sup>1</sup></b>        |  |        |        |        |        |
| State 24-Hour > 50 µg/m <sup>3</sup> (days exceed threshold)    | 12   | 12     | 7      | 10     | 4      |
| Federal 24-Hour > 150 µg/m <sup>3</sup> (days exceed threshold) | 0  | 0      | 0      | 0      | 0      |
| Max. 24-Hour Conc. (µg/m <sup>3</sup> )                         | 101.0  | 74.0   | 83.9   | 78.3   | 82.0   |
| <b>Fine Particulates (PM<sub>2.5</sub>)<sup>1</sup></b>         |  |        |        |        |        |
| Federal 24-Hour > 35 µg/m <sup>3</sup> (days exceed threshold)  | 2  | 0      | 0      | 1      | 1      |
| Max. 24-Hour Conc. (µg/m <sup>3</sup> )                         | 70.3   | 32.1   | 24.9   | 41.8   | 70.3   |

Source: California Air Resources Board (CARB). 2021. Air Pollution Data Monitoring Cards (2015, 2016, 2017, 2018, and 2019).

<https://www.arb.ca.gov/adam/topfour/topfour1.php>

Notes: ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter

<sup>1</sup> Data from the Azusa Monitoring Station in Azusa.

## Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. The nearest sensitive receptors to the proposed project site include a single family residence to the north near the railroad

tracks and East Cypress Street. Other nearby sensitive receptors are the residences to the southwest, south, east, and northeast of the project site.

## Methodology

Projected construction-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0.<sup>44</sup> CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use.

## Thresholds of Significance

The analysis of the proposed project's air quality impacts follows the guidance and methodologies recommended in South Coast AQMD's *CEQA Air Quality Handbook* and the significance thresholds on the South Coast AQMD's website.<sup>45</sup> CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The South Coast AQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized CO impacts and localized significance thresholds (LSTs).

### REGIONAL SIGNIFICANCE THRESHOLDS

The South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 4 lists South Coast AQMD's regional significance thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, South Coast AQMD has not developed thresholds for them.

---

<sup>44</sup> California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model (CalEEMod). Version 2020.4.0. Prepared by: BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts.

<sup>45</sup> South Coast Air Quality Management District (South Coast AQMD). 2019, April (revised). South Coast AQMD Air Quality Significance Thresholds. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

**Table 4 South Coast AQMD Significance Thresholds**

| Air Pollutant  | Construction Phase | Operational Phase |
|--|--------------------|-------------------|
| Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs) | 75 lbs/day         | 55 lbs/day        |
| Nitrogen Oxides (NO <sub>x</sub> )                               | 100 lbs/day        | 55 lbs/day        |
| Carbon Monoxide (CO)   | 550 lbs/day        | 550 lbs/day       |
| Sulfur Oxides (SO <sub>x</sub> )                                 | 150 lbs/day        | 150 lbs/day       |
| Particulates (PM <sub>10</sub> )                                 | 150 lbs/day        | 150 lbs/day       |
| Particulates (PM <sub>2.5</sub> )                                | 55 lbs/day         | 55 lbs/day        |

Source: South Coast AQMD. 2019. South Coast AQMD Air Quality Significance Thresholds. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Linked to increased cancer risk (PM<sub>2.5</sub>, TACs)
- Aggravates respiratory disease (O<sub>3</sub>, PM<sub>2.5</sub>)
- Increases bronchitis (O<sub>3</sub>, PM<sub>2.5</sub>)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O<sub>3</sub>)
- Reduces resistance to infections and increases fatigue (O<sub>3</sub>)
- Reduces lung growth in children (PM<sub>2.5</sub>)
- Contributes to heart disease and heart attacks (PM<sub>2.5</sub>)
- Contributes to premature death (O<sub>3</sub>, PM<sub>2.5</sub>)
- Linked to lower birth weight in newborns (PM<sub>2.5</sub>)<sup>46</sup>

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM<sub>2.5</sub> is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists responsible for a landmark children’s health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB.<sup>47</sup>

Mass emissions in Table 4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. The South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SoCAB.

<sup>46</sup> South Coast Air Quality Management District (South Coast AQMD). 2011a, December. The Health Effects of Air Pollution. <http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf>.

<sup>47</sup> South Coast Air Quality Management District (South Coast AQMD). 2015, October. “Blueprint for Clean Air: 2016 AQMP White Paper.” 2016 AQMP White Papers Web Page. <https://www.aqmd.gov/docs/default-source/Agendas/aqmp/white-paper-working-groups/wp-blueprint-final.pdf?sfvrsn=2>.

To achieve the health-based standards established by the EPA, the South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS.

## CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hot spot analysis conducted for the attainment by the South Coast AQMD for busiest intersections in Los Angeles during the peak morning and afternoon periods plan did not predict a violation of CO standards.<sup>48</sup> As identified in the South Coast AQMD's 2003 AQMP<sup>49</sup> and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.<sup>50</sup>

## LOCALIZED SIGNIFICANCE THRESHOLDS

The South Coast AQMD developed LSTs for emissions of NO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> generated at the project site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 5.

---

<sup>48</sup> The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

<sup>49</sup> South Coast Air Quality Management District (South Coast AQMD). 2003, August. 2003 Air Quality Management Plan. Appendix V. <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>.

<sup>50</sup> Bay Area Air Quality Management District (BAAQMD). 2017, May. California Environmental Quality Act Air Quality Guidelines. [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en).

**Table 5 South Coast AQMD Localized Significance Thresholds**

| Air Pollutant (Relevant AAQS)   | Concentration          |
|---|------------------------|
| 1-Hour CO Standard (CAAQS)  | 20 ppm                 |
| 8-Hour CO Standard (CAAQS)  | 9.0 ppm                |
| 1-Hour NO <sub>2</sub> Standard (CAAQS)   | 0.18 ppm               |
| Annual NO <sub>2</sub> Standard (CAAQS)   | 0.03 ppm               |
| 24-Hour PM <sub>10</sub> Standard – Construction (South Coast AQMD) <sup>1</sup>  | 10.4 µg/m <sup>3</sup> |
| 24-Hour PM <sub>2.5</sub> Standard – Construction (South Coast AQMD) <sup>1</sup> | 10.4 µg/m <sup>3</sup> |
| 24-Hour PM <sub>10</sub> Standard – Operation (South Coast AQMD) <sup>1</sup>     | 2.5 µg/m <sup>3</sup>  |
| 24-Hour PM <sub>2.5</sub> Standard – Operation (South Coast AQMD) <sup>1</sup>    | 2.5 µg/m <sup>3</sup>  |

Source: South Coast Air Quality Management District (South Coast AQMD). 2019, April (revised). South Coast AQMD Air Quality Significance Thresholds. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

ppm – parts per million; µg/m<sup>3</sup> – micrograms per cubic meter

<sup>1</sup> Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM<sub>10</sub> and PM<sub>2.5</sub>, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the levels shown in Table 5 for projects under 5-acres. These “screening-level” LSTs tables are the localized significance thresholds for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.

In accordance with South Coast AQMD’s LST methodology, the screening-level construction LSTs are based on the acreage disturbed per day based on equipment use while the screening-level operation LSTs are based on a 5-acre site. The screening-level LSTs for the project site in SRA 9 are shown in Table 6, *South Coast AQMD Screening-Level Localized Significance Thresholds*, for sensitive receptors within 82 feet (25 meters) for NO<sub>x</sub> and CO and 550 feet (168 meters) for PM<sub>10</sub> and PM<sub>2.5</sub>. These distances represent residences at 550 feet, which are assumed to be exposed to project-related emissions 24 hours a day, and the offsite worker at 82 feet, who would not be exposed to project-related emissions for most of the day.

**Table 6 South Coast AQMD Screening-Level Localized Significance Thresholds**

| Acreage Disturbed                | Threshold (lbs/day)                             |                                   |  |   |
|----------------------------------|---|-----------------------------------|--|---|
|                                  | Nitrogen Oxides (NO <sub>x</sub> ) <sup>1</sup> | Carbon Monoxide (CO) <sup>1</sup> | Coarse Particulates (PM <sub>10</sub> ) <sup>2</sup> | Fine Particulates (PM <sub>2.5</sub> ) <sup>2</sup> |
| <b>Construction</b>              |   |                                   |  |   |
| 1 Acre or Less Disturbed Per Day | 89  | 623                               | 62   | 18  |
| 5 Acres Disturbed Per Day        | 203   | 1,733                             | 91   | 29  |
| <b>Operation</b>                 |   |                                   |  |   |
| 5-Acre Site                      | 203   | 1,733                             | 23   | 8   |

Sources:

South Coast Air Quality Management District (South Coast AQMD). 2008, July. Final Localized Significance Threshold Methodology.

<http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>,

South Coast Air Quality Management District (South Coast AQMD). 2011. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds.

<http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf>.

<sup>1</sup> LSTs are based on receptors within 82 feet (25 meters) in SRA 9.

<sup>2</sup> LSTs are based on receptors within 550 feet (168 meters) in SRA 9.

## Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB’s air toxics list pursuant to AB 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 7, *Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. (*California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478)*). CEQA does not require CEQA-level environmental document to analyze the environmental effects of attracting development and people to an area. However, the environmental document must analyze the impacts of environmental hazards on future users, when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

**Table 7 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds**

|  |                           |
|--|---------------------------|
| Maximum Incremental Cancer Risk  | ≥ 10 in 1 million         |
| Hazard Index (project increment)   | ≥ 1.0                     |
| Cancer Burden in areas ≥ 1 in 1 million  | > 0.5 excess cancer cases |
| Source: South Coast AQMD 2019. South Coast AQMD Air Quality Significance Thresholds. <a href="http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf">http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf</a> . |                           |

## GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. Climate change is the variation of Earth’s climate over time, whether due to natural variability or as a result of human activities. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor,<sup>51</sup> carbon (CO<sub>2</sub>), methane (CH<sub>4</sub>), and ozone (O<sub>3</sub>)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>),

---

<sup>51</sup> Water vapor (H<sub>2</sub>O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.<sup>52, 53</sup> The major GHG are briefly described below.

- **Carbon dioxide (CO<sub>2</sub>)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH<sub>4</sub>)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N<sub>2</sub>O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.
  - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
  - **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF<sub>4</sub>] and perfluoroethane [C<sub>2</sub>F<sub>6</sub>]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

---

<sup>52</sup> Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

<sup>53</sup> Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/03/WGI\\_TAR\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/WGI_TAR_full_report.pdf).

- **Sulfur Hexafluoride ( $SF_6$ )** is a colorless gas soluble in alcohol and ether, slightly soluble in water.  $SF_6$  is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.
- **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.<sup>54,55</sup>

GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 8. The GWP is used to convert GHGs to CO<sub>2</sub>-equivalence (CO<sub>2</sub>e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for CH<sub>4</sub>, a project that generates 10 metric tons (MT) of CH<sub>4</sub> would be equivalent to 250 MT of CO<sub>2</sub>.<sup>56</sup>

---

<sup>54</sup> Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/03/WGI\\_TAR\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/WGI_TAR_full_report.pdf).

<sup>55</sup> US Environmental Protection Agency (USEPA). 2019. Overview of Greenhouse Gases. <http://www3.epa.gov/climatechange/ghgemissions/gases.html>.

<sup>56</sup> Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/02/ar4\\_syr\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf)

**Table 8 GHG Emissions and Their Relative Global Warming Potential Compared to CO<sub>2</sub>**

| GHGs  | Second Assessment Report Atmospheric Lifetime (Years) | Fourth Assessment Report Atmospheric Lifetime (Years) | Second Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup> | Fourth Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup> |
|---|---|---|--|--|
| Carbon Dioxide (CO <sub>2</sub> )                         | 50 to 200   | 50 to 200   | 1  | 1  |
| Methane <sup>2</sup> (CH <sub>4</sub> )                   | 12 (±3)   | 12  | 21   | 25   |
| Nitrous Oxide (N <sub>2</sub> O)                          | 120   | 114   | 310  | 298  |
| Hydrofluorocarbons:                                       |   |   |  |  |
| HFC-23  | 264   | 270   | 11,700   | 14,800   |
| HFC-32  | 5.6   | 4.9   | 650  | 675  |
| HFC-125   | 32.6  | 29  | 2,800  | 3,500  |
| HFC-134a  | 14.6  | 14  | 1,300  | 1,430  |
| HFC-143a  | 48.3  | 52  | 3,800  | 4,470  |
| HFC-152a  | 1.5   | 1.4   | 140  | 124  |
| HFC-227ea   | 36.5  | 34.2  | 2,900  | 3,220  |
| HFC-236fa   | 209   | 240   | 6,300  | 9,810  |
| HFC-4310mee   | 17.1  | 15.9  | 1,300  | 1,030  |
| Perfluoromethane: CF <sub>4</sub>                         | 50,000  | 50,000  | 6,500  | 7,390  |
| Perfluoroethane: C <sub>2</sub> F <sub>6</sub>            | 10,000  | 10,000  | 9,200  | 12,200   |
| Perfluorobutane: C <sub>4</sub> F <sub>10</sub>           | 2,600   | NA  | 7,000  | 8,860  |
| Perfluoro-2-methylpentane: C <sub>6</sub> F <sub>14</sub> | 3,200   | NA  | 7,400  | 9,300  |
| Sulfur Hexafluoride (SF <sub>6</sub> )                    | 3,200   | NA  | 23,900   | 22,800   |

Source: Intergovernmental Panel on Climate Change (IPCC). 1995. Second Assessment Report: Climate Change 1995

[https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_sar\\_wg\\_1\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_1_full_report.pdf).

Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

[https://www.ipcc.ch/site/assets/uploads/2018/02/ar4\\_syr\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf).

Notes: The GWP values in the IPCC's Fifth Assessment Report (2013)<sup>57</sup> reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO<sub>2</sub>. However, South Coast AQMD uses the AR4 GWP values to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the AR4 GWP values.

<sup>1</sup> Based on 100-year time horizon of the GWP of the air pollutant relative to CO<sub>2</sub>.

<sup>2</sup> The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO<sub>2</sub> is not included.

## California's Greenhouse Gas Sources and Relative Contribution

In 2020, the statewide GHG emissions inventory was updated for 2000 to 2018 emissions using the GWPs in IPCC's AR4.<sup>58</sup> Based on these GWPs, California produced 425.3 MMTCO<sub>2</sub>e GHG emissions in 2018. California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions. Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include

<sup>57</sup> Intergovernmental Panel on Climate Change (IPCC). 2013. Fifth Assessment Report: Climate Change 2013. New York: Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\\_all\\_final.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf).

<sup>58</sup> Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

commercial and residential (9.7 percent), agriculture and forestry (7.7 percent) high GWP (4.8 percent), and recycling and waste (2.1 percent).<sup>59</sup>

Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 MMCO<sub>2</sub>e in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG emitting activities statewide were 6 MMTCO<sub>2</sub>e lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO<sub>2</sub>e per person to 10.7 MTCO<sub>2</sub>e per person in 2018, a 24 percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000-2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace Ozone Depleting Substances (ODS) being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 43 percent decline since the 2001 peak, while the state's GDP has grown 59 percent during this period.<sup>60</sup>

## Regulatory Settings

### REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The EPA announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.<sup>61</sup>

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and SF<sub>6</sub>—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per South Coast AQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

<sup>59</sup> California Air Resources Board (CARB). 2020. 2020 California Greenhouse Gas 2000-2018 Emissions Trends and Indicators Report. [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2018/ghg\\_inventory\\_trends\\_00-18.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf).

<sup>60</sup> California Air Resources Board (CARB). 2020. 2020 California Greenhouse Gas 2000-2018 Emissions Trends and Indicators Report. [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2018/ghg\\_inventory\\_trends\\_00-18.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf).

<sup>61</sup> US Environmental Protection Agency (USEPA). 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment. Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. [https://archive.epa.gov/epapages/newsroom\\_archive/newsreleases/08d11a451131bca585257685005bf252.html](https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html).

## **US Mandatory Report Rule for GHGs (2009)**

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO<sub>2</sub> per year are required to submit an annual report.

## **Update to Corporate Average Fuel Economy Standards (2021 to 2026)**

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (mpg) and 163 grams per mile (g/mi) of CO<sub>2</sub> emissions for model year 2025. However, on March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg and 202 g/mi of CO<sub>2</sub> emissions for model year 2026 vehicles.<sup>62</sup> However, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet the CAFE standards established in 2012 for model years 2017 to 2025.<sup>63</sup> In addition, per Executive Order 13990 (EO 13990) issued by President Biden on January 20, 2021, the EPA is reconsidering SAFE for the purpose of rescinding the rule. The reconsideration process is ongoing with a planned public hearing occurring on June 2, 2021, which also started the public comment period that ended July 6, 2021. On August 5, 2021, the National Highway Traffic Safety Administration announced new proposed fuel standards in response to EO 13990. Fuel efficiency under the standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 relative to model year 2021.<sup>64</sup>

## **EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)**

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new, large, stationary sources of emissions, such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy (ACE) rule which became effective on August 19, 2019. The ACE rule was crafted under the direction of President Trump's Energy Independence Executive

---

<sup>62</sup> The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks: Final Rule, Vol. 85 Federal Register, No. 84 (April 30, 2020).

<sup>63</sup> California Air Resources Board. 2021, May 6 (accessed). California and major automakers reach groundbreaking framework agreement on clean emission standards. <https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission>.

<sup>64</sup> National Highway Traffic Safety Administration. 2021, August 5. USDOT Proposes Improved Fuel Economy Standards for MY 2024-2026 Passenger Cars and Light Trucks. <https://www.nhtsa.gov/press-releases/fuel-economy-standards-2024-2026-proposal>

Order. It officially rescinds the Clean Power Plan rule issued during the Obama Administration and sets emissions guidelines for states in developing plans to limit CO<sub>2</sub> emissions from coal-fired power plants.

## **REGULATION OF GHG EMISSIONS ON A STATE LEVEL**

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32) and Senate Bill 375 (SB 375).

### **Executive Order S-3-05**

Executive Order S-3-05, signed June 1, 2005. Executive Order S-3-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

### **Assembly Bill 32, the Global Warming Solutions Act (2006)**

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

### ***CARB 2008 Scoping Plan***

The final Scoping Plan was adopted by CARB on December 11, 2008. The *2008 Scoping Plan* identified that GHG emissions in California are anticipated to be approximately 596 MMTCO<sub>2e</sub> in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO<sub>2e</sub> (471 million tons) for the state.<sup>65</sup> In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCO<sub>2e</sub> per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

### ***First Update to the Scoping Plan***

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and

---

<sup>65</sup> California Air Resources Board (CARB). 2008, October. Climate Change Proposed Scoping Plan, a Framework for Change. <https://ww3.arb.ca.gov/cc/scopingplan/document/psp.pdf>.

the 427 MMTCO<sub>2</sub>e 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 MMTCO<sub>2</sub>e.<sup>66</sup>

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.<sup>67</sup> CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.<sup>68</sup>

### **Executive Order B-30-15**

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

### **Senate Bill 32 and Assembly Bill 197**

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

### ***2017 Climate Change Scoping Plan Update***

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197

---

<sup>66</sup> California Air Resources Board (CARB). 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.

<sup>67</sup> California Air Resources Board (CARB). 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.

<sup>68</sup> California Air Resources Board (CARB). 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.

requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO<sub>2e</sub> for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.<sup>69</sup>

California’s climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the State’s long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 MTCO<sub>2e</sub> or less per capita by 2030 and 2 MTCO<sub>2e</sub> or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State’s sustainable development objectives and develop plans

---

<sup>69</sup> California Air Resources Board (CARB). 2017, November. California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target. [https://www.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf).

to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the State’s 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population)—consistent with the Scoping Plan and the state’s long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project’s region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 9. It includes the existing renewables requirements, advanced clean cars, the “10 percent” Low Carbon Fuel Standard (LCFS), and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 MMTCO<sub>2e</sub> above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

**Table 9 2017 Climate Change Scoping Plan Emissions Reductions Gap**

| Modeling Scenario                      | 2030 GHG Emissions<br>MMTCO <sub>2e</sub> |
|--|---|
| Reference Scenario (Business-as-Usual) | 389                                       |
| With Known Commitments                 | 320                                       |
| 2030 GHG Target                        | <b>260</b>                                |
| Gap to 2030 Target                     | <b>60</b>                                 |

Source: California Air Resources Board. 2017, November. California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target. [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf).

Table 10 provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

**Table 10 2017 Climate Change Scoping Plan Emissions Change by Sector**

| Scoping Plan Sector        | 1990<br>MMTCO <sub>2e</sub> | 2030 Proposed Plan Ranges<br>MMTCO <sub>2e</sub> | % Change from 1990 |
|----------------------------|-----------------------------|--|--------------------|
| Agricultural               | 26                          | 24-25  | -8% to -4%         |
| Residential and Commercial | 44                          | 38-40  | -14% to -9%        |
| Electric Power             | 108                         | 30-53  | -72% to -51%       |
| High GWP                   | 3                           | 8-11   | 267% to 367%       |
| Industrial                 | 98                          | 83-90  | -15% to -8%        |

**Table 10 2017 Climate Change Scoping Plan Emissions Change by Sector**

| Scoping Plan Sector            | 1990<br>MMTCO <sub>2e</sub> | 2030 Proposed Plan Ranges<br>MMTCO <sub>2e</sub> | % Change from 1990 |
|--------------------------------|-----------------------------|--|--------------------|
| Recycling and Waste            | 7                           | 8-9  | 14% to 29%         |
| Transportation (including TCU) | 152                         | 103-111  | -32% to -27%       |
| Net Sink <sup>1</sup>          | -7                          | TBD  | TBD                |
| Sub Total                      | 431                         | 294-339  | -32% to -21%       |
| Cap-and-Trade Program          | NA                          | 24-79  | NA                 |
| <b>Total</b>                   | <b>431</b>                  | <b>260</b>                                       | <b>-40%</b>        |

Source: California Air Resources Board (CARB). 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf).

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.

<sup>1</sup> Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

### Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH<sub>4</sub>. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. The bill also establishes targets for reducing organic waste in landfill. On March 14, 2017, CARB adopted the “Final Proposed Short-Lived Climate Pollutant Reduction Strategy,” which identifies the state’s approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use.<sup>70</sup> In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. The South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these char broilers by over 80 percent.<sup>71</sup> Additionally, South Coast AQMD Rule 445 limits installation of new fireplaces in the SoCAB.

### Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the

<sup>70</sup> California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.

<sup>71</sup> California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.

18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035.<sup>72</sup> The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMTCO<sub>2e</sub> of reductions by 2020 and 15 MMTCO<sub>2e</sub> of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met.<sup>73</sup>

### *2017 Update to the SB 375 Targets*

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO<sub>2e</sub> in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent).<sup>74</sup> CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018 are subject to these new targets.

---

<sup>72</sup> California Air Resources Board (CARB). 2010, September. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375. [https://ww3.arb.ca.gov/cc/sb375/staffreport\\_sb375080910.pdf](https://ww3.arb.ca.gov/cc/sb375/staffreport_sb375080910.pdf).

<sup>73</sup> California Air Resources Board (CARB). 2010, September. Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375. <https://ww3.arb.ca.gov/board/res/2010/res10-31.pdf>.

<sup>74</sup> California Air Resources Board (CARB). 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. <https://www.arb.ca.gov/cc/inventory/data/data.htm>.

### *SCAG's Regional Transportation Plan / Sustainable Communities Strategy*

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) was adopted on September 3, 2020, and is an update to the 2016-2040 RTP/SCS.<sup>75</sup> In general, the RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land uses strategies in development of the SCAG region through horizon year 2045.<sup>76</sup> Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. Additionally, Connect SoCal also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a “Core Vision” that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together, and increasing investments in transit and complete streets.<sup>77</sup>

### **Assembly Bill 1493**

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under <sup>Federal Laws</sup>, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions. However, as discussed above, under SAFE Rule, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg and 202 g/mi of CO<sub>2</sub> emissions for model year 2026 vehicles.<sup>78</sup> Additionally, the EPA also published the final rule for the One National Program Rule, which clarifies that

<sup>75</sup> Southern California Association of Governments (SCAG). 2020, September 3. Connect SoCal Plan: The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of The Southern California Association of Governments. <https://www.connectsocial.org/Pages/Connect-SoCal-Final-Plan.aspx>

<sup>76</sup> Southern California Association of Governments (SCAG). 2020, September 3. Connect SoCal Plan: The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of The Southern California Association of Governments. <https://www.connectsocial.org/Pages/Connect-SoCal-Final-Plan.aspx>

<sup>77</sup> Southern California Association of Governments (SCAG). 2020, September 3. Connect SoCal Plan: The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of The Southern California Association of Governments. <https://www.connectsocial.org/Pages/Connect-SoCal-Final-Plan.aspx>

<sup>78</sup> The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks: Final Rule, Vol. 85 Federal Register, No. 84 (April 30, 2020).

federal law preempts state and local tailpipe GHG emissions standards as well as ZE vehicle mandates. Additionally, this rule revokes the waiver granted to California in 2013 for the ACC program as it relates to GHG and ZE vehicle standards.<sup>79</sup> In November 2019, California, joined by 22 other states, the District of Columbia, and the Cities of Los Angeles and New York filed a lawsuit with the U.S. Court of Appeals for the District of Columbia Circuit challenging the One National Program Rule. To date, a ruling has not been made on the lawsuit. Additionally, as stated, the USEPA is reconsidering SAFE for the purpose of rescinding the rule under the direction of Executive Order 13990 issued by President Biden.

### **Executive Order S-01-07**

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

### **Senate Bills 1078, 107, X1-2, and Executive Order S-14-08**

A major component of California's Renewable Energy Program is the RPS established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

### **Senate Bill 350**

Senate Bill 350 (de Leon), was signed into law in September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

### **Senate Bill 100**

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December

---

<sup>79</sup> The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. Vol. 84 Federal Register, No. 188 (September 27, 2019).

31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

### **Executive Order B-55-18**

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO<sub>2</sub>e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

### **Executive Order B-16-2012**

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California’s state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

### **Executive Order N-79-20**

On September 23, 2020 Governor Newsom signed Executive Order N-79-20 which identifies a goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. Additionally, this Executive Order identified fleet goals for trucks of 100 percent of drayage trucks be zero emissions by 2035 and 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045, for all operations where feasible. Additionally, the Executive Order identifies a goal for the State to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

### **California Building Code: Building Energy Efficiency Standards**

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect on January 1, 2020.

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2)

updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.<sup>80</sup> Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient.<sup>81</sup> When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.<sup>82</sup>

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which will be considered for approval by the California Building Standards Commission in December 2021. If approved, the 2022 standards would become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high rise multi-family buildings (i.e., more than three stories) and non-commercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.<sup>83</sup>

### **California Building Code: CALGreen**

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.<sup>84</sup> The mandatory provisions of CALGreen became effective January 1, 2011. The CEC adopted the voluntary standards of the 2019 CALGreen on October 3, 2018. The 2019 CALGreen standards become effective January 1, 2020.

### **2006 Appliance Efficiency Regulations**

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

---

<sup>80</sup> California Energy Commission (CEC). 2018. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. <https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first>.

<sup>81</sup> California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. [https://www.energy.ca.gov/sites/default/files/2020-03/Title\\_24\\_2019\\_Building\\_Standards\\_FAQ\\_ada.pdf](https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf).

<sup>82</sup> California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. [https://www.energy.ca.gov/sites/default/files/2020-03/Title\\_24\\_2019\\_Building\\_Standards\\_FAQ\\_ada.pdf](https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf).

<sup>83</sup> California Energy Commission. 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

<sup>84</sup> The green building standards became mandatory in the 2010 edition of the code.

## **Solid Waste Regulations**

California's Integrated Waste Management Act of 1989 (AB 939; Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of the CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

The California Solid Waste Reuse and Recycling Access Act (AB 1327; Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2019 CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014, Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

## **Water Efficiency Regulations**

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including

irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

## Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.<sup>85</sup>

## SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, South Coast AQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency<sup>86</sup>:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.
- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD requires an assessment of GHG emissions. South Coast AQMD is proposing a screening-

---

<sup>85</sup> The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

<sup>86</sup> South Coast Air Quality Management District (South Coast AQMD). 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf).

level threshold of 3,000 MTCO<sub>2</sub>e annually for all land use types or the following land-use-specific thresholds: 1,400 MTCO<sub>2</sub>e for commercial projects, 3,500 MTCO<sub>2</sub>e for residential projects, or 3,000 MTCO<sub>2</sub>e for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions.<sup>87</sup>

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

The South Coast AQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 MTCO<sub>2</sub>e per year per service population (MTCO<sub>2</sub>e/year/SP) for project-level analyses and 6.6 MTCO<sub>2</sub>e/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.<sup>88</sup> The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.<sup>89</sup>

For purposes of this analysis, because the proposed project has an anticipated opening year post-2020, the bright-line screening-level criterion of 3,000 MTCO<sub>2</sub>e/yr is used as the significance threshold for this project. Therefore, if the project operation-phase emissions exceed the 3,000 MTCO<sub>2</sub>e/yr threshold, GHG emissions would be considered potentially significant in the absence of mitigation measures.

---

<sup>87</sup> South Coast Air Quality Management District (South Coast AQMD). 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf).

<sup>88</sup> It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

<sup>89</sup> South Coast AQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

# Regional Construction Emissions Worksheet - Unmitigated

\*CalEEMod, Version 2020.4.0

| Building Demolition |               |  | ROG           | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total   |
|---------------------|---------------|--|---------------|---------------|---------------|-----------------|---------------|---------------|
| <b>2022 Summer</b>  |               |  |               |               |               |                 |               |               |
| Onsite              | Fugitive Dust |  |               |               |               |                 | 0.0953        | 0.0144        |
|                     | Off-Road      |  | 0.3456        | 3.2204        | 3.7849        | 0.0125          | 0.1119        | 0.103         |
|                     | <b>Total</b>  |  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b>   | <b>0.2072</b> | <b>0.1174</b> |
| Offsite             | Hauling       |  | 2.56E-03      | 0.078         | 0.0249        | 2.60E-04        | 6.77E-03      | 2.20E-03      |
|                     | Vendor        |  | 3.94E-03      | 0.098         | 0.0336        | 3.90E-04        | 0.0129        | 4.38E-03      |
|                     | Worker        |  | 0.0173        | 0.0126        | 0.1968        | 5.10E-04        | 0.0519        | 0.0141        |
|                     | <b>Total</b>  |  | <b>0.0238</b> | <b>0.1886</b> | <b>0.2552</b> | <b>1.16E-03</b> | <b>0.0716</b> | <b>0.0207</b> |
| <b>TOTAL</b>        |               |  | <b>0.37</b>   | <b>3.41</b>   | <b>4.04</b>   | <b>0.01</b>     | <b>0.28</b>   | <b>0.14</b>   |
| <b>2022 Winter</b>  |               |  |               |               |               |                 |               |               |
| Onsite              | Fugitive Dust |  |               |               |               |                 | 0.0953        | 0.0144        |
|                     | Off-Road      |  | 0.3456        | 3.2204        | 3.7849        | 0.0125          | 0.1119        | 0.103         |
|                     | <b>Total</b>  |  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b>   | <b>0.2072</b> | <b>0.1174</b> |
| Offsite             | Hauling       |  | 2.44E-03      | 0.0813        | 0.0256        | 2.60E-04        | 6.77E-03      | 2.21E-03      |
|                     | Vendor        |  | 3.89E-03      | 0.102         | 0.0348        | 3.90E-04        | 0.0129        | 4.38E-03      |
|                     | Worker        |  | 0.0185        | 0.014         | 0.1807        | 4.80E-04        | 0.0519        | 0.0141        |
|                     | <b>Total</b>  |  | <b>0.0249</b> | <b>0.1973</b> | <b>0.2411</b> | <b>1.13E-03</b> | <b>0.0716</b> | <b>0.0207</b> |
| <b>TOTAL</b>        |               |  | <b>0.37</b>   | <b>3.42</b>   | <b>4.03</b>   | <b>0.01</b>     | <b>0.28</b>   | <b>0.13</b>   |
| <b>2022</b>         |               |  |               |               |               |                 |               |               |
| Onsite              | Fugitive Dust |  | 0.00          | 0.00          | 0.00          | 0.00            | 0.10          | 0.01          |
|                     | Off-Road      |  | 0.35          | 3.22          | 3.78          | 0.01            | 0.11          | 0.10          |
|                     | <b>Total</b>  |  | <b>0.35</b>   | <b>3.22</b>   | <b>3.78</b>   | <b>0.01</b>     | <b>0.21</b>   | <b>0.12</b>   |
| Offsite             | Hauling       |  | 0.00          | 0.08          | 0.03          | 0.00            | 0.01          | 0.00          |
|                     | Vendor        |  | 0.00          | 0.10          | 0.03          | 0.00            | 0.01          | 0.00          |
|                     | Worker        |  | 0.02          | 0.01          | 0.20          | 0.00            | 0.05          | 0.01          |
|                     | <b>Total</b>  |  | <b>0.02</b>   | <b>0.20</b>   | <b>0.26</b>   | <b>0.00</b>     | <b>0.07</b>   | <b>0.02</b>   |
| <b>TOTAL</b>        |               |  | <b>0.37</b>   | <b>3.42</b>   | <b>4.04</b>   | <b>0.01</b>     | <b>0.28</b>   | <b>0.14</b>   |

| Asphalt Demolition |               |  | ROG           | NOx           | CO            | SO2           | PM10 Total    | PM2.5 Total   |
|--------------------|---------------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>2022 Summer</b> |               |  |               |               |               |               |               |               |
| Onsite             | Fugitive Dust |  |               |               |               |               | 1.2922        | 0.1957        |
|                    | Off-Road      |  | 0.3456        | 3.2204        | 3.7849        | 0.0125        | 0.1119        | 0.103         |
|                    | <b>Total</b>  |  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>1.4041</b> | <b>0.2986</b> |
| Offsite            | Hauling       |  | 0.0868        | 3.2426        | 0.7027        | 0.0122        | 0.3502        | 0.1136        |
|                    | Vendor        |  | 3.94E-03      | 0.098         | 0.0336        | 3.90E-04      | 0.0129        | 4.38E-03      |
|                    | Worker        |  | 0.0173        | 0.0126        | 0.1968        | 5.10E-04      | 0.0519        | 0.0141        |
|                    | <b>Total</b>  |  | <b>0.108</b>  | <b>3.3532</b> | <b>0.9331</b> | <b>0.0131</b> | <b>0.4149</b> | <b>0.1321</b> |
| <b>TOTAL</b>       |               |  | <b>0.45</b>   | <b>6.57</b>   | <b>4.72</b>   | <b>0.03</b>   | <b>1.82</b>   | <b>0.43</b>   |
| <b>2022 Winter</b> |               |  |               |               |               |               |               |               |
| Onsite             | Fugitive Dust |  |               |               |               |               | 1.2922        | 0.1957        |
|                    | Off-Road      |  | 0.3456        | 3.2204        | 3.7849        | 0.0125        | 0.1119        | 0.103         |
|                    | <b>Total</b>  |  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>1.4041</b> | <b>0.2986</b> |
| Offsite            | Hauling       |  | 0.0852        | 3.3727        | 0.7123        | 0.0123        | 0.3502        | 0.1136        |

|              |               |               |               |               |               |              |               |
|--------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|
|              | Vendor        | 3.89E-03      | 0.102         | 0.0348        | 3.90E-04      | 0.0129       | 4.38E-03      |
|              | Worker        | 0.0185        | 0.014         | 0.1807        | 4.80E-04      | 0.0519       | 0.0141        |
|              | Total         | <b>0.1076</b> | <b>3.4887</b> | <b>0.9277</b> | <b>0.0131</b> | <b>0.415</b> | <b>0.1321</b> |
| <b>TOTAL</b> |               | <b>0.45</b>   | <b>6.71</b>   | <b>4.71</b>   | <b>0.03</b>   | <b>1.82</b>  | <b>0.31</b>   |
| Onsite       | <b>2022</b>   |               |               |               |               |              |               |
|              | Fugitive Dust | 0.00          | 0.00          | 0.00          | 0.00          | 1.29         | 0.20          |
|              | Off-Road      | 0.35          | 3.22          | 3.78          | 0.01          | 0.11         | 0.10          |
|              | Total         | <b>0.35</b>   | <b>3.22</b>   | <b>3.78</b>   | <b>0.01</b>   | <b>1.40</b>  | <b>0.30</b>   |
| Offsite      |               |               |               |               |               |              |               |
|              | Hauling       | 0.09          | 3.37          | 0.71          | 0.01          | 0.35         | 0.11          |
|              | Vendor        | 0.00          | 0.10          | 0.03          | 0.00          | 0.01         | 0.00          |
|              | Worker        | 0.02          | 0.01          | 0.20          | 0.00          | 0.05         | 0.01          |
|              | Total         | <b>0.11</b>   | <b>3.49</b>   | <b>0.93</b>   | <b>0.01</b>   | <b>0.42</b>  | <b>0.13</b>   |
| <b>TOTAL</b> |               | <b>0.45</b>   | <b>6.71</b>   | <b>4.72</b>   | <b>0.03</b>   | <b>1.82</b>  | <b>0.43</b>   |

### Site Preparation

|              |                    | ROG           | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total   |
|--------------|--------------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite       | <b>2022 Summer</b> |               |               |               |                 |               |               |
|              | Fugitive Dust      |               |               |               |                 | 0.2267        | 0.0245        |
|              | Off-Road           | 0.3826        | 3.7621        | 3.2089        | 4.79E-03        | 0.2101        | 0.1933        |
|              | Total              | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.79E-03</b> | <b>0.4367</b> | <b>0.2177</b> |
| Offsite      |                    |               |               |               |                 |               |               |
|              | Hauling            | 0             | 0             | 0             | 0               | 0             | 0             |
|              | Vendor             | 3.94E-03      | 0.098         | 0.0336        | 3.90E-04        | 0.0129        | 4.38E-03      |
|              | Worker             | 0.0104        | 7.58E-03      | 0.1181        | 3.10E-04        | 0.0311        | 8.45E-03      |
|              | Total              | <b>0.0143</b> | <b>0.1056</b> | <b>0.1517</b> | <b>7.00E-04</b> | <b>0.044</b>  | <b>0.0128</b> |
| <b>TOTAL</b> |                    | <b>0.40</b>   | <b>3.87</b>   | <b>3.36</b>   | <b>0.01</b>     | <b>0.48</b>   | <b>0.23</b>   |
| Onsite       | <b>2022 Winter</b> |               |               |               |                 |               |               |
|              | Fugitive Dust      |               |               |               |                 | 0.2267        | 0.0245        |
|              | Off-Road           | 0.3826        | 3.7621        | 3.2089        | 4.79E-03        | 0.2101        | 0.1933        |
|              | Total              | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.79E-03</b> | <b>0.4367</b> | <b>0.2177</b> |
| Offsite      |                    |               |               |               |                 |               |               |
|              | Hauling            | 0             | 0             | 0             | 0               | 0             | 0             |
|              | Vendor             | 3.89E-03      | 0.102         | 0.0348        | 3.90E-04        | 0.0129        | 4.38E-03      |
|              | Worker             | 0.0111        | 8.37E-03      | 0.1084        | 2.90E-04        | 0.0311        | 8.45E-03      |
|              | Total              | <b>0.015</b>  | <b>0.1104</b> | <b>0.1432</b> | <b>6.80E-04</b> | <b>0.0441</b> | <b>0.0128</b> |
| <b>TOTAL</b> |                    | <b>0.40</b>   | <b>3.87</b>   | <b>3.35</b>   | <b>0.01</b>     | <b>0.48</b>   | <b>0.23</b>   |
| Onsite       | <b>2022</b>        |               |               |               |                 |               |               |
|              | Fugitive Dust      | 0.00          | 0.00          | 0.00          | 0.00            | 0.23          | 0.02          |
|              | Off-Road           | 0.38          | 3.76          | 3.21          | 0.00            | 0.21          | 0.19          |
|              | Total              | <b>0.38</b>   | <b>3.76</b>   | <b>3.21</b>   | <b>0.00</b>     | <b>0.44</b>   | <b>0.22</b>   |
| Offsite      |                    |               |               |               |                 |               |               |
|              | Hauling            | 0.00          | 0.00          | 0.00          | 0.00            | 0.00          | 0.00          |
|              | Vendor             | 0.00          | 0.10          | 0.03          | 0.00            | 0.01          | 0.00          |
|              | Worker             | 0.01          | 0.01          | 0.12          | 0.00            | 0.03          | 0.01          |
|              | Total              | <b>0.02</b>   | <b>0.11</b>   | <b>0.15</b>   | <b>0.00</b>     | <b>0.04</b>   | <b>0.01</b>   |
| <b>TOTAL</b> |                    | <b>0.40</b>   | <b>3.87</b>   | <b>3.36</b>   | <b>0.01</b>     | <b>0.48</b>   | <b>0.23</b>   |

### Building Construction

|         |                    | ROG           | NOx           | CO            | SO2           | PM10 Total   | PM2.5 Total   |
|---------|--------------------|---------------|---------------|---------------|---------------|--------------|---------------|
| Onsite  | <b>2022 Summer</b> |               |               |               |               |              |               |
|         | Off-Road           | 0.6259        | 6.5142        | 9.7087        | 0.0149        | 0.279        | 0.2567        |
|         | Total              | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> | <b>0.279</b> | <b>0.2567</b> |
| Offsite |                    |               |               |               |               |              |               |

|              |         |               |              |               |               |               |              |
|--------------|---------|---------------|--------------|---------------|---------------|---------------|--------------|
|              | Hauling | 0             | 0            | 0             | 0             | 0             | 0            |
|              | Vendor  | 0.0767        | 1.9104       | 0.655         | 7.64E-03      | 0.252         | 0.0854       |
|              | Worker  | 0.346         | 0.2526       | 3.9358        | 0.0102        | 1.0375        | 0.2816       |
|              | Total   | <b>0.4227</b> | <b>2.163</b> | <b>4.5908</b> | <b>0.0179</b> | <b>1.2895</b> | <b>0.367</b> |
| <b>TOTAL</b> |         | <b>1.05</b>   | <b>8.68</b>  | <b>14.30</b>  | <b>0.03</b>   | <b>1.57</b>   | <b>0.62</b>  |

|        |                    |               |               |               |               |              |               |
|--------|--------------------|---------------|---------------|---------------|---------------|--------------|---------------|
| Onsite | <b>2022 Winter</b> |               |               |               |               |              |               |
|        | Off-Road           | 0.6259        | 6.5142        | 9.7087        | 0.0149        | 0.279        | 0.2567        |
|        | Total              | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> | <b>0.279</b> | <b>0.2567</b> |

|              |         |               |               |               |               |               |              |
|--------------|---------|---------------|---------------|---------------|---------------|---------------|--------------|
| Offsite      | Hauling | 0             | 0             | 0             | 0             | 0             | 0            |
|              | Vendor  | 0.0758        | 1.9891        | 0.6776        | 7.64E-03      | 0.2521        | 0.0855       |
|              | Worker  | 0.3704        | 0.2791        | 3.6137        | 9.68E-03      | 1.0375        | 0.2816       |
|              | Total   | <b>0.4462</b> | <b>2.2682</b> | <b>4.2913</b> | <b>0.0173</b> | <b>1.2895</b> | <b>0.367</b> |
| <b>TOTAL</b> |         | <b>1.07</b>   | <b>8.78</b>   | <b>14.00</b>  | <b>0.03</b>   | <b>1.57</b>   | <b>0.62</b>  |

|        |             |             |             |             |             |             |             |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Onsite | <b>2022</b> |             |             |             |             |             |             |
|        | Off-Road    | 0.63        | 6.51        | 9.71        | 0.01        | 0.28        | 0.26        |
|        | Total       | <b>0.63</b> | <b>6.51</b> | <b>9.71</b> | <b>0.01</b> | <b>0.28</b> | <b>0.26</b> |

|              |         |             |             |              |             |             |             |
|--------------|---------|-------------|-------------|--------------|-------------|-------------|-------------|
| Offsite      | Hauling | 0.00        | 0.00        | 0.00         | 0.00        | 0.00        | 0.00        |
|              | Vendor  | 0.08        | 1.99        | 0.68         | 0.01        | 0.25        | 0.09        |
|              | Worker  | 0.37        | 0.28        | 3.94         | 0.01        | 1.04        | 0.28        |
|              | Total   | <b>0.45</b> | <b>2.27</b> | <b>4.59</b>  | <b>0.02</b> | <b>1.29</b> | <b>0.37</b> |
| <b>TOTAL</b> |         | <b>1.07</b> | <b>8.78</b> | <b>14.30</b> | <b>0.03</b> | <b>1.57</b> | <b>0.62</b> |

**Rough Grading**

|        |                    | ROG          | NOx            | CO             | SO2           | PM10 Total    | PM2.5 Total   |
|--------|--------------------|--------------|----------------|----------------|---------------|---------------|---------------|
| Onsite | <b>2022 Summer</b> |              |                |                |               |               |               |
|        | Fugitive Dust      |              |                |                |               | 1.1662        | 0.1274        |
|        | Off-Road           | 4.295        | 47.4838        | 32.7612        | 0.0786        | 1.8373        | 1.6903        |
|        | Total              | <b>4.295</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>3.0036</b> | <b>1.8177</b> |

|              |         |               |                |               |               |               |               |
|--------------|---------|---------------|----------------|---------------|---------------|---------------|---------------|
| Offsite      | Hauling | 0.754         | 27.8603        | 6.1783        | 0.1046        | 2.9793        | 0.9668        |
|              | Vendor  | 3.94E-03      | 0.098          | 0.0336        | 3.90E-04      | 0.0129        | 4.38E-03      |
|              | Worker  | 0.0519        | 0.0379         | 0.5904        | 1.53E-03      | 0.1556        | 0.0422        |
|              | Total   | <b>0.8099</b> | <b>27.9962</b> | <b>6.8023</b> | <b>0.1065</b> | <b>3.1478</b> | <b>1.0134</b> |
| <b>TOTAL</b> |         | <b>5.10</b>   | <b>75.48</b>   | <b>39.56</b>  | <b>0.19</b>   | <b>6.15</b>   | <b>2.83</b>   |

|        |                    |              |                |                |               |               |               |
|--------|--------------------|--------------|----------------|----------------|---------------|---------------|---------------|
| Onsite | <b>2022 Winter</b> |              |                |                |               |               |               |
|        | Fugitive Dust      |              |                |                |               | 1.1662        | 0.1274        |
|        | Off-Road           | 4.295        | 47.4838        | 32.7612        | 0.0786        | 1.8373        | 1.6903        |
|        | Total              | <b>4.295</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>3.0036</b> | <b>1.8177</b> |

|              |         |               |                |               |               |               |               |
|--------------|---------|---------------|----------------|---------------|---------------|---------------|---------------|
| Offsite      | Hauling | 0.7388        | 28.9822        | 6.2707        | 0.1046        | 2.9796        | 0.9671        |
|              | Vendor  | 3.89E-03      | 0.102          | 0.0348        | 3.90E-04      | 0.0129        | 4.38E-03      |
|              | Worker  | 0.0556        | 0.0419         | 0.5421        | 1.45E-03      | 0.1556        | 0.0422        |
|              | Total   | <b>0.7983</b> | <b>29.1261</b> | <b>6.8475</b> | <b>0.1064</b> | <b>3.1482</b> | <b>1.0137</b> |
| <b>TOTAL</b> |         | <b>5.09</b>   | <b>76.61</b>   | <b>39.61</b>  | <b>0.19</b>   | <b>6.15</b>   | <b>1.86</b>   |

|        |               |             |              |              |             |             |             |
|--------|---------------|-------------|--------------|--------------|-------------|-------------|-------------|
| Onsite | <b>2022</b>   |             |              |              |             |             |             |
|        | Fugitive Dust | 0.00        | 0.00         | 0.00         | 0.00        | 1.17        | 0.13        |
|        | Off-Road      | 4.30        | 47.48        | 32.76        | 0.08        | 1.84        | 1.69        |
|        | Total         | <b>4.30</b> | <b>47.48</b> | <b>32.76</b> | <b>0.08</b> | <b>3.00</b> | <b>1.82</b> |

|         |         |      |       |      |      |      |      |
|---------|---------|------|-------|------|------|------|------|
| Offsite | Hauling | 0.75 | 28.98 | 6.27 | 0.10 | 2.98 | 0.97 |
|         | Vendor  | 0.00 | 0.10  | 0.03 | 0.00 | 0.01 | 0.00 |

|              |        |             |              |              |             |             |             |
|--------------|--------|-------------|--------------|--------------|-------------|-------------|-------------|
|              | Worker | 0.06        | 0.04         | 0.59         | 0.00        | 0.16        | 0.04        |
|              | Total  | <b>0.81</b> | <b>29.13</b> | <b>6.85</b>  | <b>0.11</b> | <b>3.15</b> | <b>1.01</b> |
| <b>TOTAL</b> |        | <b>5.10</b> | <b>76.61</b> | <b>39.61</b> | <b>0.19</b> | <b>6.15</b> | <b>2.83</b> |

### Utility Trenching

|        |                    | ROG           | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total   |
|--------|--------------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite | <b>2022 Summer</b> |               |               |               |                 |               |               |
|        | Off-Road           | 0.2368        | 2.4086        | 3.2169        | 4.47E-03        | 0.1295        | 0.1192        |
|        | Total              | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.47E-03</b> | <b>0.1295</b> | <b>0.1192</b> |

|              |         |               |               |               |                 |               |               |
|--------------|---------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Offsite      | Hauling | 0             | 0             | 0             | 0               | 0             | 0             |
|              | Vendor  | 0             | 0             | 0             | 0               | 0             | 0             |
|              | Worker  | 0.0173        | 0.0126        | 0.1968        | 5.10E-04        | 0.0519        | 0.0141        |
|              | Total   | <b>0.0173</b> | <b>0.0126</b> | <b>0.1968</b> | <b>5.10E-04</b> | <b>0.0519</b> | <b>0.0141</b> |
| <b>TOTAL</b> |         | <b>0.25</b>   | <b>2.42</b>   | <b>3.41</b>   | <b>0.00</b>     | <b>0.18</b>   | <b>0.13</b>   |

|        |                    |               |               |               |                 |               |               |
|--------|--------------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite | <b>2022 Winter</b> |               |               |               |                 |               |               |
|        | Off-Road           | 0.2368        | 2.4086        | 3.2169        | 4.47E-03        | 0.1295        | 0.1192        |
|        | Total              | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.47E-03</b> | <b>0.1295</b> | <b>0.1192</b> |

|              |         |               |              |               |                 |               |               |
|--------------|---------|---------------|--------------|---------------|-----------------|---------------|---------------|
| Offsite      | Hauling | 0             | 0            | 0             | 0               | 0             | 0             |
|              | Vendor  | 0             | 0            | 0             | 0               | 0             | 0             |
|              | Worker  | 0.0185        | 0.014        | 0.1807        | 4.80E-04        | 0.0519        | 0.0141        |
|              | Total   | <b>0.0185</b> | <b>0.014</b> | <b>0.1807</b> | <b>4.80E-04</b> | <b>0.0519</b> | <b>0.0141</b> |
| <b>TOTAL</b> |         | <b>0.26</b>   | <b>2.42</b>  | <b>3.40</b>   | <b>0.00</b>     | <b>0.18</b>   | <b>0.13</b>   |

|        |             |             |             |             |             |             |             |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Onsite | <b>2022</b> |             |             |             |             |             |             |
|        | Off-Road    | 0.24        | 2.41        | 3.22        | 0.00        | 0.13        | 0.12        |
|        | Total       | <b>0.24</b> | <b>2.41</b> | <b>3.22</b> | <b>0.00</b> | <b>0.13</b> | <b>0.12</b> |

|              |         |             |             |             |             |             |             |
|--------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|
| Offsite      | Hauling | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Vendor  | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Worker  | 0.02        | 0.01        | 0.20        | 0.00        | 0.05        | 0.01        |
|              | Total   | <b>0.02</b> | <b>0.01</b> | <b>0.20</b> | <b>0.00</b> | <b>0.05</b> | <b>0.01</b> |
| <b>TOTAL</b> |         | <b>0.26</b> | <b>2.42</b> | <b>3.41</b> | <b>0.00</b> | <b>0.18</b> | <b>0.13</b> |

### Fine Grading

|        |                    | ROG           | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total  |
|--------|--------------------|---------------|---------------|---------------|-----------------|---------------|--------------|
| Onsite | <b>2022 Summer</b> |               |               |               |                 |               |              |
|        | Fugitive Dust      |               |               |               |                 | 0             | 0            |
|        | Off-Road           | 0.3123        | 2.3606        | 2.8848        | 3.84E-03        | 0.1337        | 0.123        |
|        | Total              | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.84E-03</b> | <b>0.1337</b> | <b>0.123</b> |

|              |         |               |               |               |                 |               |               |
|--------------|---------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Offsite      | Hauling | 0             | 0             | 0             | 0               | 0             | 0             |
|              | Vendor  | 3.94E-03      | 0.098         | 0.0336        | 3.90E-04        | 0.0129        | 4.38E-03      |
|              | Worker  | 0.0173        | 0.0126        | 0.1968        | 5.10E-04        | 0.0519        | 0.0141        |
|              | Total   | <b>0.0212</b> | <b>0.1106</b> | <b>0.2304</b> | <b>9.00E-04</b> | <b>0.0648</b> | <b>0.0185</b> |
| <b>TOTAL</b> |         | <b>0.33</b>   | <b>2.47</b>   | <b>3.12</b>   | <b>0.00</b>     | <b>0.20</b>   | <b>0.14</b>   |

|        |                    |               |               |               |                 |               |              |
|--------|--------------------|---------------|---------------|---------------|-----------------|---------------|--------------|
| Onsite | <b>2022 Winter</b> |               |               |               |                 |               |              |
|        | Fugitive Dust      |               |               |               |                 | 0             | 0            |
|        | Off-Road           | 0.3123        | 2.3606        | 2.8848        | 3.84E-03        | 0.1337        | 0.123        |
|        | Total              | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.84E-03</b> | <b>0.1337</b> | <b>0.123</b> |

|         |         |          |       |        |          |        |          |
|---------|---------|----------|-------|--------|----------|--------|----------|
| Offsite | Hauling | 0        | 0     | 0      | 0        | 0      | 0        |
|         | Vendor  | 3.89E-03 | 0.102 | 0.0348 | 3.90E-04 | 0.0129 | 4.38E-03 |
|         | Worker  | 0.0185   | 0.014 | 0.1807 | 4.80E-04 | 0.0519 | 0.0141   |

|              |               |             |             |             |             |             |             |
|--------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
|              | Total         | 0.0224      | 0.116       | 0.2154      | 8.70E-04    | 0.0648      | 0.0185      |
| <b>TOTAL</b> |               | <b>0.33</b> | <b>2.48</b> | <b>3.10</b> | <b>0.00</b> | <b>0.20</b> | <b>0.14</b> |
| Onsite       | <b>2022</b>   |             |             |             |             |             |             |
|              | Fugitive Dust | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Off-Road      | 0.31        | 2.36        | 2.88        | 0.00        | 0.13        | 0.12        |
|              | Total         | <b>0.31</b> | <b>2.36</b> | <b>2.88</b> | <b>0.00</b> | <b>0.13</b> | <b>0.12</b> |
| Offsite      |               |             |             |             |             |             |             |
|              | Hauling       | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Vendor        | 0.00        | 0.10        | 0.03        | 0.00        | 0.01        | 0.00        |
|              | Worker        | 0.02        | 0.01        | 0.20        | 0.00        | 0.05        | 0.01        |
|              | Total         | <b>0.02</b> | <b>0.12</b> | <b>0.23</b> | <b>0.00</b> | <b>0.06</b> | <b>0.02</b> |
| <b>TOTAL</b> |               | <b>0.33</b> | <b>2.48</b> | <b>3.12</b> | <b>0.00</b> | <b>0.20</b> | <b>0.14</b> |

### Architectural Coating

|              |                    | ROG            | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total   |
|--------------|--------------------|----------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite       | <b>2022 Summer</b> |                |               |               |                 |               |               |
|              | Archit. Coating    | 58.7508        |               |               |                 | 0             | 0             |
|              | Off-Road           | 0.3316         | 3.3828        | 5.6686        | 8.89E-03        | 0.1184        | 0.1154        |
|              | Total              | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.89E-03</b> | <b>0.1184</b> | <b>0.1154</b> |
| Offsite      |                    |                |               |               |                 |               |               |
|              | Hauling            | 0              | 0             | 0             | 0               | 0             | 0             |
|              | Vendor             | 0              | 0             | 0             | 0               | 0             | 0             |
|              | Worker             | 0.0692         | 0.0505        | 0.7872        | 2.04E-03        | 0.2075        | 0.0563        |
|              | Total              | <b>0.0692</b>  | <b>0.0505</b> | <b>0.7872</b> | <b>2.04E-03</b> | <b>0.2075</b> | <b>0.0563</b> |
| <b>TOTAL</b> |                    | <b>59.15</b>   | <b>3.43</b>   | <b>6.46</b>   | <b>0.01</b>     | <b>0.33</b>   | <b>0.17</b>   |

|              |                    |                |               |               |                 |               |               |
|--------------|--------------------|----------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite       | <b>2022 Winter</b> |                |               |               |                 |               |               |
|              | Archit. Coating    | 58.7508        |               |               |                 | 0             | 0             |
|              | Off-Road           | 0.3316         | 3.3828        | 5.6686        | 8.89E-03        | 0.1184        | 0.1154        |
|              | Total              | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.89E-03</b> | <b>0.1184</b> | <b>0.1154</b> |
| Offsite      |                    |                |               |               |                 |               |               |
|              | Hauling            | 0              | 0             | 0             | 0               | 0             | 0             |
|              | Vendor             | 0              | 0             | 0             | 0               | 0             | 0             |
|              | Worker             | 0.0741         | 0.0558        | 0.7227        | 1.94E-03        | 0.2075        | 0.0563        |
|              | Total              | <b>0.0741</b>  | <b>0.0558</b> | <b>0.7227</b> | <b>1.94E-03</b> | <b>0.2075</b> | <b>0.0563</b> |
| <b>TOTAL</b> |                    | <b>59.16</b>   | <b>3.44</b>   | <b>6.39</b>   | <b>0.01</b>     | <b>0.33</b>   | <b>0.17</b>   |

|              |                 |              |             |             |             |             |             |
|--------------|-----------------|--------------|-------------|-------------|-------------|-------------|-------------|
| Onsite       | <b>2022</b>     |              |             |             |             |             |             |
|              | Archit. Coating | 58.75        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Off-Road        | 0.33         | 3.38        | 5.67        | 0.01        | 0.12        | 0.12        |
|              | Total           | <b>59.08</b> | <b>3.38</b> | <b>5.67</b> | <b>0.01</b> | <b>0.12</b> | <b>0.12</b> |
| Offsite      |                 |              |             |             |             |             |             |
|              | Hauling         | 0.00         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Vendor          | 0.00         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Worker          | 0.07         | 0.06        | 0.79        | 0.00        | 0.21        | 0.06        |
|              | Total           | <b>0.07</b>  | <b>0.06</b> | <b>0.79</b> | <b>0.00</b> | <b>0.21</b> | <b>0.06</b> |
| <b>TOTAL</b> |                 | <b>59.16</b> | <b>3.44</b> | <b>6.46</b> | <b>0.01</b> | <b>0.33</b> | <b>0.17</b> |

### Finishing/Landscaping

|         |                    | ROG           | NOx           | CO            | SO2             | PM10 Total    | PM2.5 Total   |
|---------|--------------------|---------------|---------------|---------------|-----------------|---------------|---------------|
| Onsite  | <b>2022 Summer</b> |               |               |               |                 |               |               |
|         | Off-Road           | 0.1341        | 1.3647        | 1.8227        | 2.53E-03        | 0.0734        | 0.0675        |
|         | Total              | <b>0.1341</b> | <b>1.3647</b> | <b>1.8227</b> | <b>2.53E-03</b> | <b>0.0734</b> | <b>0.0675</b> |
| Offsite |                    |               |               |               |                 |               |               |
|         | Hauling            | 0             | 0             | 0             | 0               | 0             | 0             |
|         | Vendor             | 0             | 0             | 0             | 0               | 0             | 0             |

|              |        |               |                 |               |                 |               |                 |
|--------------|--------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
|              | Worker | 0.0104        | 7.58E-03        | 0.1181        | 3.10E-04        | 0.0311        | 8.45E-03        |
|              | Total  | <b>0.0104</b> | <b>7.58E-03</b> | <b>0.1181</b> | <b>3.10E-04</b> | <b>0.0311</b> | <b>8.45E-03</b> |
| <b>TOTAL</b> |        | <b>0.14</b>   | <b>1.37</b>     | <b>1.94</b>   | <b>0.00</b>     | <b>0.10</b>   | <b>0.08</b>     |

|          |                    |               |               |                 |               |               |  |
|----------|--------------------|---------------|---------------|-----------------|---------------|---------------|--|
| Onsite   | <b>2022 Winter</b> |               |               |                 |               |               |  |
| Off-Road | 0.1341             | 1.3647        | 1.8227        | 2.53E-03        | 0.0734        | 0.0675        |  |
| Total    | <b>0.1341</b>      | <b>1.3647</b> | <b>1.8227</b> | <b>2.53E-03</b> | <b>0.0734</b> | <b>0.0675</b> |  |

|              |         |               |                 |               |                 |               |                 |
|--------------|---------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| Offsite      | Hauling | 0             | 0               | 0             | 0               | 0             | 0               |
|              | Vendor  | 0             | 0               | 0             | 0               | 0             | 0               |
|              | Worker  | 0.0111        | 8.37E-03        | 0.1084        | 2.90E-04        | 0.0311        | 8.45E-03        |
| <b>TOTAL</b> | Total   | <b>0.0111</b> | <b>8.37E-03</b> | <b>0.1084</b> | <b>2.90E-04</b> | <b>0.0311</b> | <b>8.45E-03</b> |
|              |         | <b>0.15</b>   | <b>1.37</b>     | <b>1.93</b>   | <b>0.00</b>     | <b>0.10</b>   | <b>0.08</b>     |

|              |             |             |             |             |             |             |             |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Onsite       | <b>2022</b> |             |             |             |             |             |             |
| Off-Road     | 0.13        | 1.36        | 1.82        | 0.00        | 0.07        | 0.07        |             |
| Total        | <b>0.13</b> | <b>1.36</b> | <b>1.82</b> | <b>0.00</b> | <b>0.07</b> | <b>0.07</b> |             |
| Offsite      | Hauling     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Vendor      | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Worker      | 0.01        | 0.01        | 0.12        | 0.00        | 0.03        | 0.01        |
| <b>TOTAL</b> | Total       | <b>0.01</b> | <b>0.01</b> | <b>0.12</b> | <b>0.00</b> | <b>0.03</b> | <b>0.01</b> |
|              |             | <b>0.15</b> | <b>1.37</b> | <b>1.94</b> | <b>0.00</b> | <b>0.10</b> | <b>0.08</b> |

|   | ROG       | NOx        | CO         | SO2        | PM10 Total | PM2.5 Total |
|---|-----------|------------|------------|------------|------------|-------------|
| Building Demolition                                       | 0.37      | 3.42       | 4.04       | 0.01       | 0.28       | 0.14        |
| Building Demolition & Asphalt Demolition                  | 0.82      | 10.13      | 8.76       | 0.04       | 2.10       | 0.57        |
| Building Demolition                                       | 0.37      | 3.42       | 4.04       | 0.01       | 0.28       | 0.14        |
| Site Preparation  | 0.40      | 3.87       | 3.36       | 0.01       | 0.48       | 0.23        |
| Site Preparation & Building Construction                  | 1.47      | 12.65      | 17.66      | 0.04       | 2.05       | 0.85        |
| Site Preparation, Building Construction, & Rough Grading  | 6.57      | 89.26      | 57.27      | 0.22       | 8.20       | 3.69        |
| Building Construction & Rough Grading                     | 6.18      | 85.39      | 53.91      | 0.22       | 7.72       | 3.45        |
| Building Construction, Rough Grading, & Utility Trenching | 6.43      | 87.81      | 57.32      | 0.22       | 7.90       | 3.59        |
| Building Construction & Utility Trenching                 | 1.33      | 11.21      | 17.71      | 0.04       | 1.75       | 0.76        |
| Building Construction                                     | 1.07      | 8.78       | 14.30      | 0.03       | 1.57       | 0.62        |
| Building Construction & Fine Grading                      | 1.41      | 11.26      | 17.41      | 0.04       | 1.77       | 0.77        |
| Building Construction & Architectural Coating             | 60.23     | 12.22      | 20.76      | 0.04       | 1.89       | 0.80        |
| Building Construction & Finishing/Landscaping             | 1.22      | 10.16      | 16.24      | 0.04       | 1.67       | 0.70        |
| Finishing/Landscaping                                     | 0.15      | 1.37       | 1.94       | 0.00       | 0.10       | 0.08        |
| <b>MAX DAILY</b>  | <b>60</b> | <b>89</b>  | <b>57</b>  | <b>0</b>   | <b>8</b>   | <b>4</b>    |
| <b>Regional Thresholds</b>                                | <b>75</b> | <b>100</b> | <b>550</b> | <b>150</b> | <b>150</b> | <b>55</b>   |
| Exceeds Thresholds?                                       | No        | No         | No         | No         | No         | No          |

# Localized Construction Emissions Worksheet - Unmitigated

\*CalEEMod, Version 2020.4.0

## Building Demolition

|              |               | NOx                | CO            | PM10 Total    | PM2.5 Total   |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| Onsite       |               | <b>2022 Summer</b> |               |               |               |
|              | Fugitive Dust |                    |               | 0.0953        | 0.0144        |
|              | Off-Road      | 3.2204             | 3.7849        | 0.1119        | 0.103         |
|              | Total         | <b>3.2204</b>      | <b>3.7849</b> | <b>0.2072</b> | <b>0.1174</b> |
| <b>TOTAL</b> |               | <b>3.22</b>        | <b>3.78</b>   | <b>0.21</b>   | <b>0.12</b>   |

|              |               |                    |               |               |               |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| Onsite       |               | <b>2022 Winter</b> |               |               |               |
|              | Fugitive Dust |                    |               | 0.0953        | 0.0144        |
|              | Off-Road      | 3.2204             | 3.7849        | 0.1119        | 0.103         |
|              | Total         | <b>3.2204</b>      | <b>3.7849</b> | <b>0.2072</b> | <b>0.1174</b> |
| <b>TOTAL</b> |               | <b>3.22</b>        | <b>3.78</b>   | <b>0.21</b>   | <b>0.12</b>   |

|              |               |             |             |             |             |
|--------------|---------------|-------------|-------------|-------------|-------------|
| Onsite       |               | <b>2022</b> |             |             |             |
|              | Fugitive Dust | 0.00        | 0.00        | 0.10        | 0.01        |
|              | Off-Road      | 3.22        | 3.78        | 0.11        | 0.10        |
|              | Total         | <b>3.22</b> | <b>3.78</b> | <b>0.21</b> | <b>0.12</b> |
| <b>TOTAL</b> |               | <b>3.22</b> | <b>3.78</b> | <b>0.21</b> | <b>0.12</b> |

## Asphalt Demolition

|              |               | NOx                | CO            | PM10 Total    | PM2.5 Total   |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| Onsite       |               | <b>2022 Summer</b> |               |               |               |
|              | Fugitive Dust |                    |               | 1.2922        | 0.1957        |
|              | Off-Road      | 3.2204             | 3.7849        | 0.1119        | 0.103         |
|              | Total         | <b>3.2204</b>      | <b>3.7849</b> | <b>1.4041</b> | <b>0.2986</b> |
| <b>TOTAL</b> |               | <b>3.22</b>        | <b>3.78</b>   | <b>1.40</b>   | <b>0.30</b>   |

|              |               |                    |               |               |               |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| Onsite       |               | <b>2022 Winter</b> |               |               |               |
|              | Fugitive Dust |                    |               | 1.2922        | 0.1957        |
|              | Off-Road      | 3.2204             | 3.7849        | 0.1119        | 0.103         |
|              | Total         | <b>3.2204</b>      | <b>3.7849</b> | <b>1.4041</b> | <b>0.2986</b> |
| <b>TOTAL</b> |               | <b>3.22</b>        | <b>3.78</b>   | <b>1.40</b>   | <b>0.30</b>   |

|              |               |             |             |             |             |
|--------------|---------------|-------------|-------------|-------------|-------------|
| Onsite       |               | <b>2022</b> |             |             |             |
|              | Fugitive Dust | 0.00        | 0.00        | 1.29        | 0.20        |
|              | Off-Road      | 3.22        | 3.78        | 0.11        | 0.10        |
|              | Total         | <b>3.22</b> | <b>3.78</b> | <b>1.40</b> | <b>0.30</b> |
| <b>TOTAL</b> |               | <b>3.22</b> | <b>3.78</b> | <b>1.40</b> | <b>0.30</b> |

### Site Preparation

|              |               | NOx                | CO            | PM10 Total    | PM2.5 Total   |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| Onsite       |               | <b>2022 Summer</b> |               |               |               |
|              | Fugitive Dust |                    |               | 0.2267        | 0.0245        |
|              | Off-Road      | 3.7621             | 3.2089        | 0.2101        | 0.1933        |
|              | Total         | <b>3.7621</b>      | <b>3.2089</b> | <b>0.4367</b> | <b>0.2177</b> |
| <b>TOTAL</b> |               | <b>3.76</b>        | <b>3.21</b>   | <b>0.44</b>   | <b>0.22</b>   |
| Onsite       |               | <b>2022 Winter</b> |               |               |               |
|              | Fugitive Dust |                    |               | 0.2267        | 0.0245        |
|              | Off-Road      | 3.7621             | 3.2089        | 0.2101        | 0.1933        |
|              | Total         | <b>3.7621</b>      | <b>3.2089</b> | <b>0.4367</b> | <b>0.2177</b> |
| <b>TOTAL</b> |               | <b>3.76</b>        | <b>3.21</b>   | <b>0.44</b>   | <b>0.22</b>   |
| Onsite       |               | <b>2022</b>        |               |               |               |
|              | Fugitive Dust | 0.00               | 0.00          | 0.23          | 0.02          |
|              | Off-Road      | 3.76               | 3.21          | 0.21          | 0.19          |
|              | Total         | <b>3.76</b>        | <b>3.21</b>   | <b>0.44</b>   | <b>0.22</b>   |
| <b>TOTAL</b> |               | <b>3.76</b>        | <b>3.21</b>   | <b>0.44</b>   | <b>0.22</b>   |

### Building Construction

|              |          | NOx                | CO            | PM10 Total   | PM2.5 Total   |
|--------------|----------|--------------------|---------------|--------------|---------------|
| Onsite       |          | <b>2022 Summer</b> |               |              |               |
|              | Off-Road | 6.5142             | 9.7087        | 0.279        | 0.2567        |
|              | Total    | <b>6.5142</b>      | <b>9.7087</b> | <b>0.279</b> | <b>0.2567</b> |
| <b>TOTAL</b> |          | <b>6.51</b>        | <b>9.71</b>   | <b>0.28</b>  | <b>0.26</b>   |
| Onsite       |          | <b>2022 Winter</b> |               |              |               |
|              | Off-Road | 6.5142             | 9.7087        | 0.279        | 0.2567        |
|              | Total    | <b>6.5142</b>      | <b>9.7087</b> | <b>0.279</b> | <b>0.2567</b> |
| <b>TOTAL</b> |          | <b>6.51</b>        | <b>9.71</b>   | <b>0.28</b>  | <b>0.26</b>   |
| Onsite       |          | <b>2022</b>        |               |              |               |
|              | Off-Road | 6.51               | 9.71          | 0.28         | 0.26          |
|              | Total    | <b>6.51</b>        | <b>9.71</b>   | <b>0.28</b>  | <b>0.26</b>   |
| <b>TOTAL</b> |          | <b>6.51</b>        | <b>9.71</b>   | <b>0.28</b>  | <b>0.26</b>   |

### Rough Grading

|              |               | NOx                | CO             | PM10 Total    | PM2.5 Total   |
|--------------|---------------|--------------------|----------------|---------------|---------------|
| Onsite       |               | <b>2022 Summer</b> |                |               |               |
|              | Fugitive Dust |                    |                | 1.1662        | 0.1274        |
|              | Off-Road      | 47.4838            | 32.7612        | 1.8373        | 1.6903        |
|              | Total         | <b>47.4838</b>     | <b>32.7612</b> | <b>3.0036</b> | <b>1.8177</b> |
| <b>TOTAL</b> |               | <b>47.48</b>       | <b>32.76</b>   | <b>3.00</b>   | <b>1.82</b>   |

|              |               |                    |              |             |             |
|--------------|---------------|--------------------|--------------|-------------|-------------|
| Onsite       |               | <b>2022 Winter</b> |              |             |             |
|              | Fugitive Dust |                    |              | 1.1662      | 0.1274      |
|              | Off-Road      | 47.4838            | 32.7612      | 1.8373      | 1.6903      |
|              | Total         | 47.4838            | 32.7612      | 3.0036      | 1.8177      |
| <b>TOTAL</b> |               | <b>47.48</b>       | <b>32.76</b> | <b>3.00</b> | <b>1.82</b> |

|              |               |              |              |             |             |
|--------------|---------------|--------------|--------------|-------------|-------------|
| Onsite       |               | <b>2022</b>  |              |             |             |
|              | Fugitive Dust | 0.00         | 0.00         | 1.17        | 0.13        |
|              | Off-Road      | 47.48        | 32.76        | 1.84        | 1.69        |
|              | Total         | 47.48        | 32.76        | 3.00        | 1.82        |
| <b>TOTAL</b> |               | <b>47.48</b> | <b>32.76</b> | <b>3.00</b> | <b>1.82</b> |

**Utility Trenching**

|              |          | NOx                | CO          | PM10 Total  | PM2.5 Total |
|--------------|----------|--------------------|-------------|-------------|-------------|
| Onsite       |          | <b>2022 Summer</b> |             |             |             |
|              | Off-Road | 2.4086             | 3.2169      | 0.1295      | 0.1192      |
|              | Total    | 2.4086             | 3.2169      | 0.1295      | 0.1192      |
| <b>TOTAL</b> |          | <b>2.41</b>        | <b>3.22</b> | <b>0.13</b> | <b>0.12</b> |

|              |          |                    |             |             |             |
|--------------|----------|--------------------|-------------|-------------|-------------|
| Onsite       |          | <b>2022 Winter</b> |             |             |             |
|              | Off-Road | 2.4086             | 3.2169      | 0.1295      | 0.1192      |
|              | Total    | 2.4086             | 3.2169      | 0.1295      | 0.1192      |
| <b>TOTAL</b> |          | <b>2.41</b>        | <b>3.22</b> | <b>0.13</b> | <b>0.12</b> |

|              |          |             |             |             |             |
|--------------|----------|-------------|-------------|-------------|-------------|
| Onsite       |          | <b>2022</b> |             |             |             |
|              | Off-Road | 2.41        | 3.22        | 0.13        | 0.12        |
|              | Total    | 2.41        | 3.22        | 0.13        | 0.12        |
| <b>TOTAL</b> |          | <b>2.41</b> | <b>3.22</b> | <b>0.13</b> | <b>0.12</b> |

**Fine Grading**

|              |               | NOx                | CO          | PM10 Total  | PM2.5 Total |
|--------------|---------------|--------------------|-------------|-------------|-------------|
| Onsite       |               | <b>2022 Summer</b> |             |             |             |
|              | Fugitive Dust |                    |             | 0           | 0           |
|              | Off-Road      | 2.3606             | 2.8848      | 0.1337      | 0.123       |
|              | Total         | 2.3606             | 2.8848      | 0.1337      | 0.123       |
| <b>TOTAL</b> |               | <b>2.36</b>        | <b>2.88</b> | <b>0.13</b> | <b>0.12</b> |

|              |               |                    |             |             |             |
|--------------|---------------|--------------------|-------------|-------------|-------------|
| Onsite       |               | <b>2022 Winter</b> |             |             |             |
|              | Fugitive Dust |                    |             | 0           | 0           |
|              | Off-Road      | 2.3606             | 2.8848      | 0.1337      | 0.123       |
|              | Total         | 2.3606             | 2.8848      | 0.1337      | 0.123       |
| <b>TOTAL</b> |               | <b>2.36</b>        | <b>2.88</b> | <b>0.13</b> | <b>0.12</b> |

|              |               |             |             |             |             |
|--------------|---------------|-------------|-------------|-------------|-------------|
| Onsite       |               | <b>2022</b> |             |             |             |
|              | Fugitive Dust | 0.00        | 0.00        | 0.00        | 0.00        |
|              | Off-Road      | 2.36        | 2.88        | 0.13        | 0.12        |
|              | Total         | 2.36        | 2.88        | 0.13        | 0.12        |
| <b>TOTAL</b> |               | <b>2.36</b> | <b>2.88</b> | <b>0.13</b> | <b>0.12</b> |

### Architectural Coating

|              |                 | NOx                | CO            | PM10 Total    | PM2.5 Total   |
|--------------|-----------------|--------------------|---------------|---------------|---------------|
| Onsite       |                 | <b>2022 Summer</b> |               |               |               |
|              | Archit. Coating |                    |               | 0             | 0             |
|              | Off-Road        | 3.3828             | 5.6686        | 0.1184        | 0.1154        |
|              | <b>Total</b>    | <b>3.3828</b>      | <b>5.6686</b> | <b>0.1184</b> | <b>0.1154</b> |
| <b>TOTAL</b> |                 | <b>3.38</b>        | <b>5.67</b>   | <b>0.12</b>   | <b>0.12</b>   |
| Onsite       |                 | <b>2022 Winter</b> |               |               |               |
|              | Archit. Coating |                    |               | 0             | 0             |
|              | Off-Road        | 3.3828             | 5.6686        | 0.1184        | 0.1154        |
|              | <b>Total</b>    | <b>3.3828</b>      | <b>5.6686</b> | <b>0.1184</b> | <b>0.1154</b> |
| <b>TOTAL</b> |                 | <b>3.38</b>        | <b>5.67</b>   | <b>0.12</b>   | <b>0.12</b>   |
| Onsite       |                 | <b>2022</b>        |               |               |               |
|              | Archit. Coating | 0.00               | 0.00          | 0.00          | 0.00          |
|              | Off-Road        | 3.38               | 5.67          | 0.12          | 0.12          |
|              | <b>Total</b>    | <b>3.38</b>        | <b>5.67</b>   | <b>0.12</b>   | <b>0.12</b>   |
| <b>TOTAL</b> |                 | <b>3.38</b>        | <b>5.67</b>   | <b>0.12</b>   | <b>0.12</b>   |

### Finishing/Landscaping

|              |              | NOx                | CO            | PM10 Total    | PM2.5 Total   |
|--------------|--------------|--------------------|---------------|---------------|---------------|
| Onsite       |              | <b>2022 Summer</b> |               |               |               |
|              | Off-Road     | 1.3647             | 1.8227        | 0.0734        | 0.0675        |
|              | <b>Total</b> | <b>1.3647</b>      | <b>1.8227</b> | <b>0.0734</b> | <b>0.0675</b> |
| <b>TOTAL</b> |              | <b>1.36</b>        | <b>1.82</b>   | <b>0.07</b>   | <b>0.07</b>   |
| Onsite       |              | <b>2022 Winter</b> |               |               |               |
|              | Off-Road     | 1.3647             | 1.8227        | 0.0734        | 0.0675        |
|              | <b>Total</b> | <b>1.3647</b>      | <b>1.8227</b> | <b>0.0734</b> | <b>0.0675</b> |
| <b>TOTAL</b> |              | <b>1.36</b>        | <b>1.82</b>   | <b>0.07</b>   | <b>0.07</b>   |
| Onsite       |              | <b>2022</b>        |               |               |               |
|              | Off-Road     | 1.36               | 1.82          | 0.07          | 0.07          |
|              | <b>Total</b> | <b>1.36</b>        | <b>1.82</b>   | <b>0.07</b>   | <b>0.07</b>   |
| <b>TOTAL</b> |              | <b>1.36</b>        | <b>1.82</b>   | <b>0.07</b>   | <b>0.07</b>   |

|  | NOx       | CO         | PM10 Total   | PM2.5 Total  |
|--|-----------|------------|--------------|--------------|
| Building Demolition                      | 3.22      | 3.78       | 0.21         | 0.12         |
| <b>1-acre or Less LST</b>                | <b>89</b> | <b>623</b> | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?                        | No        | No         | No           | No           |
| Building Demolition & Asphalt Demolition | 6.44      | 7.57       | 1.61         | 0.42         |
| <b>1-acre or Less LST</b>                | <b>89</b> | <b>623</b> | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?                        | No        | No         | No           | No           |

|   |            |              |              |              |
|---|------------|--------------|--------------|--------------|
| Building Demolition                                       | 3.22       | 3.78         | 0.21         | 0.12         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Site Preparation  | 3.76       | 3.21         | 0.44         | 0.22         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Site Preparation & Building Construction                  | 10.28      | 12.92        | 0.72         | 0.47         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Site Preparation, Building Construction, & Rough Grading  | 57.76      | 45.68        | 3.72         | 2.29         |
| <b>5-Acre LST</b>   | <b>203</b> | <b>1,733</b> | <b>91.41</b> | <b>29.18</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction & Rough Grading                     | 54.00      | 42.47        | 3.28         | 2.07         |
| <b>5-Acre LST</b>   | <b>203</b> | <b>1,733</b> | <b>91.41</b> | <b>29.18</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction, Rough Grading, & Utility Trenching | 56.41      | 45.69        | 3.41         | 2.19         |
| <b>5-Acre LST</b>   | <b>203</b> | <b>1,733</b> | <b>91.41</b> | <b>29.18</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction & Utility Trenching                 | 8.92       | 12.93        | 0.41         | 0.38         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction                                     | 6.51       | 9.71         | 0.28         | 0.26         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction & Fine Grading                      | 8.87       | 12.59        | 0.41         | 0.38         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction & Architectural Coating             | 9.90       | 15.38        | 0.40         | 0.37         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Building Construction & Finishing/Landscaping             | 7.88       | 11.53        | 0.35         | 0.32         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |
| Finishing/Landscaping                                     | 1.36       | 1.82         | 0.07         | 0.07         |
| <b>1-acre or Less LST</b>                                 | <b>89</b>  | <b>623</b>   | <b>61.73</b> | <b>17.79</b> |
| Exceed Threshold?   | No         | No           | No           | No           |

## Regional Operation Emissions Worksheet\*

\*CalEEMod, Version 2020.4.0

### Existing Land Use - 2022

#### Summer

|                    | <b>ROG</b>  | <b>NOx</b>  | <b>CO</b>   | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|-------------|-------------|-------------|-------------------|--------------------|
| Area               | 1.46        | 0.00        | 0.02        | 0.00        | 0.00              | 0.00               |
| Energy             | 0.00        | 0.02        | 0.01        | 0.00        | 0.00              | 0.00               |
| Mobile - Passenger | 0.33        | 0.27        | 3.64        | 0.01        | 0.80              | 0.21               |
| Mobile - Trucks    | 0.16        | 5.03        | 1.22        | 0.02        | 0.87              | 0.29               |
| <b>Total</b>       | <b>1.94</b> | <b>5.31</b> | <b>4.89</b> | <b>0.03</b> | <b>1.67</b>       | <b>0.51</b>        |

#### Winter

|                    | <b>ROG</b>  | <b>NOx</b>  | <b>CO</b>   | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|-------------|-------------|-------------|-------------------|--------------------|
| Area               | 1.46        | 0.00        | 0.02        | 0.00        | 0.00              | 0.00               |
| Energy             | 0.00        | 0.02        | 0.01        | 0.00        | 0.00              | 0.00               |
| Mobile - Passenger | 0.32        | 0.29        | 3.51        | 0.01        | 0.80              | 0.21               |
| Mobile - Trucks    | 0.15        | 5.23        | 1.22        | 0.02        | 0.87              | 0.29               |
| <b>Total</b>       | <b>1.94</b> | <b>5.54</b> | <b>4.77</b> | <b>0.03</b> | <b>1.67</b>       | <b>0.51</b>        |

#### Max Daily

|                    | <b>ROG</b>  | <b>NOx</b>  | <b>CO</b>   | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|-------------|-------------|-------------|-------------------|--------------------|
| Area               | 1.46180     | 0.00020     | 0.02210     | 0           | 0.00008           | 0.00008            |
| Energy             | 0.00193     | 0.01750     | 0.01470     | 0.00011     | 0.00133           | 0.00133            |
| Mobile - Passenger | 0.32610     | 0.29210     | 3.63890     | 0.00756     | 0.79590           | 0.21460            |
| Mobile - Trucks    | 0.15500     | 5.23000     | 1.22210     | 0.02340     | 0.87440           | 0.29050            |
| <b>Total</b>       | <b>1.94</b> | <b>5.54</b> | <b>4.89</b> | <b>0.03</b> | <b>1.67</b>       | <b>0.51</b>        |

### Proposed Project

#### Summer

|                    | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area               | 2.95        | 0.00         | 0.03         | 0.00        | 0.00              | 0.00               |
| Energy             | 0.01        | 0.11         | 0.09         | 0.00        | 0.01              | 0.01               |
| Mobile - Passenger | 0.73        | 0.60         | 8.21         | 0.02        | 1.80              | 0.48               |
| Mobile - Trucks    | 0.47        | 15.65        | 3.68         | 0.07        | 2.56              | 0.85               |
| Offroad Equipment  | 1.00        | 6.22         | 35.85        | 0.05        | 0.36              | 0.33               |
| <b>Total</b>       | <b>5.17</b> | <b>22.58</b> | <b>47.85</b> | <b>0.14</b> | <b>4.73</b>       | <b>1.67</b>        |

#### Winter

|                    | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area               | 2.95        | 0.00         | 0.03         | 0.00        | 0.00              | 0.00               |
| Energy             | 0.01        | 0.11         | 0.09         | 0.00        | 0.01              | 0.01               |
| Mobile - Passenger | 0.72        | 0.66         | 7.92         | 0.02        | 1.80              | 0.48               |
| Mobile - Trucks    | 0.46        | 16.28        | 3.70         | 0.07        | 2.56              | 0.85               |
| Offroad Equipment  | 1.00        | 6.22         | 35.85        | 0.05        | 0.36              | 0.33               |
| <b>Total</b>       | <b>5.15</b> | <b>23.27</b> | <b>47.58</b> | <b>0.14</b> | <b>4.73</b>       | <b>1.67</b>        |

**Max Daily**

|                            | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|----------------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area                       | 2.94990     | 0.00026      | 0.02890      | 0           | 0.00010           | 0.00010            |
| Energy                     | 0.01190     | 0.10810      | 0.09080      | 0.00065     | 0.00821           | 0.00821            |
| Mobile - Passenger         | 0.73360     | 0.65860      | 8.20620      | 0.01710     | 1.79650           | 0.48440            |
| Mobile - Trucks            | 0.46840     | 16.27840     | 3.69770      | 0.07040     | 2.56340           | 0.84710            |
| Offroad Equipment          | 1.00456     | 6.22223      | 35.84559     | 0.05275     | 0.35907           | 0.33034            |
| <b>Total</b>               | <b>5.17</b> | <b>23.27</b> | <b>47.85</b> | <b>0.14</b> | <b>4.73</b>       | <b>1.67</b>        |
| <b>Regional Thresholds</b> | <b>55</b>   | <b>55</b>    | <b>550</b>   | <b>150</b>  | <b>150</b>        | <b>55</b>          |
| Exceeds Thresholds?        | No          | No           | No           | No          | No                | No                 |

**Net Change****Summer**

|                    | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area               | 1.49        | 0.00         | 0.01         | 0.00        | 0.00              | 0.00               |
| Energy             | 0.01        | 0.09         | 0.08         | 0.00        | 0.01              | 0.01               |
| Mobile - Passenger | 0.41        | 0.33         | 4.57         | 0.01        | 1.00              | 0.27               |
| Mobile - Trucks    | 0.31        | 10.62        | 2.46         | 0.05        | 1.69              | 0.56               |
| Offroad Equipment  | 1.00        | 6.22         | 35.85        | 0.05        | 0.36              | 0.33               |
| <b>Total</b>       | <b>3.22</b> | <b>17.27</b> | <b>42.96</b> | <b>0.11</b> | <b>3.06</b>       | <b>1.16</b>        |

**Winter**

|                    | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|--------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area               | 1.49        | 0.00         | 0.01         | 0.00        | 0.00              | 0.00               |
| Energy             | 0.01        | 0.09         | 0.08         | 0.00        | 0.01              | 0.01               |
| Mobile - Passenger | 0.40        | 0.37         | 4.40         | 0.01        | 1.00              | 0.27               |
| Mobile - Trucks    | 0.31        | 11.05        | 2.48         | 0.05        | 1.69              | 0.56               |
| Offroad Equipment  | 1.00        | 6.22         | 35.85        | 0.05        | 0.36              | 0.33               |
| <b>Total</b>       | <b>3.22</b> | <b>17.73</b> | <b>42.81</b> | <b>0.11</b> | <b>3.06</b>       | <b>1.16</b>        |

**Max Daily**

|                            | <b>ROG</b>  | <b>NOx</b>   | <b>CO</b>    | <b>SO2</b>  | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|----------------------------|-------------|--------------|--------------|-------------|-------------------|--------------------|
| Area                       | 1.48810     | 0.00006      | 0.00680      | 0           | 0.00002           | 0.00002            |
| Energy                     | 0.00997     | 0.09060      | 0.07610      | 0.00054     | 0.00688           | 0.00688            |
| Mobile - Passenger         | 0.40750     | 0.36650      | 4.56730      | 0.00954     | 1.00060           | 0.26980            |
| Mobile - Trucks            | 0.31340     | 11.04840     | 2.47560      | 0.04700     | 1.68900           | 0.55660            |
| Offroad Equipment          | 1.00456     | 6.22223      | 35.84559     | 0.05275     | 0.35907           | 0.33034            |
| <b>Total</b>               | <b>3.22</b> | <b>17.73</b> | <b>42.96</b> | <b>0.11</b> | <b>3.06</b>       | <b>1.16</b>        |
| <b>Regional Thresholds</b> | <b>55</b>   | <b>55</b>    | <b>550</b>   | <b>150</b>  | <b>150</b>        | <b>55</b>          |
| Exceeds Thresholds?        | No          | No           | No           | No          | No                | No                 |

## Localized Operation Emissions Worksheet\*

\*CalEEMod, Version 2020.4.0 and EMFAC2017, Version 1.0.3

### Unmitigated

#### Summer

|                   | <b>NOx</b>  | <b>CO</b>    | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|-------------------|-------------|--------------|-------------------|--------------------|
| Area              | 0.00026     | 0.03         | 0.00010           | 0.00010            |
| Truck Idling      | 1.10        | 0.40         | 0.00              | 0.00               |
| Offroad Equipment | 6.22        | 35.85        | 0.36              | 0.33               |
| <b>Total</b>      | <b>7.33</b> | <b>36.27</b> | <b>0.36</b>       | <b>0.33</b>        |

#### Winter

|                   | <b>NOx</b>  | <b>CO</b>    | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|-------------------|-------------|--------------|-------------------|--------------------|
| Area              | 0.00        | 0.03         | 0.00              | 0.00               |
| Truck Idling      | 1.10        | 0.40         | 0.00              | 0.00               |
| Offroad Equipment | 6.22        | 35.85        | 0.36              | 0.33               |
| <b>Total</b>      | <b>7.33</b> | <b>36.27</b> | <b>0.36</b>       | <b>0.33</b>        |

#### Max Daily

|                   | <b>NOx</b>  | <b>CO</b>    | <b>PM10 Total</b> | <b>PM2.5 Total</b> |
|-------------------|-------------|--------------|-------------------|--------------------|
| Area              | 0.00        | 0.03         | 0.00              | 0.00               |
| Truck Idling      | 1.10        | 0.40         | 0.003             | 0.00               |
| Offroad Equipment | 6.222       | 35.85        | 0.36              | 0.33               |
| <b>Total</b>      | <b>7.33</b> | <b>36.27</b> | <b>0.36</b>       | <b>0.33</b>        |

#### 5-Acre-LST

|                     |               |                 |              |             |
|---------------------|---------------|-----------------|--------------|-------------|
| <b>5-Acre-LST</b>   | <b>202.99</b> | <b>1,732.86</b> | <b>22.76</b> | <b>7.71</b> |
| Exceeds Thresholds? | No            | No              | No           | No          |

## GHG Emissions Inventory

### Existing Project - 2021

|                    |                 |                               |             |
|--------------------|-----------------|-------------------------------|-------------|
| Area               | <b>5.72E-03</b> | MTCO <sub>2</sub> e/Year**    | 0.001%      |
| Energy             | <b>76</b>       | MTCO <sub>2</sub> e/Year      | 10.432%     |
| Mobile - Passenger | <b>127</b>      | MTCO <sub>2</sub> e/Year      | 17.424%     |
| Mobile - Trucks    | <b>445</b>      | MTCO <sub>2</sub> e/Year      | 60.803%     |
| Solid Waste        | <b>82</b>       | MTCO <sub>2</sub> e/Year      | 11.179%     |
| Water              | <b>1</b>        | MTCO <sub>2</sub> e/Year      | 0.161%      |
| <b>Total</b>       | <b>731</b>      | <b>MTCO<sub>2</sub>e/Year</b> | <b>100%</b> |

\*CalEEMod, Version 2020.4.0

\*\* MTCO<sub>2</sub>e=metric tons of carbon dioxide equivalent.

\*\*\*EMFAC2017, Version 1.0.3

### Proposed Project

#### Construction

|      |                                 |
|------|---------------------------------|
|      | <b>MTCO<sub>2</sub>e Total*</b> |
| 2022 | 447.9612                        |

\*CalEEMod, Version 2020.4.0

#### Operation\*

|  |                 |                               |             |
|--|-----------------|-------------------------------|-------------|
| Area                                   | <b>7.48E-03</b> | MTCO <sub>2</sub> e/Year**    | 0%          |
| Energy                                 | <b>166</b>      | MTCO <sub>2</sub> e/Year      | 6%          |
| Mobile - Passenger                     | <b>280</b>      | MTCO <sub>2</sub> e/Year      | 9%          |
| Mobile - Trucks                        | <b>1,306</b>    | MTCO <sub>2</sub> e/Year      | 44%         |
| Diesel Offroad Equipment               | <b>945</b>      | MTCO <sub>2</sub> e/Year      | 32%         |
| Electric Offroad Equipment             | <b>78</b>       | MTCO <sub>2</sub> e/Year      | 3%          |
| Solid Waste                            | <b>162</b>      | MTCO <sub>2</sub> e/Year      | 5%          |
| Water                                  | <b>2</b>        | MTCO <sub>2</sub> e/Year      | 0%          |
| Amortized Construction Emissions****   | <b>15</b>       | MTCO <sub>2</sub> e/Year      | 1%          |
| <b>Total</b>                           | <b>2,954</b>    | <b>MTCO<sub>2</sub>e/Year</b> | <b>100%</b> |
| SCAQMD Bright-Line Screening Threshold | 3,000           | MTCO <sub>2</sub> e/Year      |             |
| <b>Exceed Threshold?</b>               | <b>No</b>       |                               |             |

\*CalEEMod, Version 2020.4.0

\*\* MTCO<sub>2</sub>e=metric tons of carbon dioxide equivalent.

\*\*\*EMFAC2017, Version 1.0.3

\*\*\*\* Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2).

#### Net Change

|  |                 |                               |            |
|--|-----------------|-------------------------------|------------|
| Area                                   | <b>1.76E-03</b> | MTCO <sub>2</sub> e/Year**    | 0%         |
| Energy                                 | <b>90</b>       | MTCO <sub>2</sub> e/Year      | 3%         |
| Mobile - Passenger                     | <b>152</b>      | MTCO <sub>2</sub> e/Year      | 5%         |
| Mobile - Trucks                        | <b>862</b>      | MTCO <sub>2</sub> e/Year      | 29%        |
| Diesel Offroad Equipment               | <b>945</b>      | MTCO <sub>2</sub> e/Year      | 32%        |
| Electric Offroad Equipment             | <b>78</b>       | MTCO <sub>2</sub> e/Year      | 3%         |
| Solid Waste                            | <b>81</b>       | MTCO <sub>2</sub> e/Year      | 3%         |
| Water                                  | <b>0.49</b>     | MTCO <sub>2</sub> e/Year      | 0%         |
| Amortized Construction Emissions****   | <b>15</b>       | MTCO <sub>2</sub> e/Year      | 1%         |
| <b>Total</b>                           | <b>2,223</b>    | <b>MTCO<sub>2</sub>e/Year</b> | <b>75%</b> |
| SCAQMD Bright-Line Screening Threshold | 3,000           | MTCO <sub>2</sub> e/Year      |            |
| <b>Exceed Threshold?</b>               | <b>No</b>       |                               |            |

## Electric-Powered Off-Road Equipment Worksheet

### Electric Forklifts

|   |         |                         |
|---|---------|-------------------------|
| Number of Forklifts: <sup>1</sup>                             | 5       |                         |
| Daily Hours of Operation: <sup>1</sup>                        | 7       | hr/unit/day             |
| Total Daily Hours of Operation:                               | 35      | hours/day               |
| Operation Days Per Year: <sup>1</sup>                         | 365     | Days                    |
| Total Annual Hours of Operation:                              | 12,775  | hours/year              |
| Power Consumption: <sup>2</sup>                               | 8.7     | kilowatt hour/hour/unit |
| Total Annual Power Consumption:                               | 111,143 | kWh/yr                  |
| SoCal Edison CO <sub>2</sub> e Intensity Factor: <sup>3</sup> | 512     | pounds/megawatt hour    |
| Total Annual GHG Emissions:                                   | 25.81   | MTCO <sub>2</sub> e/yr  |

<sup>1</sup> Based on information provided by the applicant.

<sup>2</sup> EPRI. 2021, August 10 (accessed). Forklift (Lift Truck) Comparison with Capital Costs. <https://et.epri.com/ForkliftCalculator.html?ver=1.0>

<sup>3</sup> Based on CO<sub>2</sub>e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2020. 2020 Sustainability Report. <https://www.edison.com/content/dam/eix/documents/sustainability/eix-2020-sustainability-report.pdf>

### Electric Yard Truck

|   |         |                         |
|---|---------|-------------------------|
| Number of Yard Hostlers: <sup>1</sup>                         | 10      |                         |
| Daily Hours of Operation: <sup>1</sup>                        | 7       | hr/unit/day             |
| Total Daily Hours of Operation:                               | 70      | hours/day               |
| Operation Days Per Year: <sup>1</sup>                         | 365     | Days                    |
| Total Annual Hours of Operation:                              | 25,550  | hours/year              |
| Power Consumption: <sup>2</sup>                               | 8.75    | kilowatt hour/hour/unit |
| Total Annual Power Consumption:                               | 223,563 | kWh/yr                  |
| SoCal Edison CO <sub>2</sub> e Intensity Factor: <sup>3</sup> | 512     | pounds/megawatt hour    |
| Total Annual GHG Emissions:                                   | 51.92   | MTCO <sub>2</sub> e/yr  |

<sup>1</sup> Based on information provided by the applicant.

<sup>2</sup> Transpower. 2015, July 21. Electric Yard Tractor Demonstration Project: Final Report for San Joaquin Valley Air Pollution Control District (SJVAPCD) Technology Advancement Program Agreement Number C-21516-A Electric Yard Tractor Demonstration ("EYTD") Project. [http://valleyair.org/grants/documents/technologyadvancement/C-21516\\_TransPower\\_FinalReport.pdf](http://valleyair.org/grants/documents/technologyadvancement/C-21516_TransPower_FinalReport.pdf)

<sup>3</sup> Based on CO<sub>2</sub>e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2020. 2020 Sustainability Report. <https://www.edison.com/content/dam/eix/documents/sustainability/eix-2020-sustainability-report.pdf>

## Truck Idling Emissions

Source: California Air Resources Board. EMFAC2017 Project Analysis, Version 1.0.3. <https://arb.ca.gov/emfac/project-analysis> (Los Angeles County - South Coast Air Basin, year 2022, aggregated emission rates for diesel vehicles)

| Vehicle Type | Truck Trips | Trucks | Minutes of Idling per Truck | Minutes per hour |
|--------------|-------------|--------|-----------------------------|------------------|
| MHDT         | 37          | 19     | 30                          | 0.5              |
| HHDT         | 0           | 0      | 30                          | 0.5              |

### Criteria Air Pollutants, Maximum Summer/Winter

| Truck Idling | lbs/day |         |         |         |         |         |
|--------------|---------|---------|---------|---------|---------|---------|
|              | ROG     | NOx     | CO      | SO2     | PM10    | PM2.5   |
| MHDT         | 0.01532 | 1.10380 | 0.39693 | 0.00130 | 0.00250 | 0.00239 |
| HHDT         | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
|              | 0.01532 | 1.10380 | 0.39693 | 0.00130 | 0.00250 | 0.00239 |

### Truck Idling Emissions Factors

Source: California Air Resources Board. EMFAC2017 Project Analysis, Version 1.0.3. <https://arb.ca.gov/emfac/project-analysis> (Los Angeles County - South Coast Air Basin, year 2022, aggregated emission rates for diesel vehicles)

| Annual           |               |                  | g/hour     |             |             |             |             |             |              |            |
|------------------|---------------|------------------|------------|-------------|-------------|-------------|-------------|-------------|--------------|------------|
| Region           | Calendar Year | Vehicle Category | ROG_IDLEX  | CO_IDLEX    | NOx_IDLEX   | CO2_IDLEX   | CH4_IDLEX   | PM10_IDLE X | PM2_5_IDL EX | SOx_IDLEX  |
| Los Angeles (SC) | 2022          | MHDT             | 0.73153861 | 18.95193367 | 52.70260851 | 6483.531035 | 0.033978074 | 0.1194626   | 0.1142947    | 0.06185592 |
| Los Angeles (SC) | 2022          | HHDT             | 2.36809514 | 32.09748951 | 32.49062413 | 5976.699392 | 0.109991886 | 0.0183329   | 0.01753986   | 0.05702051 |

| Max Rate         |               |                  | lbs/hour  |          |           |           |           |             |              |           |
|------------------|---------------|------------------|-----------|----------|-----------|-----------|-----------|-------------|--------------|-----------|
| Region           | Calendar Year | Vehicle Category | ROG_IDLEX | CO_IDLEX | NOx_IDLEX | CO2_IDLEX | CH4_IDLEX | PM10_IDLE X | PM2_5_IDL EX | SOx_IDLEX |
| Los Angeles (SC) | 2022          | MHDT             | 0.002     | 0.042    | 0.116     | 14.294    | 0.000     | 0.000       | 0.000        | 0.000     |
| Los Angeles (SC) | 2022          | HHDT             | 0.005     | 0.071    | 0.072     | 13.176    | 0.000     | 0.000       | 0.000        | 0.000     |

| Annual           |               |                  | g/sec      |             |             |             |             |             |              |            |
|------------------|---------------|------------------|------------|-------------|-------------|-------------|-------------|-------------|--------------|------------|
| Region           | Calendar Year | Vehicle Category | ROG_IDLEX  | CO_IDLEX    | NOx_IDLEX   | CO2_IDLEX   | CH4_IDLEX   | PM10_IDLE X | PM2_5_IDL EX | SOx_IDLEX  |
| Los Angeles (SC) | 2022          | MHDT             | 0.00020321 | 0.005264426 | 0.014639613 | 1.800980843 | 9.43835E-06 | 3.318E-05   | 3.1749E-05   | 1.7182E-05 |
| Los Angeles (SC) | 2022          | HHDT             | 0.0006578  | 0.008915969 | 0.009025173 | 1.660194276 | 3.05533E-05 | 5.092E-06   | 4.8722E-06   | 1.5839E-05 |

**Off-Road Equipment Emissions Worksheet: Forklifts (Diesel)**

**OFFROAD2017\***

| Region           | CalYr | VehClass                    | MdlYr     | HP_Bin | Fuel       | ROG_tpd     | NOx_tpd     | CO_tpd      | SOx_tpd     | PM10_tpd    | PM2_5_tpd   | CO2_tpd     | Fuel_gpy    | Total_Activity_hpy | Total_Population |
|------------------|-------|-----------------------------|-----------|--------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|------------------|
| Los Angeles (SC) |       | 2022 Industrial - Forklifts | Aggregate |        | 100 Diesel | 0.046704858 | 0.436140326 | 0.485819151 | 0.000645805 | 0.028701942 | 0.026405787 | 69.97602956 | 2270295.214 | 2652818.911        | 3480.237342      |

\*OFFROAD2017, Version 1.0.1., <https://www.arb.ca.gov/orion/>

**Calculated Emission Rates**

|                    |             |                        |         |
|--------------------|-------------|------------------------|---------|
| Total Annual Hours | 2652818.911 | <b>Conversion Rate</b> |         |
| Total Population   | 3480.237342 | Grams/Pound            | 453.592 |
| Total Hours/Unit   | 762.2522976 |                        |         |
| Hours/Unit/Day     | 2.088362459 |                        |         |

|                     | VOC                | NOx                | CO                 | SOx                | PM10               | PM2.5              | CO2                |
|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Tons/Day            | 0.046704858        | 0.436140326        | 0.485819151        | 0.000645805        | 0.028701942        | 0.026405787        | 69.97602956        |
| Pounds/Day          | 93.40971578        | 872.2806527        | 971.6383028        | 1.291610248        | 57.4038846         | 52.81157383        | 139952.0591        |
| <b>lbs/Day/Unit</b> | <b>0.026840042</b> | <b>0.250638266</b> | <b>0.279187368</b> | <b>0.000371127</b> | <b>0.016494244</b> | <b>0.015174705</b> | <b>40.21336632</b> |
| lbs/hour/unit       | 0.012852195        | 0.12001665         | 0.133687218        | 0.000177712        | 0.007898171        | 0.007266317        | 19.25593239        |
| lbs/min/unit        | 0.000214203        | 0.002000277        | 0.00222812         | 2.96187E-06        | 0.000131636        | 0.000121105        | 0.320932206        |
| grams/min/unit      | 0.097160881        | 0.90730987         | 1.010657545        | 0.001343479        | 0.059709121        | 0.054932391        | 145.5722814        |
| grams/sec/unit      | 0.001619348        | 0.015121831        | 0.016844292        | 2.23913E-05        | 0.000995152        | 0.00091554         | 2.42620469         |

**Project Emissions**

**Number of Forklifts<sup>1</sup>**

|                          |                                  |                       |
|--------------------------|----------------------------------|-----------------------|
| Fuel Type                | # of Forklifts                   | 4.19 kwh              |
| Diesel Powered           | 5                                | 146.65 kWh/day        |
|                          |                                  | 53527.25 kWh/yr       |
|                          |                                  | 53.52725 MWh/yr       |
| Daily Hours of Operation | 7 hr/unit/day                    | 509 lbs/MWh           |
| Total Daily Op Hours     | 35 hours/day                     | 146.65                |
| Days Per Year            | 365 days/year (Mon-Sun workweek) | 12.35829561 MTCO2e/yr |

|                              | VOC                  | NOx        | CO          | SOx         | PM10        | PM2.5       | CO2              |
|------------------------------|----------------------|------------|-------------|-------------|-------------|-------------|------------------|
|                              | <b>Pound Per Day</b> |            |             |             |             |             |                  |
| Emission Rate (lb/hour/unit) | 0.012852195          | 0.12001665 | 0.133687218 | 0.000177712 | 0.007898171 | 0.007266317 | 19.25593239      |
| Total Emissions (lb)         | 0.450                | 4.201      | 4.679       | 0.006       | 0.276       | 0.254       | 673.958          |
|                              | <b>Tons Per Year</b> |            |             |             |             |             |                  |
|                              | 0.082                | 0.767      | 0.854       | 0.001       | 0.050       | 0.046       | 122.997          |
|                              |                      |            |             |             |             |             | <b>CO2/MT/yr</b> |
|                              |                      |            |             |             |             |             | 111.581          |

(1) Based on information provided by the applicant.



## Construction-Related Fuel/Energy Usage

### CONSTRUCTION WORKER COMMUTE

| Year         | Gas            |               | Diesel       |           | Electricity  |              |
|--------------|----------------|---------------|--------------|-----------|--------------|--------------|
|              | VMT            | Gallons       | VMT          | Gallons   | VMT          | kWh          |
| 2022         | 310,553        | 10,953        | 2,276        | 52        | 4,813        | 1,583        |
| <b>Total</b> | <b>310,553</b> | <b>10,953</b> | <b>2,276</b> | <b>52</b> | <b>4,813</b> | <b>1,583</b> |

### CONSTRUCTION VENDOR TRIPS

| Year         | Gas          |            | Diesel        |              |
|--------------|--------------|------------|---------------|--------------|
|              | VMT          | Gallons    | VMT           | Gallons      |
| 2022         | 2,957        | 587        | 33,079        | 4,148        |
| <b>Total</b> | <b>2,957</b> | <b>587</b> | <b>33,079</b> | <b>4,148</b> |

### CONSTRUCTION TRUCK HAUL TRIPS

| Year         | Gas       |           | Diesel        |               |
|--------------|-----------|-----------|---------------|---------------|
|              | VMT       | Gallons   | VMT           | Gallons       |
| 2022         | 66        | 16        | 76,903        | 11,665        |
| <b>Total</b> | <b>66</b> | <b>16</b> | <b>76,903</b> | <b>11,665</b> |

### CONSTRUCTION OFF-ROAD EQUIPMENT

| Year         | Gasoline<br>gallons | Diesel<br>gallons |
|--------------|---------------------|-------------------|
| 2022         | 475                 | 20,606            |
| <b>Total</b> | <b>475</b>          | <b>20,606</b>     |

### CONSTRUCTION TOTAL

| Year         | Gas            |               | Diesel         |               | Electricity  |              |
|--------------|----------------|---------------|----------------|---------------|--------------|--------------|
|              | VMT            | Gallons       | VMT            | Gallons       | VMT          | kWh          |
| 2022         | 313,576        | 12,031        | 112,258        | 36,470        | 4,813        | 1,583        |
| <b>Total</b> | <b>313,576</b> | <b>12,031</b> | <b>112,258</b> | <b>36,470</b> | <b>4,813</b> | <b>1,583</b> |

## Operation-Related Vehicle Fuel/Energy Usage

### Existing Land Use

#### EXISTING LAND USE COMMUTE

| Vehicle Type       | Gas            |               | Diesel         |               | CNG      |          | Electricity  |              |
|--------------------|----------------|---------------|----------------|---------------|----------|----------|--------------|--------------|
|                    | VMT            | Gallons       | VMT            | Gallons       | VMT      | Gallons  | VMT          | kWh          |
| Passenger Vehicles | 363,903        | 13,900        | 8,698          | 342           | 0        | 0        | 5,584        | 1,836        |
| Trucks             | 0              | 0             | 321,294        | 39,637        | 0        | 0        | 0            | 0            |
| <b>Total</b>       | <b>363,903</b> | <b>13,900</b> | <b>329,992</b> | <b>39,979</b> | <b>0</b> | <b>0</b> | <b>5,584</b> | <b>1,836</b> |

### Proposed Project

#### PROPOSED COMMUTE

| Vehicle Type       | Gas            |               | Diesel         |                | CNG      |          | Electricity   |                |
|--------------------|----------------|---------------|----------------|----------------|----------|----------|---------------|----------------|
|                    | VMT            | Gallons       | VMT            | Gallons        | VMT      | Gallons  | VMT           | kWh            |
| Passenger Vehicles | 821,437        | 31,377        | 19,634         | 771            | 0        | 0        | 12,606        | 4,112          |
| Trucks             | 0              | 0             | 949,175        | 120,819        | 0        | 0        | 0             | 0              |
| Offroad Equipment  | 0              | 0             | 0              | 99,173         | 0        | 0        | 0             | 334,705        |
| <b>Total</b>       | <b>821,437</b> | <b>31,377</b> | <b>968,809</b> | <b>220,763</b> | <b>0</b> | <b>0</b> | <b>12,606</b> | <b>338,817</b> |

### Net Change

#### NET CHANGE COMMUTE

| Vehicle Type       | Gas            |               | Diesel         |                | CNG      |          | Electricity  |                |
|--------------------|----------------|---------------|----------------|----------------|----------|----------|--------------|----------------|
|                    | VMT            | Gallons       | VMT            | Gallons        | VMT      | Gallons  | VMT          | kWh            |
| Passenger Vehicles | 457,534        | 17,476        | 10,936         | 429            | 0        | 0        | 7,021        | 2,276          |
| Trucks             | 0              | 0             | 627,881        | 81,182         | 0        | 0        | 0            | 0              |
| Offroad Equipment  | 0              | 0             | 0              | 99,173         | 0        | 0        | 0            | 334,705        |
| <b>Total</b>       | <b>457,534</b> | <b>17,476</b> | <b>638,817</b> | <b>180,785</b> | <b>0</b> | <b>0</b> | <b>7,021</b> | <b>336,981</b> |

#### OPERATION OFF-ROAD EQUIPMENT

| Year         | Diesel gallons | Electricity kWh |
|--------------|----------------|-----------------|
| 2022         | 99,173         | 334,705         |
| <b>Total</b> | <b>99,173</b>  | <b>334,705</b>  |

**Construction Worker Trips Fuel Usage Worksheet**

Note: Per CalEEMod methodology, worker vehicles are "LD\_Mix", which is 50% LDA, 25% LDT1, and 25% LDT2

| Activity <sup>1</sup> | Daily trips <sup>1,2</sup> | Trip miles <sup>2</sup> | Trip days <sup>1</sup> | Annual VMT |
|-----------------------|----------------------------|-------------------------|------------------------|------------|
| 2022                  |                            |                         |                        | 0          |
| Building Demolition   | 5                          | 14.7                    | 31                     | 2,279      |
| Asphalt Demolition    | 5                          | 14.7                    | 8                      | 588        |
| Site Preparation      | 3                          | 14.7                    | 5                      | 221        |
| Building Construction | 100                        | 14.7                    | 132                    | 194,040    |
| Rough Grading         | 15                         | 14.7                    | 22                     | 4,851      |
| Utility Trenching     | 5                          | 14.7                    | 21                     | 1,544      |
| Fine Grading          | 5                          | 14.7                    | 12                     | 882        |
| Architectural Coating | 20                         | 14.7                    | 21                     | 6,174      |
| Finishing/Landscaping | 3                          | 14.7                    | 34                     | 1,499      |
|                       |                            |                         |                        | 0          |
|                       |                            |                         |                        | 0          |

<sup>1</sup> Based on information provided.

<sup>2</sup> Based on CalEEMod defaults.

| Year | LDA VMT | LDT1 VMT | LDT2 VMT | Gasoline <sup>1</sup> |             |          |              |          |              | Diesel <sup>1</sup> |             |          |              |          |              | Electricity <sup>1</sup> |         |            |          |
|------|---------|----------|----------|-----------------------|-------------|----------|--------------|----------|--------------|---------------------|-------------|----------|--------------|----------|--------------|--------------------------|---------|------------|----------|
|      |         |          |          | LDA mpg               | LDA gallons | LDT1 mpg | LDT1 gallons | LDT2 mpg | LDT2 gallons | LDA mpg             | LDA gallons | LDT1 mpg | LDT1 gallons | LDT2 mpg | LDT2 gallons | LDA m/kWh                | LDA kWh | LDT1 m/kWh | LDT1 kWh |
| 2022 | 212,077 | 53,019   | 53,019   | 30.28                 | 6,797       | 26.12    | 2,012        | 24.33    | 2,144        | 47.29               | 40          | 21.78    | 1            | 34.76    | 11           | 3.04                     | 1,436   | 3.04       | 147      |

| Gasoline       |               | Diesel       |           | Electricity  |              |
|----------------|---------------|--------------|-----------|--------------|--------------|
| VMT            | Gallons       | VMT          | Gallons   | VMT          | kWh          |
| 310,553        | 10,953        | 2,276        | 52        | 4,813        | 1,583        |
| <b>310,553</b> | <b>10,953</b> | <b>2,276</b> | <b>52</b> | <b>4,813</b> | <b>1,583</b> |

<sup>1</sup> EMFAC2017 v1.0.3.

| Year | VMT from gasoline |        |        | VMT from diesel |       |       | VMT from electricity |       |
|------|-------------------|--------|--------|-----------------|-------|-------|----------------------|-------|
|      | LDA               | LDT1   | LDT2   | LDA             | LDT1  | LDT2  | LDA                  | LDT1  |
| 2021 | 97.06%            | 99.12% | 98.39% | 0.88%           | 0.04% | 0.72% | 2.06%                | 0.84% |
| 2022 | 97.06%            | 99.12% | 98.39% | 0.88%           | 0.04% | 0.72% | 2.06%                | 0.84% |

**Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallon of Gasoline**

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website<sup>[32]</sup>

| Vehicle                                | Model year | Electric consumption        | Gasoline fuel economy | Number of kWh that are equivalent to 1 gallon |
|--|------------|-----------------------------|-----------------------|---|
| Ford Fusion Energi & Ford C-Max Energi | 2013       | 0.34 kWh per mile           | 43 mpg                | 14.6  |
| Chevrolet Volt                         | 2013       | 0.35 kWh per mile           | 37 mpg                | 12.9  |
| Chevrolet Volt                         | 2012       | 0.36 kWh per mile           | 37 mpg                | 13.3  |
| Fisker Karma                           | 2012       | 0.62 kWh per mile           | 20 mpg                | 12.4  |
| Toyota Prius                           | 2013       | 0.29 kWh per mile & 0.2 gal | 50 mpg                | 13.1  |
| Average for five models                | -          | -                           | -                     | 13.3 +/- 0.8                                  |

Table A 5: Average power consumption per mile traveled over time for different PEV categories

| Year range                      | 2012-2020 | 2020-2030 | 2030-2040 | 2040-2050 | 2050  |
|---------------------------------|-----------|-----------|-----------|-----------|-------|
| Efficiency improvement per year | 0.3%      | 0.8%      | 0.9%      | 0.9%      |       |
| Year                            | 2012      | 2020      | 2030      | 2040      | 2050  |
| Relative energy efficiency      | 1.000     | 0.976     | 0.901     | 0.823     | 0.752 |

[https://www.fhwa.dot.gov/environment/climate\\_change/mitigation/publications\\_and\\_tools/ev\\_deployment/page08.cfm](https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm)

| Year | Estimated Electric Consumption |
|------|--------------------------------|
| 2013 | 0.34                           |
| 2014 | 0.34                           |
| 2015 | 0.34                           |
| 2016 | 0.34                           |
| 2017 | 0.34                           |
| 2018 | 0.34                           |
| 2019 | 0.34                           |
| 2020 | 0.33                           |
| 2021 | 0.33                           |
| 2022 | 0.33                           |
| 2023 | 0.33                           |
| 2024 | 0.32                           |
| 2025 | 0.32                           |
| 2026 | 0.32                           |
| 2027 | 0.32                           |
| 2028 | 0.31                           |
| 2029 | 0.31                           |
| 2030 | 0.31                           |
| 2031 | 0.31                           |
| 2032 | 0.30                           |
| 2033 | 0.30                           |
| 2034 | 0.30                           |
| 2035 | 0.29                           |

**Vendor Trips Fuel Usage Worksheet**

Note: Based on CalEEMod methodology, vendor vehicles HHDT (T7).

| Activity <sup>1</sup> | Daily trips <sup>1,2</sup> | Trip miles <sup>2</sup> | Trip days <sup>1</sup> | Annual VMT |
|-----------------------|----------------------------|-------------------------|------------------------|------------|
| 2022                  |                            |                         |                        |            |
| Building Demolition   | 2                          | 6.9                     | 31                     | 428        |
| Asphalt Demolition    | 2                          | 6.9                     | 8                      | 110        |
| Site Preparation      | 2                          | 6.9                     | 5                      | 69         |
| Building Construction | 39                         | 6.9                     | 132                    | 35,521     |
| Rough Grading         | 2                          | 6.9                     | 22                     | 304        |
| Utility Trenching     | 0                          | 6.9                     | 21                     | 0          |
| Fine Grading          | 2                          | 6.9                     | 12                     | 166        |
| Architectural Coating | 0                          | 6.9                     | 21                     | 0          |
| Finishing/Landscaping | 0                          | 6.9                     | 34                     | 0          |

<sup>1</sup> Based on information provided.

<sup>2</sup> Based on CalEEMod defaults.

| Year | HHDT (T7) VMT | MHDT (T6) VMT | Gasoline <sup>1</sup> |                   |               |                   | Diesel <sup>1</sup> |                   |               |                   |
|------|---------------|---------------|-----------------------|-------------------|---------------|-------------------|---------------------|-------------------|---------------|-------------------|
|      |               |               | HHDT (T7) mpg         | HHDT (T7) gallons | MHDT (T6) mpg | MHDT (T6) gallons | HHDT (T7) mpg       | HHDT (T7) gallons | MHDT (T6) mpg | MHDT (T6) gallons |
| 2022 | 18,299        | 18,299        | 4.10                  | 4                 | 5.04          | 583               | 6.59                | 2,688             | 10.52         | 1,460             |

<sup>1</sup> EMFAC2017 v1.0.3.

| Year | VMT from gasoline |           | VMT from diesel |           |
|------|-------------------|-----------|-----------------|-----------|
|      | HHDT (T7)         | MHDT (T6) | HHDT (T7)       | MHDT (T6) |
| 2022 | 0.08%             | 16.07%    | 96.85%          | 83.93%    |

| VENDOR          |               |               |              |
|-----------------|---------------|---------------|--------------|
| Gasoline        |               | Diesel        |              |
| VMT             | Gallons       | VMT           | Gallons      |
| 2,956.69        | 586.87        | 33,079        | 4,148        |
| <b>2,956.69</b> | <b>586.87</b> | <b>33,079</b> | <b>4,148</b> |

**Truck Haul Trips Fuel Usage Worksheet**

*Note: Hauling vehicles are HHDT (T7)*

| Activity            | Total Trips <sup>1</sup> | Mi/Trip <sup>1</sup> | Annual VMT |
|---------------------|--------------------------|----------------------|------------|
| 2022                |                          |                      |            |
| Building Demolition | 34                       | 7                    | 238        |
| Asphalt Demolition  | 117                      | 28                   | 3,276      |
| Rough Grading       | 2987                     | 25                   | 74,675     |

<sup>1</sup> Based on information provided by the District.

| Year | VMT    | Gasoline <sup>1</sup> |                   | Diesel <sup>1</sup> |                   |
|------|--------|-----------------------|-------------------|---------------------|-------------------|
|      |        | HHDT (T7) mpg         | HHDT (T7) gallons | HHDT (T7) mpg       | HHDT (T7) gallons |
| 2022 | 78,189 | 4.10                  | 16                | 6.59                | 11,665            |

<sup>1</sup> EMFAC2017 v1.0.3.

| Year | VMT from gasoline | VMT from diesel |
|------|-------------------|-----------------|
| 2022 | 0.08%             | 98.36%          |

| Gasoline  |           | Diesel        |               |
|-----------|-----------|---------------|---------------|
| VMT       | Gallons   | VMT           | Gallons       |
| 66        | 16        | 76,903        | 11,665        |
| <b>66</b> | <b>16</b> | <b>76,903</b> | <b>11,665</b> |

Off-Road Construction Equipment Fuel Usage Worksheet

| Year         | Total Gasoline | Total Diesel Gallons | Total Natural Gas |
|--------------|----------------|----------------------|-------------------|
| 2022         | 475            | 20,606               | 0                 |
| <b>Total</b> | <b>475</b>     | <b>20,606</b>        | <b>0</b>          |

| Equipment Type <sup>1</sup>          | Number of Equipment <sup>1</sup> | Horsepower | OFFROAD2017 Horsepower Category | Fuel Type        | 2022                      |               | Total Hours of Operation | Gasoline Gal/Hr <sup>2</sup> | Total Gasoline gallons | Diesel Gal/Hr <sup>2</sup> | Total Diesel gallons | Natural Gas Gal/Hr <sup>2</sup> | Total Natural Gas gallons |
|--------------------------------------|----------------------------------|------------|---------------------------------|------------------|---------------------------|---------------|--------------------------|------------------------------|------------------------|----------------------------|----------------------|---------------------------------|---------------------------|
|                                      |                                  |            |                                 |                  | Working days <sup>1</sup> | Hours Per Day |                          |                              |                        |                            |                      |                                 |                           |
| <b>Building Demolition</b>           |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Excavators                           | 1                                | 311        | 600                             | Diesel           | 31                        | 8             | 248                      | 0.00                         | 0                      | 6.68                       | 1,656                | 0.00                            | 0                         |
| Skid Steer Loaders                   | 1                                | 74.3       | 75                              | Diesel           | 31                        | 8             | 248                      | 0.00                         | 0                      | 1.34                       | 334                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 31                        |               |                          | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Tractors/Loaders/Backhoes            |                                  |            | 25                              | Select Fuel Type | 31                        |               |                          | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Welders                              |                                  |            | 25                              | Select Fuel Type | 31                        |               |                          | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 31                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 31                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 31                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Asphalt Demolition</b>            |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Excavators                           | 1                                | 311        | 600                             | Diesel           | 8                         | 8             | 64                       | 0.00                         | 0                      | 6.68                       | 427                  | 0.00                            | 0                         |
| Skid Steer Loaders                   | 1                                | 74.3       | 75                              | Diesel           | 8                         | 8             | 64                       | 0.00                         | 0                      | 1.34                       | 86                   | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 8                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Site Preparation</b>              |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Crawler Tractors                     | 1                                | 130        | 175                             | Diesel           | 5                         | 8             | 40                       | 0.00                         | 0                      | 3.31                       | 132                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 5                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Building Construction</b>         |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Aerial Lifts                         | 3                                | 74         | 75                              | Diesel           | 132                       | 6             | 2,376                    | 0.00                         | 0                      | 1.15                       | 2,739                | 0.00                            | 0                         |
| Forklifts                            | 3                                | 173        | 175                             | Diesel           | 132                       | 8             | 3,168                    | 0.00                         | 0                      | 1.58                       | 5,015                | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 132                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Rough Grading</b>                 |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Graders                              | 1                                | 179        | 300                             | Diesel           | 22                        | 8             | 176                      | 0.00                         | 0                      | 4.58                       | 806                  | 0.00                            | 0                         |
| Scrapers                             | 2                                | 365        | 600                             | Diesel           | 22                        | 8             | 352                      | 0.00                         | 0                      | 10.55                      | 3,715                | 0.00                            | 0                         |
| Scrapers                             | 2                                | 478        | 600                             | Diesel           | 22                        | 8             | 352                      | 0.00                         | 0                      | 10.55                      | 3,715                | 0.00                            | 0                         |
| Tractors/Loaders/Backhoes            | 1                                | 79         | 100                             | Diesel           | 22                        | 8             | 176                      | 0.00                         | 0                      | 1.59                       | 280                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 22                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 22                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 22                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 22                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Utility Trenching</b>             |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Tractors/Loaders/Backhoes            | 2                                | 70         | 75                              | Diesel           | 21                        | 8             | 336                      | 0.00                         | 0                      | 1.37                       | 459                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Fine Grading</b>                  |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Rollers                              | 1                                | 36         | 50                              | Diesel           | 12                        | 8             | 96                       | 0.00                         | 0                      | 0.77                       | 74                   | 0.00                            | 0                         |
| Tractors/Loaders/Backhoes            | 1                                | 79         | 100                             | Diesel           | 12                        | 8             | 96                       | 0.00                         | 0                      | 1.59                       | 153                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 12                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Architectural Coating</b>         |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Aerial Lifts                         | 3                                | 74         | 75                              | Diesel           | 21                        | 8             | 504                      | 0.00                         | 0                      | 1.15                       | 581                  | 0.00                            | 0                         |
| Air Compressors                      | 1                                | 78         | 100                             | Gasoline         | 21                        | 6             | 126                      | 3.77                         | 475                    | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 21                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Finishing/Landscaping</b>         |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Tractors/Loaders/Backhoes            | 1                                | 79         | 100                             | Diesel           | 34                        | 8             | 272                      | 0.00                         | 0                      | 1.59                       | 433                  | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 34                        |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Retail Architectural Coatings</b> |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 0                         |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
|                                      |                                  |            |                                 |                  |                           |               |                          | <b>TOTAL</b>                 | <b>475</b>             |                            | <b>20,606</b>        |                                 | <b>0</b>                  |

<sup>1</sup> Based on information provided.

<sup>2</sup> OFFROAD2017 v.1.0.1

**Off-Road Operation Equipment Fuel Usage Worksheet**

| Year   | Total Gasoline | Total Diesel | Total Natural Gas |
|--------|----------------|--------------|-------------------|
|        |                | Gallons      |                   |
| Year 1 | 0              | 99,173       | 0                 |

| Equipment Type <sup>1</sup>          | Number of Equipment <sup>1</sup> | Horsepower | OFFROAD2017 Horsepower Category | Fuel Type        | Working days <sup>1</sup> | Hours Per Day | Total Hours of Operation | Gasoline Gal/Hr <sup>2</sup> | Total Gasoline gallons | Diesel Gal/Hr <sup>2</sup> | Total Diesel gallons | Natural Gas Gal/Hr <sup>2</sup> | Total Natural Gas gallons |
|--------------------------------------|----------------------------------|------------|---------------------------------|------------------|---------------------------|---------------|--------------------------|------------------------------|------------------------|----------------------------|----------------------|---------------------------------|---------------------------|
| <b>Activity 1 (rename to actual)</b> |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Forklifts                            | 5                                | 100        | 100                             | Diesel           | 365                       | 7.00          | 12,775                   | 0.00                         | 0                      | 0.982                      | 12,543               | 0.00                            | 0                         |
| Yard Tractor                         | 10                               | 175        | 175                             | Diesel           | 365                       | 7.00          | 25,550                   | 0.00                         | 0                      | 3.391                      | 86,630               | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>Activity 2 (rename to actual)</b> |                                  |            |                                 |                  |                           |               |                          |                              |                        |                            |                      |                                 |                           |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| Select Equipment Type                |                                  |            | 25                              | Select Fuel Type | 365                       |               | 0                        | 0.00                         | 0                      | 0.00                       | 0                    | 0.00                            | 0                         |
| <b>TOTAL</b>                         |                                  |            |                                 |                  |                           |               |                          |                              | <b>0</b>               |                            | <b>99,173</b>        |                                 | <b>0</b>                  |

<sup>1</sup> Based on information provided.

<sup>2</sup> OFFROAD2017 v.1.0.1

OFFROAD 2022

| Region                       | Equipment Type           | Horsepower | Gas           |            |            | Diesel        |             |             | Natural Gas   |             |            |
|------------------------------|--------------------------|------------|---------------|------------|------------|---------------|-------------|-------------|---------------|-------------|------------|
|                              |                          |            | Fuel (Gal/yr) | Population | CO2 (Mtpy) | Fuel (Gal/yr) | Population  | CO2 (Mtpy)  | Fuel (Gal/yr) | Population  | CO2 (Mtpy) |
| Air Compressor25             | Air Compressor           | 25         | 4226.14       | 2891       | 1337939.50 | 0.00484422    | 0.00000000  | 0.00000000  | 0.00000000    | 0.00000000  | 0.00000000 |
| Air Compressor50             | Air Compressor           | 50         | 129761.15     | 1319       | 5796.35    | 2.24126844    | 238632.35   | 274.81      | 23269.93      | 1.02207642  | 0.00000000 |
| Air Compressor75             | Air Compressor           | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor100            | Air Compressor           | 100        | 207183.85     | 388.41     | 18772.06   | 3.76621180    | 461.61      | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor175            | Air Compressor           | 175        | 86563.44      | 173        | 12629      | 8.85483536    | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor300            | Air Compressor           | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor600            | Air Compressor           | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor750            | Air Compressor           | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Air Compressor9999           | Air Compressor           | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Aerial Lift25                | Aerial Lift              | 25         | 99207         | 302.95     | 113701.15  | 0.872524157   | 83201.75    | 453.6       | 181138.55     | 0.49592676  | 18398.65   |
| Aerial Lift50                | Aerial Lift              | 50         | 20794.84      | 361.73     | 13076.5    | 1.95093845    | 282188.7887 | 1340.47579  | 345146.8993   | 0.81790392  | 0.00000000 |
| Aerial Lift75                | Aerial Lift              | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Aerial Lift100               | Aerial Lift              | 100        | 372745.3      | 361.73     | 13076.5    | 2.851773248   | 14416.4648  | 381.5937638 | 115340.597    | 1.25208704  | 0.00000000 |
| Aerial Lift175               | Aerial Lift              | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Aerial Lift300               | Aerial Lift              | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Aerial Lift600               | Aerial Lift              | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Bore/Drill rig25             | Bore/Drill rig           | 25         | 7099.23       | 42.41      | 5391.3     | 1.31953880    | 481.3       | 32.4        | 208.95        | 0.66239564  | 0.00000000 |
| Bore/Drill rig50             | Bore/Drill rig           | 50         | 1361.45       | 49.1       | 529.25     | 2.572413793   | 2272.27208  | 17.74836312 | 635.672619    | 1.34705746  | 0.00000000 |
| Bore/Drill rig75             | Bore/Drill rig           | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Bore/Drill rig100            | Bore/Drill rig           | 100        | 15457.75      | 22.49      | 2407.7     | 6.436370213   | 13992.65444 | 45.53835862 | 1471.61808    | 2.197080808 | 0.00000000 |
| Bore/Drill rig175            | Bore/Drill rig           | 175        | 5383.75       | 5.67       | 504.96     | 9.049079255   | 52719.1283  | 42.77496988 | 1359.48081    | 1.89735411  | 0.00000000 |
| Bore/Drill rig300            | Bore/Drill rig           | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Bore/Drill rig600            | Bore/Drill rig           | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Bore/Drill rig750            | Bore/Drill rig           | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Bore/Drill rig9999           | Bore/Drill rig           | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer25    | Cement and Mortar Mixers | 25         | 234194.95     | 6548.81    | 607211.8   | 0.38855822    | 1753.46     | 176.7       | 5304.81       | 0.330880797 | 0.00000000 |
| Cement and Mortar Mixer50    | Cement and Mortar Mixers | 50         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer75    | Cement and Mortar Mixers | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer100   | Cement and Mortar Mixers | 100        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer175   | Cement and Mortar Mixers | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer300   | Cement and Mortar Mixers | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer600   | Cement and Mortar Mixers | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer750   | Cement and Mortar Mixers | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cement and Mortar Mixer9999  | Cement and Mortar Mixers | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws25   | Concrete/Industrial Saws | 25         | 209710.75     | 921.38     | 263821.8   | 0.80096799    | 558.45      | 1.26        | 755.55        | 0.739100435 | 0.00000000 |
| Concrete/Industrial Saws50   | Concrete/Industrial Saws | 50         | 12096.6       | 18.29      | 3116.35    | 2.17385339    | 8913.13     | 31.11       | 6481          | 3.36230336  | 0.00000000 |
| Concrete/Industrial Saws75   | Concrete/Industrial Saws | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws100  | Concrete/Industrial Saws | 100        | 30167.73      | 10.48      | 4398.16    | 4.74717467    | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws175  | Concrete/Industrial Saws | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws300  | Concrete/Industrial Saws | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws600  | Concrete/Industrial Saws | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws750  | Concrete/Industrial Saws | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Concrete/Industrial Saws9999 | Concrete/Industrial Saws | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes25                     | Cranes                   | 25         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes50                     | Cranes                   | 50         | 4485.85       | 5.97       | 2303.15    | 1.94720206    | 2269.93939  | 7.56070945  | 3279.32721    | 0.889625102 | 0.00000000 |
| Cranes75                     | Cranes                   | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes100                    | Cranes                   | 100        | 15351.9       | 11.14      | 4628.2     | 3.3170347     | 5109.59028  | 88.19985861 | 39145.3334    | 1.305202543 | 0.00000000 |
| Cranes175                    | Cranes                   | 175        | 1000.1        | 0.45       | 189.8      | 5.269270079   | 15451.227   | 16.9380076  | 7189.13731    | 2.18216112  | 0.00000000 |
| Cranes300                    | Cranes                   | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes600                    | Cranes                   | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes750                    | Cranes                   | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Cranes9999                   | Cranes                   | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor25            | Crawler Tractors         | 25         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor50            | Crawler Tractors         | 50         | 4829.15       | 13.79      | 3379.91    | 1.92404421    | 2129.8291   | 7.2182918   | 3028.1379     | 1.12278642  | 0.00000000 |
| Crawler Tractor75            | Crawler Tractors         | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor100           | Crawler Tractors         | 100        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor175           | Crawler Tractors         | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor300           | Crawler Tractors         | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor600           | Crawler Tractors         | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor750           | Crawler Tractors         | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crawler Tractor9999          | Crawler Tractors         | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment25   | Crushing/Proc. Equipment | 25         | 3135.38       | 10.25      | 3145.6     | 0.99536500    | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment50   | Crushing/Proc. Equipment | 50         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment75   | Crushing/Proc. Equipment | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment100  | Crushing/Proc. Equipment | 100        | 11906.1       | 6.44       | 1549.49    | 7.67276999    | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment175  | Crushing/Proc. Equipment | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment300  | Crushing/Proc. Equipment | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment600  | Crushing/Proc. Equipment | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment750  | Crushing/Proc. Equipment | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Crushing/Proc. Equipment9999 | Crushing/Proc. Equipment | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Dumpers/Tenders25            | Dumpers/Tenders          | 25         | 22385.45      | 436.26     | 65046.65   | 0.844145499   | 1744.7      | 7.62        | 5037          | 0.34617821  | 0.00000000 |
| Dumpers/Tenders100           | Dumpers/Tenders          | 100        | 1281.15       | 4.67       | 511        | 2.50742897    | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator25                  | Excavators               | 25         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator50                  | Excavators               | 50         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator75                  | Excavators               | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator100                 | Excavators               | 100        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator175                 | Excavators               | 175        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator300                 | Excavators               | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator600                 | Excavators               | 600        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator750                 | Excavators               | 750        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Excavator9999                | Excavators               | 9999       | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Forklifts25                  | Forklifts                | 25         | 4310.65       | 6.94       | 6252.45    | 0.63847327    | 862029709   | 0.48312357  | 149.085375    | 0.57875894  | 4881.9     |
| Forklifts50                  | Forklifts                | 50         | 348079.61     | 42.81      | 4.60246926 | 1.20842082    | 26829.5497  | 48.32827181 | 646841.14     | 2.689       | 44452.15   |
| Forklifts75                  | Forklifts                | 75         | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Forklifts100                 | Forklifts                | 100        | 1630432.5     | 4265.67    | 7648871.3  | 2.10765008    | 292161.835  | 4039.24876  | 298070.519    | 0.98127926  | 40482318.3 |
| Forklifts175                 | Forklifts                | 175        | 1120294.6     | 352.63     | 27319.35   | 4.23450739    | 897327.523  | 15.2874871  | 30064.84      | 3.3187282   | 345.411    |
| Forklifts300                 | Forklifts                | 300        | 0.00          | 0.00       | 0.00       | 0.00          | 0.00        | 0.00        | 0.00          | 0.00        | 0.00       |
| Forklifts600                 | Forklifts                | 600        | 0.00          | 0.00       | 0.00       | 0.00          |             |             |               |             |            |







EXISTING LAND USE

| Vehicle type | Fleet percent |             | VMT     | Total |
|--------------|---------------|-------------|---------|-------|
|              | Warehousing   | Warehousing |         |       |
| LDA          | 56.04%        | 211,949     | 211,949 |       |
| LDT1         | 6.34%         | 23,987      | 23,987  |       |
| LDT2         | 19.14%        | 72,373      | 72,373  |       |
| MDV          | 13.07%        | 49,426      | 49,426  |       |
| LHD1         | 2.35%         | 8,880       | 8,880   |       |
| LHD2         | 0.61%         | 2,292       | 2,292   |       |
| MHD          | 0.00%         | 0           | 0       |       |
| HHD          | 0.00%         | 0           | 0       |       |
| OBUS         | 0.00%         | 0           | 0       |       |
| UBUS         | 0.00%         | 0           | 0       |       |
| MCY          | 2.45%         | 9,279       | 9,279   |       |
| SBUS         | 0.00%         | 0           | 0       |       |
| MH           | 0.00%         | 0           | 0       |       |
|              | 100.00%       | 378,186     | 378,186 |       |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|--------------|--------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday     | Sunday       |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                        |                      |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                        |                      |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24        | 88.24        | 378,186                | 378,186              |
| <b>Total</b>                     | <b>88.24</b>            | <b>88.24</b> | <b>88.24</b> | <b>378,186</b>         | <b>378,186</b>       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191389 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

PROPOSED CONDITIONS

| Vehicle type | Gas percent | Diesel percent | CNG percent | Electricity percent |
|--------------|-------------|----------------|-------------|---------------------|
| LDA          | 97.06%      | 0.88%          | 0.00%       | 2.06%               |
| LDT1         | 99.12%      | 0.04%          | 0.00%       | 0.84%               |
| LDT2         | 98.39%      | 0.72%          | 0.00%       | 0.89%               |
| MDV          | 96.93%      | 2.32%          | 0.00%       | 0.75%               |
| LHD1         | 58.29%      | 41.71%         | 0.00%       | 0.00%               |
| LHD2         | 36.96%      | 63.04%         | 0.00%       | 0.00%               |
| MHD          | 16.07%      | 83.93%         | 0.00%       | 0.00%               |
| HHD          | 0.08%       | 98.36%         | 1.56%       | 0.00%               |
| OBUS         | 40.92%      | 59.08%         | 0.00%       | 0.00%               |
| UBUS         | 6.98%       | 0.25%          | 92.54%      | 0.23%               |
| MCY          | 100.00%     | 0.00%          | 0.00%       | 0.00%               |
| SBUS         | 33.67%      | 66.33%         | 0.00%       | 0.00%               |
| MH           | 75.55%      | 24.45%         | 0.00%       | 0.00%               |

<< Equal to T6 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)  
 << Equal to T7 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)  
 << Motor coach, all other buses, and OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

PROPOSED CONDITIONS

| Vehicle type | VMT            | Gasoline |               | Diesel       |            | CNG      |          | Electricity  |              |
|--------------|----------------|----------|---------------|--------------|------------|----------|----------|--------------|--------------|
|              |                | mpg      | Gallons       | mpg          | Gallons    | mpg      | Gallons  | m/kWh        | kWh          |
| LDA          | 205,712        | 30.28    | 6,793         | 47.29        | 40         | 0.00     | 0        | 4,364        | 1,435        |
| LDT1         | 23,776         | 26.12    | 910           | 21.78        | 9          | 0.00     | 0        | 202          | 66           |
| LDT2         | 71,207         | 24.33    | 2,927         | 34.76        | 15         | 0.00     | 0        | 646          | 212          |
| MDV          | 47,906         | 19.78    | 2,421         | 26.88        | 43         | 0.00     | 0        | 373          | 123          |
| LHD1         | 5,176          | 10.44    | 496           | 21.76        | 170        | 0.00     | 0        | 0            | 0            |
| LHD2         | 847            | 9.10     | 93            | 19.60        | 74         | 0.00     | 0        | 0            | 0            |
| MHD          | 0              | 5.04     | 0             | 10.52        | 0          | 0.00     | 0        | 0            | 0            |
| HHD          | 0              | 4.10     | 0             | 6.59         | 0          | 2.24     | 0        | 0            | 0            |
| OBUS         | 0              | 4.99     | 0             | 8.78         | 0          | 0.00     | 0        | 0            | 0            |
| UBUS         | 0              | 4.24     | 0             | 5.66         | 0          | 3.93     | 0        | 0            | 0            |
| MCY          | 9,279          | 35.70    | 260           | 0.00         | 0          | 0.00     | 0        | 0            | 0            |
| SBUS         | 0              | 9.19     | 0             | 7.63         | 0          | 0.00     | 0        | 0            | 0            |
| MH           | 0              | 5.14     | 0             | 10.54        | 0          | 0.00     | 0        | 0            | 0            |
|              | <b>363,903</b> |          | <b>13,900</b> | <b>8,698</b> | <b>342</b> | <b>0</b> | <b>0</b> | <b>5,584</b> | <b>1,836</b> |

Existing Land Use: Trucks

EXISTING LAND USE

| Vehicle type | Fleet percent |             | VMT         |         |
|--------------|---------------|-------------|-------------|---------|
|              | Warehousing   | Warehousing | Warehousing | Total   |
| LDA          | 0.00%         | 0           | 0           | 0       |
| LDT1         | 0.00%         | 0           | 0           | 0       |
| LDT2         | 0.00%         | 0           | 0           | 0       |
| MDV          | 0.00%         | 0           | 0           | 0       |
| LHD1         | 0.00%         | 0           | 0           | 0       |
| LHD2         | 0.00%         | 0           | 0           | 0       |
| MHD          | 50.00%        | 160,647     | 160,647     | 160,647 |
| HHD          | 50.00%        | 160,647     | 160,647     | 160,647 |
| OBUS         | 0.00%         | 0           | 0           | 0       |
| UBUS         | 0.00%         | 0           | 0           | 0       |
| MCY          | 0.00%         | 0           | 0           | 0       |
| SBUS         | 0.00%         | 0           | 0           | 0       |
| MH           | 0.00%         | 0           | 0           | 0       |
|              | 100.00%       | 321,294     | 321,294     | 321,294 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|--------------|--------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday     | Sunday       |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                        |                      |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                        |                      |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,294                | 321,294              |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,294</b>         | <b>321,294</b>       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

PROPOSED CONDITIONS

| Vehicle type | Gas percent | Diesel percent | CNG percent | Electricity percent |
|--------------|-------------|----------------|-------------|---------------------|
| MHD          | 0.00%       | 100.00%        | 0.00%       | 0.00%               |
| HHD          | 0.00%       | 100.00%        | 0.00%       | 0.00%               |

<--Assumes 100% diesel  
<--Assumes 100% diesel

PROPOSED CONDITIONS

| Vehicle type | VMT      | Gasoline |          | Diesel         |               | CNG      |          | Electricity |          |
|--------------|----------|----------|----------|----------------|---------------|----------|----------|-------------|----------|
|              |          | mpg      | Gallons  | mpg            | Gallons       | mpg      | Gallons  | m/kWh       | kWh      |
| LDA          | 0        | 30.28    | 0        | 47.29          | 0             | 0.00     | 0        | 3.04        | 0        |
| LDT1         | 0        | 26.12    | 0        | 21.78          | 0             | 0.00     | 0        | 3.04        | 0        |
| LDT2         | 0        | 24.33    | 0        | 34.76          | 0             | 0.00     | 0        | 3.04        | 0        |
| MDV          | 0        | 19.78    | 0        | 26.88          | 0             | 0.00     | 0        | 3.04        | 0        |
| LHD1         | 0        | 10.44    | 0        | 21.76          | 0             | 0.00     | 0        | 3.04        | 0        |
| LHD2         | 0        | 9.10     | 0        | 19.60          | 0             | 0.00     | 0        | 3.04        | 0        |
| MHD          | 0        | 5.04     | 0        | 10.52          | 15,269        | 0.00     | 0        | 3.04        | 0        |
| HHD          | 0        | 4.10     | 0        | 6.59           | 24,368        | 2.24     | 0        | 3.04        | 0        |
| OBUS         | 0        | 4.99     | 0        | 8.78           | 0             | 0.00     | 0        | 3.04        | 0        |
| UBUS         | 0        | 4.24     | 0        | 5.66           | 0             | 3.93     | 0        | 3.04        | 0        |
| MCY          | 0        | 35.70    | 0        | 0.00           | 0             | 0.00     | 0        | 3.04        | 0        |
| SBUS         | 0        | 9.19     | 0        | 7.63           | 0             | 0.00     | 0        | 3.04        | 0        |
| MH           | 0        | 5.14     | 0        | 10.54          | 0             | 0.00     | 0        | 3.04        | 0        |
| <b>Total</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>321,294</b> | <b>39,637</b> | <b>0</b> | <b>0</b> | <b>0</b>    | <b>0</b> |

Proposed Project - Passenger Cars

PROPOSED CONDITIONS

| Vehicle type | Fleet percent |             | Fleet percent |               | Total   |
|--------------|---------------|-------------|---------------|---------------|---------|
|              | Warehousing   | Warehousing | Manufacturing | Manufacturing |         |
| LDA          | 56.04%        | 354,933     | 56.04%        | 123,499       | 478,432 |
| LDT1         | 6.34%         | 40,169      | 6.34%         | 13,977        | 54,146  |
| LDT2         | 19.14%        | 121,197     | 19.14%        | 42,171        | 163,368 |
| MDV          | 13.07%        | 82,769      | 13.07%        | 28,799        | 111,568 |
| LHD1         | 2.35%         | 14,871      | 2.35%         | 5,174         | 20,046  |
| LHD2         | 0.61%         | 3,838       | 0.61%         | 1,335         | 5,173   |
| MHD          | 0.00%         | 0           | 0.00%         | 0             | 0       |
| HHD          | 0.00%         | 0           | 0.00%         | 0             | 0       |
| OBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| UBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MCY          | 2.45%         | 15,538      | 2.45%         | 5,407         | 20,945  |
| SBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MH           | 0.00%         | 0           | 0.00%         | 0             | 0       |
|              | 100.00%       | 633,315     | 100.00%       | 220,362       | 853,677 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|----------|--------|------------------------|----------------------|
|                                  | Weekday                 | Saturday | Sunday |                        |                      |
| Manufacturing                    | 49.76                   | 49.76    | 49.76  | 220,362                | 220,362              |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |                        |                      |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |                        |                      |
| Unrefrigerated Warehouse-No Rail | 147.77                  | 147.77   | 147.77 | 633,315                | 633,315              |
| Total                            | 197.54                  | 197.54   | 197.54 | 853,677                | 853,677              |

4.4 Fleet Mix

| Land Use                    | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH     |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|
| Manufacturing               | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.0000 |
| Other Asphalt Surfaces      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.0033 |
| Other Non-Asphalt Surfaces  | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.0033 |
| Parking Lot                 | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.0033 |
| Unrefrigerated Warehouse-No | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.0000 |

PROPOSED CONDITIONS

| Vehicle type | Gas percent | Diesel percent | CNG percent | Electricity percent |
|--------------|-------------|----------------|-------------|---------------------|
| LDA          | 97.06%      | 0.88%          | 0.00%       | 2.06%               |
| LDT1         | 99.12%      | 0.04%          | 0.00%       | 0.84%               |
| LDT2         | 98.39%      | 0.72%          | 0.00%       | 0.89%               |
| MDV          | 96.93%      | 2.32%          | 0.00%       | 0.75%               |
| LHD1         | 58.29%      | 41.71%         | 0.00%       | 0.00%               |
| LHD2         | 36.96%      | 63.04%         | 0.00%       | 0.00%               |
| MHD          | 16.07%      | 83.93%         | 0.00%       | 0.00%               |
| HHD          | 0.08%       | 98.36%         | 1.56%       | 0.00%               |
| OBUS         | 40.92%      | 59.08%         | 0.00%       | 0.00%               |
| UBUS         | 6.98%       | 0.25%          | 92.54%      | 0.23%               |
| MCY          | 100.00%     | 0.00%          | 0.00%       | 0.00%               |
| SBUS         | 33.67%      | 66.33%         | 0.00%       | 0.00%               |
| MH           | 75.55%      | 24.45%         | 0.00%       | 0.00%               |

<< Equal to T6 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)  
 << Equal to T7 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)  
 << Motor coach, all other buses, and OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

PROPOSED CONDITIONS

| Vehicle type | VMT     | Gasoline |         | Diesel |         | CNG |         | Electricity |       |
|--------------|---------|----------|---------|--------|---------|-----|---------|-------------|-------|
|              |         | mpg      | Gallons | mpg    | Gallons | mpg | Gallons | m/kWh       | kWh   |
| LDA          | 464,353 | 30.28    | 15,333  | 4.228  | 47.29   | 89  | 0       | 9,851       | 3,213 |
| LDT1         | 53,669  | 26.12    | 2,055   | 21     | 21.78   | 1   | 0       | 456         | 149   |
| LDT2         | 160,735 | 24.33    | 6,608   | 1,174  | 34.76   | 34  | 0       | 1,458       | 476   |
| MDV          | 108,138 | 19.78    | 5,466   | 2,589  | 26.88   | 96  | 0       | 841         | 274   |
| LHD1         | 11,685  | 10.44    | 1,119   | 8,361  | 21.76   | 384 | 0       | 0           | 0     |
| LHD2         | 1,912   | 9.10     | 210     | 3,261  | 19.60   | 166 | 0       | 0           | 0     |
| MHD          | 0       | 5.04     | 0       | 0      | 10.52   | 0   | 0       | 0           | 0     |
| HHD          | 0       | 4.10     | 0       | 0      | 6.59    | 0   | 0       | 2.24        | 0     |
| OBUS         | 0       | 4.99     | 0       | 0      | 8.78    | 0   | 0       | 0.00        | 0     |
| UBUS         | 0       | 4.24     | 0       | 0      | 5.66    | 0   | 0       | 3.93        | 0     |
| MCY          | 20,945  | 35.70    | 587     | 0      | 0.00    | 0   | 0       | 0.00        | 0     |
| SBUS         | 0       | 9.19     | 0       | 0      | 7.63    | 0   | 0       | 0.00        | 0     |
| MH           | 0       | 5.14     | 0       | 0      | 10.54   | 0   | 0       | 0.00        | 0     |
|              | 821,437 |          | 31,377  | 19,634 |         | 771 | 0       | 12,606      | 4,112 |

**Proposed Project - Trucks**

**PROPOSED CONDITIONS**

| Vehicle type | Fleet percent | VMT         | Fleet percent | VMT           |         |
|--------------|---------------|-------------|---------------|---------------|---------|
|              | Warehousing   | Warehousing | Manufacturing | Manufacturing | Total   |
| LDA          | 0.00%         | 0           | 0.00%         | 0             | 0       |
| LDT1         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| LDT2         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MDV          | 0.00%         | 0           | 0.00%         | 0             | 0       |
| LHD1         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| LHD2         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MHD          | 43.08%        | 204,426     | 43.08%        | 204,449       | 408,875 |
| HHD          | 56.92%        | 270,135     | 56.92%        | 270,165       | 540,300 |
| OBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| UBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MCY          | 0.00%         | 0           | 0.00%         | 0             | 0       |
| SBUS         | 0.00%         | 0           | 0.00%         | 0             | 0       |
| MH           | 0.00%         | 0           | 0.00%         | 0             | 0       |
|              | 100.00%       | 474,561     | 100.00%       | 474,614       | 949,175 |

**4.2 Trip Summary Information**

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|----------|--------|------------------------|----------------------|
|                                  | Weekday                 | Saturday | Sunday |                        |                      |
| Manufacturing                    | 32.59                   | 32.59    | 32.59  | 474,614                | 474,614              |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |                        |                      |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |                        |                      |
| Unrefrigerated Warehouse-No Rail | 32.59                   | 32.59    | 32.59  | 474,561                | 474,561              |
| Total                            | 65.17                   | 65.17    | 65.17  | 949,175                | 949,175              |

**4.4 Fleet Mix**

| Land Use                    | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing               | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces      | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Non-Asphalt Surfaces  | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Parking Lot                 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**PROPOSED CONDITIONS**

| Vehicle type | Gas percent | Diesel percent | CNG percent | Electricity percent |
|--------------|-------------|----------------|-------------|---------------------|
| MHD          | 0.00%       | 100.00%        | 0.00%       | 0.00%               |
| HHD          | 0.00%       | 100.00%        | 0.00%       | 0.00%               |

<---Assumes 100% diesel  
<---Assumes 100% diesel

**PROPOSED CONDITIONS**

| Vehicle type | VMT     | Gasoline |         | Diesel |         | CNG  |         | Electricity |     |
|--------------|---------|----------|---------|--------|---------|------|---------|-------------|-----|
|              |         | mpg      | Gallons | mpg    | Gallons | mpg  | Gallons | m/kWh       | kWh |
| LDA          | 0       | 30.28    | 0       | 47.29  | 0       | 0.00 | 0       | 3.07        | 0   |
| LDT1         | 0       | 26.12    | 0       | 21.78  | 0       | 0.00 | 0       | 3.07        | 0   |
| LDT2         | 0       | 24.33    | 0       | 34.76  | 0       | 0.00 | 0       | 3.07        | 0   |
| MDV          | 0       | 19.78    | 0       | 26.88  | 0       | 0.00 | 0       | 3.07        | 0   |
| LHD1         | 0       | 10.44    | 0       | 21.76  | 0       | 0.00 | 0       | 3.07        | 0   |
| LHD2         | 0       | 9.10     | 0       | 19.60  | 0       | 0.00 | 0       | 3.07        | 0   |
| MHD          | 408,875 | 5.04     | 0       | 10.52  | 38,861  | 0.00 | 0       | 3.07        | 0   |
| HHD          | 540,300 | 4.10     | 0       | 6.59   | 81,958  | 2.24 | 0       | 3.07        | 0   |
| OBUS         | 0       | 4.99     | 0       | 8.78   | 0       | 0.00 | 0       | 3.07        | 0   |
| UBUS         | 0       | 4.24     | 0       | 5.66   | 0       | 3.93 | 0       | 3.07        | 0   |
| MCY          | 0       | 35.70    | 0       | 0.00   | 0       | 0.00 | 0       | 3.07        | 0   |
| SBUS         | 0       | 9.19     | 0       | 7.63   | 0       | 0.00 | 0       | 3.07        | 0   |
| MH           | 0       | 5.14     | 0       | 10.54  | 0       | 0.00 | 0       | 3.07        | 0   |
|              | 949,175 |          | 0       |        | 120,819 | 0    | 0       |             | 0   |

EMFAC Fuel Usage: Year 2022

| Vehicle type    | GAS                |                   |              | DSL               |                  |              | NG             |                |              | ELEC             |
|-----------------|--------------------|-------------------|--------------|-------------------|------------------|--------------|----------------|----------------|--------------|------------------|
|                 | VMT/day            | Gallons/day       | Miles/gallon | VMT/day           | Gallons/day      | Miles/gallon | VMT/day        | Gallons/day    | Miles/gallon | VMT/day          |
| All other buses | 0                  | 0                 | 0.00         | 144,213           | 14,122           | 10.21        | 0              | 0              | 0.00         | 0                |
| LDA             | 149,966,457        | 4,951,891         | 30.28        | 1,365,564         | 28,876           | 47.29        | 0              | 0              | 0.00         | 3,181,478        |
| LDT1            | 17,043,180         | 652,540           | 26.12        | 6,627             | 304              | 21.78        | 0              | 0              | 0.00         | 144,752          |
| LDT2            | 51,802,173         | 2,129,498         | 24.33        | 378,461           | 10,888           | 34.76        | 0              | 0              | 0.00         | 469,870          |
| LHD1            | 3,836,225          | 367,280           | 10.44        | 2,744,971         | 126,149          | 21.76        | 0              | 0              | 0.00         | 0                |
| LHD2            | 625,803            | 68,770            | 9.10         | 1,067,421         | 54,454           | 19.60        | 0              | 0              | 0.00         | 0                |
| MCY             | 1,237,635          | 34,667            | 35.70        | 0                 | 0                | 0.00         | 0              | 0              | 0.00         | 0                |
| MDV             | 32,233,548         | 1,629,223         | 19.78        | 771,652           | 28,703           | 26.88        | 0              | 0              | 0.00         | 250,682          |
| MH              | 190,935            | 37,177            | 5.14         | 61,785            | 5,859            | 10.54        | 0              | 0              | 0.00         | 0                |
| Motor coach     | 0                  | 0                 | 0.00         | 91,142            | 13,998           | 6.51         | 0              | 0              | 0.00         | 0                |
| OBUS            | 163,041            | 32,643            | 4.99         | 0                 | 0                | 0.00         | 0              | 0              | 0.00         | 0                |
| PTO             | 0                  | 0                 | 0.00         | 76,505            | 15,508           | 4.93         | 0              | 0              | 0.00         | 0                |
| SBUS            | 55,608             | 6,053             | 9.19         | 109,536           | 14,360           | 7.63         | 0              | 0              | 0.00         | 0                |
| T6              | 793,122            | 157,239           | 5.04         | 4,140,797         | 393,561          | 10.52        | 0              | 0              | 0.00         | 0                |
| T7              | 5,769              | 1,407             | 4.10         | 6,735,541         | 1,021,710        | 6.59         | 106,828        | 47,783         | 2.24         | 0                |
| UBUS            | 32,989             | 7,783             | 4.24         | 1,181             | 209              | 5.66         | 437,121        | 111,088        | 3.93         | 1,070            |
| <b>Total</b>    | <b>257,986,485</b> | <b>10,076,171</b> | <b>25.60</b> | <b>17,695,397</b> | <b>1,728,701</b> | <b>10.24</b> | <b>543,949</b> | <b>158,871</b> | <b>3.42</b>  | <b>4,047,852</b> |

Source: EMFAC2017 (v1.0.3) Emissions Inventory  
 Region Type: Sub-Area  
 Region: Los Angeles (SC)  
 Calendar Year: 2022  
 Season: Annual  
 Vehicle Classification: EMFAC2011 Categories  
 Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region           | Calendar Year | Vehicle Category              | Model Year | Speed     | Fuel        | Population  | VMT         | Trips       | Fuel Consumption |
|------------------|---------------|-------------------------------|------------|-----------|-------------|-------------|-------------|-------------|------------------|
| Los Angeles (SC) | 2022          | All Other Buses               | Aggregate  | Aggregate | Diesel      | 2387.615771 | 144212.5891 | 20055.97247 | 14.12157342      |
| Los Angeles (SC) | 2022          | LDA                           | Aggregate  | Aggregate | Gasoline    | 3949334.32  | 149966456.8 | 18636854.28 | 4951.890616      |
| Los Angeles (SC) | 2022          | LDA                           | Aggregate  | Aggregate | Diesel      | 34750.74201 | 1365564.321 | 164528.3052 | 28.87579459      |
| Los Angeles (SC) | 2022          | LDA                           | Aggregate  | Aggregate | Electricity | 78084.60157 | 3181477.948 | 389918.6908 | 0                |
| Los Angeles (SC) | 2022          | LDT1                          | Aggregate  | Aggregate | Gasoline    | 458115.2498 | 17043179.81 | 2118381.376 | 652.5401757      |
| Los Angeles (SC) | 2022          | LDT1                          | Aggregate  | Aggregate | Diesel      | 270.6503295 | 6627.200698 | 961.4710483 | 0.304298206      |
| Los Angeles (SC) | 2022          | LDT1                          | Aggregate  | Aggregate | Electricity | 3508.68045  | 144752.0157 | 17546.16027 | 0                |
| Los Angeles (SC) | 2022          | LDT2                          | Aggregate  | Aggregate | Gasoline    | 1372144.276 | 51802172.9  | 6443902.5   | 2129.497975      |
| Los Angeles (SC) | 2022          | LDT2                          | Aggregate  | Aggregate | Diesel      | 8920.377392 | 378460.5711 | 44003.20424 | 10.88805719      |
| Los Angeles (SC) | 2022          | LDT2                          | Aggregate  | Aggregate | Electricity | 14383.25646 | 469869.8144 | 72773.64326 | 0                |
| Los Angeles (SC) | 2022          | LHD1                          | Aggregate  | Aggregate | Gasoline    | 105423.6869 | 3836224.58  | 1570655.854 | 367.2799521      |
| Los Angeles (SC) | 2022          | LHD1                          | Aggregate  | Aggregate | Diesel      | 64097.22758 | 2744971.33  | 806262.4886 | 126.1492688      |
| Los Angeles (SC) | 2022          | LHD2                          | Aggregate  | Aggregate | Gasoline    | 17796.61867 | 625803.0177 | 265143.1013 | 68.76969502      |
| Los Angeles (SC) | 2022          | LHD2                          | Aggregate  | Aggregate | Diesel      | 25927.3097  | 1067421.343 | 326132.9395 | 54.45422002      |
| Los Angeles (SC) | 2022          | MCY                           | Aggregate  | Aggregate | Gasoline    | 177319.3254 | 1237635.154 | 354638.6508 | 34.66720507      |
| Los Angeles (SC) | 2022          | MDV                           | Aggregate  | Aggregate | Gasoline    | 921693.6708 | 32233548.24 | 4274374.135 | 1629.222502      |
| Los Angeles (SC) | 2022          | MDV                           | Aggregate  | Aggregate | Diesel      | 19516.67089 | 771652.3864 | 96044.41776 | 28.70279505      |
| Los Angeles (SC) | 2022          | MDV                           | Aggregate  | Aggregate | Electricity | 7423.218148 | 250681.8433 | 37959.59904 | 0                |
| Los Angeles (SC) | 2022          | MH                            | Aggregate  | Aggregate | Gasoline    | 18777.11371 | 190934.9774 | 1878.462455 | 37.17660803      |
| Los Angeles (SC) | 2022          | MH                            | Aggregate  | Aggregate | Diesel      | 5865.304828 | 61785.30748 | 586.5304828 | 5.859423982      |
| Los Angeles (SC) | 2022          | Motor Coach                   | Aggregate  | Aggregate | Diesel      | 676.2916755 | 91141.88557 | 9873.858462 | 13.99760817      |
| Los Angeles (SC) | 2022          | OBUS                          | Aggregate  | Aggregate | Gasoline    | 3972.712037 | 163041.1007 | 79486.02243 | 32.64328018      |
| Los Angeles (SC) | 2022          | PTO                           | Aggregate  | Aggregate | Diesel      | 0           | 76505.4461  | 0           | 15.50775389      |
| Los Angeles (SC) | 2022          | SBUS                          | Aggregate  | Aggregate | Gasoline    | 1378.869452 | 55608.41612 | 5515.47781  | 6.053496228      |
| Los Angeles (SC) | 2022          | SBUS                          | Aggregate  | Aggregate | Diesel      | 3460.157096 | 109535.682  | 39929.73315 | 14.35975618      |
| Los Angeles (SC) | 2022          | T6 Ag                         | Aggregate  | Aggregate | Diesel      | 12.10479957 | 101.9666453 | 53.26111809 | 0.012181572      |
| Los Angeles (SC) | 2022          | T6 CAIRP heavy                | Aggregate  | Aggregate | Diesel      | 272.1638062 | 53846.97659 | 3973.591571 | 4.680155196      |
| Los Angeles (SC) | 2022          | T6 CAIRP small                | Aggregate  | Aggregate | Diesel      | 144.6349106 | 7530.75419  | 2111.669694 | 0.699944378      |
| Los Angeles (SC) | 2022          | T6 instate construction heavy | Aggregate  | Aggregate | Diesel      | 2518.967495 | 168570.4564 | 11388.15411 | 16.56194729      |
| Los Angeles (SC) | 2022          | T6 instate construction small | Aggregate  | Aggregate | Diesel      | 8157.753968 | 433957.0754 | 36880.88852 | 42.40587222      |
| Los Angeles (SC) | 2022          | T6 instate heavy              | Aggregate  | Aggregate | Diesel      | 10296.35106 | 1423092.141 | 118818.4637 | 128.9338909      |
| Los Angeles (SC) | 2022          | T6 instate small              | Aggregate  | Aggregate | Diesel      | 37908.6179  | 1932060.83  | 437460.1947 | 186.9232192      |
| Los Angeles (SC) | 2022          | T6 OOS heavy                  | Aggregate  | Aggregate | Diesel      | 156.4590604 | 31080.56962 | 2284.302283 | 2.699014263      |
| Los Angeles (SC) | 2022          | T6 OOS small                  | Aggregate  | Aggregate | Diesel      | 83.58460294 | 4317.240411 | 1220.335203 | 0.407173955      |
| Los Angeles (SC) | 2022          | T6 Public                     | Aggregate  | Aggregate | Diesel      | 4445.935083 | 69430.49194 | 13486.00307 | 8.507368053      |
| Los Angeles (SC) | 2022          | T6 utility                    | Aggregate  | Aggregate | Diesel      | 996.7203316 | 16808.24099 | 11462.28381 | 1.735997959      |
| Los Angeles (SC) | 2022          | T6TS                          | Aggregate  | Aggregate | Gasoline    | 14505.49561 | 793122.3284 | 290225.9562 | 157.2392835      |
| Los Angeles (SC) | 2022          | T7 Ag                         | Aggregate  | Aggregate | Diesel      | 5.193051548 | 102.8930892 | 22.84942681 | 0.01852168       |
| Los Angeles (SC) | 2022          | T7 CAIRP                      | Aggregate  | Aggregate | Diesel      | 6003.500987 | 1067306.387 | 87651.11441 | 155.0696328      |
| Los Angeles (SC) | 2022          | T7 CAIRP construction         | Aggregate  | Aggregate | Diesel      | 671.4917023 | 121085.6232 | 3035.787878 | 16.55458348      |
| Los Angeles (SC) | 2022          | T7 NNOOS                      | Aggregate  | Aggregate | Diesel      | 6498.761345 | 1301079.701 | 94881.91563 | 179.099333       |
| Los Angeles (SC) | 2022          | T7 NOOS                       | Aggregate  | Aggregate | Diesel      | 2371.048773 | 419354.6563 | 34617.31208 | 62.47642547      |
| Los Angeles (SC) | 2022          | T7 POLA                       | Aggregate  | Aggregate | Diesel      | 8258.014728 | 1072153.038 | 62760.91194 | 188.7409496      |
| Los Angeles (SC) | 2022          | T7 Public                     | Aggregate  | Aggregate | Diesel      | 5475.906144 | 110937.1004 | 16610.24862 | 19.0808356       |
| Los Angeles (SC) | 2022          | T7 Single                     | Aggregate  | Aggregate | Diesel      | 5794.937297 | 385296.7187 | 66872.77297 | 58.88961274      |
| Los Angeles (SC) | 2022          | T7 single construction        | Aggregate  | Aggregate | Diesel      | 4300.116371 | 300391.1598 | 19440.65893 | 44.46501106      |
| Los Angeles (SC) | 2022          | T7 SWCV                       | Aggregate  | Aggregate | Diesel      | 1379.990695 | 56384.18389 | 5381.963711 | 27.81339016      |
| Los Angeles (SC) | 2022          | T7 SWCV                       | Aggregate  | Aggregate | Natural Gas | 2623.533087 | 106827.7218 | 10231.77904 | 47.782843        |
| Los Angeles (SC) | 2022          | T7 tractor                    | Aggregate  | Aggregate | Diesel      | 12166.67647 | 1645420.533 | 154516.7912 | 230.7310322      |
| Los Angeles (SC) | 2022          | T7 tractor construction       | Aggregate  | Aggregate | Diesel      | 3592.159925 | 247796.2601 | 16240.01536 | 37.46414496      |
| Los Angeles (SC) | 2022          | T7 utility                    | Aggregate  | Aggregate | Diesel      | 405.4684121 | 8232.431424 | 4662.886739 | 1.306947156      |
| Los Angeles (SC) | 2022          | T7IS                          | Aggregate  | Aggregate | Gasoline    | 55.2683338  | 5768.621752 | 1105.808823 | 1.407168754      |
| Los Angeles (SC) | 2022          | UBUS                          | Aggregate  | Aggregate | Gasoline    | 460.6006493 | 32989.32038 | 1842.402597 | 7.783285084      |
| Los Angeles (SC) | 2022          | UBUS                          | Aggregate  | Aggregate | Diesel      | 10.1389     | 1181.230112 | 40.5556     | 0.208547568      |
| Los Angeles (SC) | 2022          | UBUS                          | Aggregate  | Aggregate | Electricity | 12          | 1070.403311 | 48          | 0                |
| Los Angeles (SC) | 2022          | UBUS                          | Aggregate  | Aggregate | Natural Gas | 4129.345993 | 437121.0718 | 16517.38397 | 111.0876976      |

**CalEEMod Inputs - Construction**

Name:

Project Number: IRW-03  
 Project Location:  
 County: Los Angeles County (SC)  
 Source Receptor Area (SRA): 9 - East San Gabriel Valley  
 Climate Zone: 9  
 Land Use Setting: Urban  
 Utility Company: SCE  
 Air Basin: South Coast Air Basin  
 Air District: South Coast Air Quality Management District (SCAQMD)

|                        | Main Project Site | Off-Site Area | Total |
|------------------------|-------------------|---------------|-------|
| Project Site Acreage   | 5.89              | 0.13          | 6.02  |
| Disturbed Site Acreage | 5.89              | 0.13          | 6.02  |

| New Construction       |                    |                 |             |
|------------------------|--------------------|-----------------|-------------|
|                        | Land Use Area (SF) | Floor Area (SF) | Acres       |
| Warehouse              | 103,670            | 103,670         | 2.38        |
| Manufacturing          | 17,000             | 17,000          | 0.39        |
| Office                 | 9,160              | 4,830           | 0.11        |
| <b>TOTAL BUILDING</b>  |                    | <b>125,500</b>  | <b>2.88</b> |
| Landscaping            | 27,979             | 27,979          | 0.64        |
| Parking Lot            | 123                | 20,193          | 0.46        |
| Roadway Dedication     | 5,663              | 5,663           | 0.13        |
| Other Asphalt Surfaces | 82,896             | 82,896          | 1.90        |

| Parking Space Type | Size (Square Feet/Stall) | Number of Stalls | Total Area (SqFt) |
|--------------------|--------------------------|------------------|-------------------|
| Standard           | 171                      | 91               | 15,561            |
| Compact            | 120                      | 21               | 2,520             |
| Parallel           | 192                      | 11               | 2,112             |
| <b>Total</b>       | n/a                      | <b>123</b>       | <b>20,193</b>     |

**CalEEMod Land Use Inputs**

| Land Use Type | Land Use Subtype         | Unit Amount | Size Metric | Lot Acreage | Land Use Square Feet |
|---------------|--------------------------|-------------|-------------|-------------|----------------------|
| Industrial    | Warehouse                | 112,830     | 1000 BSF    | 2.49        | 112,830              |
| Industrial    | General Light Industrial | 17,000      | 1000 BSF    | 0.39        | 17,000               |
| Parking Lot   | Parking Lot              | 123         | Stalls      | 0.46        | 20,193               |
| Parking Lot   | Other Non-Asphalt        | 27,979      | 1000 BSF    | 0.64        | 0                    |
| Parking Lot   | Other Asphalt            | 2.03        | Acre        | 2.03        | 88,559               |
|               |                          |             |             | 6.02        |                      |

**Demolition**

| Component           | Tons Demolished | Haul Truck Capacity |                        | Total Trip Ends | Duration (days) | Trip Ends/ day |
|---------------------|-----------------|---------------------|------------------------|-----------------|-----------------|----------------|
|                     |                 | (tons)              | Haul Distance (miles)* |                 |                 |                |
| Building Demolition | 323             | 20                  | 7                      | 34              | 31              | 1              |
| Asphalt Demolition  | 1,130           | 20                  | 28                     | 114             | 8               | 14             |

**Soil Haul**

| Construction Activities | Haul Volume (cy) | Haul Truck Capacity (CY) | Haul Distance (miles) | Total Trip Ends | Duration (days) | Trip Ends/ day |
|-------------------------|------------------|--------------------------|-----------------------|-----------------|-----------------|----------------|
| Rough Grading Import    | 14,933           | 10                       | 25.00                 | 2,987           | 22              | 136            |

**Architectural Coating**

| Land Use                     | Land Use Square Feet | CalEEMod Factor <sup>1</sup> | Total Paintable Surface Area | Paintable Interior Area <sup>2</sup> | Paintable Exterior Area <sup>1</sup> |
|------------------------------|----------------------|------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| Warehouse                    | 112,830              | 2.0                          | 225,660                      | 169,245                              | 56,415                               |
| General Light Industrial     | 17,000               | 2.0                          | 34,000                       | 25,500                               | 8,500                                |
| <b>Total Non-Residential</b> | <b>129,830</b>       |                              | <b>259,660</b>               | <b>194,745</b>                       | <b>64,915</b>                        |
|                              |                      |                              | 259,660                      | 194,745                              | 64,915                               |
| Parking Lot                  | 108,752              | 6%                           | 6,525                        | -                                    | 6,525                                |
|                              |                      |                              | 6,525                        |                                      | 6,525                                |

<sup>1</sup> The program assumes the total surface for painting equals 2 times the floor square footage for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.  
<sup>2</sup> CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

**Construction Mitigation**

**South Coast AQMD Rule 403**

|                      |        |   |             |
|----------------------|--------|---|-------------|
| Replace Ground Cover | PM10:  | 5 | % Reduction |
| Replace Ground Cover | PM2.5: | 5 | % Reduction |

**Water Exposed Area**

|            |    |             |
|------------|----|-------------|
| Frequency: | 2  | per day     |
| PM10:      | 55 | % Reduction |
| PM25:      | 55 | % Reduction |

**Unpaved Roads**

|                |    |     |
|----------------|----|-----|
| Vehicle Speed: | 15 | mph |
|----------------|----|-----|

**South Coast AQMD Rule 1186**

|                  |   |                |
|------------------|---|----------------|
| Clean Paved Road | 9 | % PM Reduction |
|------------------|---|----------------|

**Construction Activities and Schedule Assumptions:**

\* based on info provided by applicant

**CalEEMod Construction Schedule**

|                         |                       | Construction Schedule |           |                             |
|-------------------------|-----------------------|-----------------------|-----------|-----------------------------|
| Construction Activities | Phase Type            | Start Date            | End Date  | CalEEMod Duration (Workday) |
| Building Demolition     | Demolition            | 1/15/2022             | 2/28/2022 | 31                          |
| Asphalt Demolition      | Demolition            | 2/1/2022              | 2/10/2022 | 8                           |
| Site Preparation        | Site Preparation      | 3/1/2022              | 3/7/2022  | 5                           |
| Building Construction   | Building Construction | 3/2/2022              | 9/1/2022  | 132                         |
| Rough Grading           | Grading               | 3/5/2022              | 4/5/2022  | 22                          |
| Utility Trenching       | Trenching             | 4/1/2022              | 5/1/2022  | 21                          |
| Fine Grading            | Grading               | 6/15/2022             | 6/30/2022 | 12                          |
| Architectural Coating   | Architectural Coating | 7/1/2022              | 7/31/2022 | 21                          |
| Finishing/Landscaping   | Trenching             | 8/1/2022              | 9/15/2022 | 34                          |

**Adjusted Construction Schedule for CalEEMod**

|                         |                       | Construction Schedule |           |                             |
|-------------------------|-----------------------|-----------------------|-----------|-----------------------------|
| Construction Activities | Phase Type            | Start Date            | End Date  | CalEEMod Duration (Workday) |
| Building Demolition     | Demolition            | 2/1/2022              | 3/15/2022 | 31                          |
| Asphalt Demolition      | Demolition            | 2/18/2022             | 3/1/2022  | 8                           |
| Site Preparation        | Site Preparation      | 3/18/2022             | 3/24/2022 | 5                           |
| Building Construction   | Building Construction | 3/19/2022             | 9/20/2022 | 132                         |
| Rough Grading           | Grading               | 3/22/2022             | 4/20/2022 | 22                          |
| Utility Trenching       | Trenching             | 3/22/2022             | 4/19/2022 | 21                          |
| Fine Grading            | Grading               | 6/5/2022              | 6/21/2022 | 12                          |
| Architectural Coating   | Architectural Coating | 6/22/2022             | 7/20/2022 | 21                          |
| Finishing/Landscaping   | Trenching             | 7/21/2022             | 9/6/2022  | 34                          |

**Overlapping Construction Schedule**

| Construction Schedule                                     |            |           |                             |
|---|------------|-----------|-----------------------------|
| Construction Activities                                   | Start Date | End Date  | CalEEMod Duration (Workday) |
| Building Demolition                                       | 2/1/2022   | 2/17/2022 | 13                          |
| Building Demolition & Asphalt Demolition                  | 2/18/2022  | 3/1/2022  | 8                           |
| Building Demolition                                       | 3/2/2022   | 3/15/2022 | 10                          |
| Site Preparation  | 3/18/2022  | 3/18/2022 | 1                           |
| Site Preparation & Building Construction                  | 3/19/2022  | 3/21/2022 | 1                           |
| Site Preparation, Building Construction, & Rough Grading  | 3/22/2022  | 3/24/2022 | 3                           |
| Building Construction & Rough Grading                     | 3/25/2022  | 4/17/2022 | 16                          |
| Building Construction, Rough Grading, & Utility Trenching | 4/18/2022  | 4/20/2022 | 3                           |
| Building Construction & Utility Trenching                 | 4/21/2022  | 5/16/2022 | 18                          |
| Building Construction                                     | 5/17/2022  | 7/1/2022  | 34                          |
| Building Construction & Fine Grading                      | 7/2/2022   | 7/19/2022 | 12                          |
| Building Construction & Architectural Coating             | 7/20/2022  | 8/17/2022 | 21                          |
| Building Construction & Finishing/Landscaping             | 8/18/2022  | 9/20/2022 | 24                          |
| Finishing/Landscaping                                     | 9/21/2022  | 10/4/2022 | 10                          |

**CalEEMod Construction Off-Road Equipment Inputs:**

*\*Based on data verified by applicant, CalEEMod default used for construction equipment*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

| Construction Equipment Details   |                         |                |        |      |              |             |
|----------------------------------|-------------------------|----------------|--------|------|--------------|-------------|
| Equipment                        | model                   | # of Equipment | hr/day | hp   | load factor* | total trips |
| <b>Building Demolition</b>       |                         |                |        |      |              |             |
| Excavator                        | 336                     | 1              | 8      | 311  | 0.38         |             |
| Skidsteer Loader                 | 262                     | 1              | 8      | 74.3 | 0.37         |             |
| Worker Trips                     |                         |                |        |      |              | 5           |
| Vendor Trips                     |                         |                |        |      |              | 0           |
| Hauling Trips                    |                         |                |        |      |              |             |
| Water Trucks                     |                         |                |        |      |              | 34          |
| <b>Asphalt Demolition</b>        |                         |                |        |      |              |             |
| Excavator                        | 336                     | 1              | 8      | 311  | 0.38         |             |
| Skidsteer Loader                 | 262                     | 1              | 8      | 74.3 | 0.37         |             |
| Worker Trips                     |                         |                |        |      |              | 5           |
| Vendor Trips                     |                         |                |        |      |              |             |
| Hauling Trips                    |                         |                |        |      |              | 114         |
| Water Trucks                     |                         |                |        |      |              | 2           |
| <b>Site Preparation</b>          |                         |                |        |      |              |             |
| Dozer Tractor                    | D4                      | 1              | 8      | 130  | 0.43         |             |
| Worker Trips                     |                         |                |        |      |              | 3           |
| Vendor Trips                     |                         |                |        |      |              | 2           |
| <i>Vendor Trips</i>              |                         |                |        |      |              | 0           |
| <i>Water Trucks</i>              |                         |                |        |      |              | 2           |
| Hauling Trips                    |                         |                |        |      |              | 0           |
| <b>Building Construction</b>     |                         |                |        |      |              |             |
| Forklift                         | 300                     | 3              | 8      | 173  | 0.2          |             |
| Aerial Lift                      | Boomlift S45            | 3              | 8      | 74   | 0.31         |             |
| Worker Trips                     |                         |                |        |      |              | 100         |
| Vendor Trips                     |                         |                |        |      |              | 39          |
| Hauling Trips                    |                         |                |        |      |              | 0           |
| <b>Rough Grading</b>             |                         |                |        |      |              |             |
| Scraper                          | 623                     | 2              | 8      | 365  | 0.48         |             |
| Scraper                          | 657                     | 2              | 8      | 478  | 0.48         |             |
| Grader                           | 140                     | 1              | 8      | 179  | 0.41         |             |
| Tractor/Loader/Backhoe           | Skip Loader Tractor 570 | 1              | 8      | 79   | 0.37         |             |
| Worker Trips                     |                         |                |        |      |              | 15          |
| Vendor Trips                     |                         |                |        |      |              | 2           |
| <i>Vendor Trips</i>              |                         |                |        |      |              | 0           |
| <i>Water Trucks</i>              |                         |                |        |      |              | 2           |
| Hauling Trips                    |                         |                |        |      |              | 2,987       |
| <b>Utilities Trenching</b>       |                         |                |        |      |              |             |
| Tractor/Loader/Backhoe           | Loader Backhoe 310      | 2              | 8      | 70   | 0.37         |             |
| Worker Trips                     |                         |                |        |      |              | 5           |
| Vendor Trips                     |                         |                |        |      |              | 0           |
| <b>Fine Grading</b>              |                         |                |        |      |              |             |
| Tractor/Loader/Backhoe           | Skip Loader Tractor 570 | 1              | 8      | 79   | 0.37         |             |
| Roller                           | Vibratory Roller 24     | 1              | 8      | 36   | 0.38         |             |
| Worker Trips                     |                         |                |        |      |              | 5           |
| Vendor Trips                     |                         |                |        |      |              | 2           |
| <i>Vendor Trips</i>              |                         |                |        |      |              | 0           |
| <i>Water Trucks</i>              |                         |                |        |      |              | 2           |
| Hauling Trips                    |                         |                |        |      |              |             |
| <b>Architectural Coating</b>     |                         |                |        |      |              |             |
| Aerial Lift                      | Boomlift S45            | 3              | 8      | 74   | 0.31         |             |
| Worker Trips                     |                         |                |        |      |              | 20          |
| Vendor Trips                     |                         |                |        |      |              | 0           |
| <b>Finishing and Landscaping</b> |                         |                |        |      |              |             |
| Tractor/Loader/Backhoe           | Skip Loader Tractor 570 | 1              | 8      | 79   | 0.37         |             |
| Worker Trips                     |                         |                |        |      |              | 3           |
| Vendor Trips                     |                         |                |        |      |              | 0           |
| Hauling Trips                    |                         |                |        |      |              | 0           |

**Construction Trips Worksheet**

| Phase Name            | Worker Trip Ends Per | Vendor Trip Ends Per | Haul Truck Trip Ends | Total Haul Truck | Start Date | End Date  | Workdays |
|-----------------------|----------------------|----------------------|----------------------|------------------|------------|-----------|----------|
|                       | Day                  | Day                  | Per Day              | Trip Ends        |            |           |          |
| Building Demolition   | 5                    | 2                    | 2                    | 34               | 2/1/2022   | 3/15/2022 | 31       |
| Asphalt Demolition    | 5                    | 2                    | 15                   | 114              | 2/18/2022  | 3/1/2022  | 8        |
| Site Preparation      | 3                    | 2                    | 0                    | 0                | 3/18/2022  | 3/24/2022 | 5        |
| Building Construction | 100                  | 39                   | 0                    | 0                | 3/19/2022  | 9/20/2022 | 132      |
| Rough Grading         | 15                   | 2                    | 136                  | 2,987            | 3/22/2022  | 4/20/2022 | 22       |
| Utility Trenching     | 5                    | 0                    | 0                    | 0                | 4/18/2022  | 5/16/2022 | 21       |
| Fine Grading          | 5                    | 2                    | 0                    | 0                | 7/2/2022   | 7/19/2022 | 12       |
| Architectural Coating | 20                   | 0                    | 0                    | 0                | 7/20/2022  | 8/17/2022 | 21       |
| Finishing/Landscaping | 3                    | 0                    | 0                    | 0                | 8/18/2022  | 10/4/2022 | 34       |

| Construction Scenarios                                    | Worker Trip Ends Per | Vendor Trip Ends Per | Haul Truck Trip Ends | Total Trip Ends | Start Date | End Date  | Workdays |
|---|----------------------|----------------------|----------------------|-----------------|------------|-----------|----------|
|   | Day                  | Day                  | Per Day              | Per Day         |            |           |          |
| Building Demolition                                       | 5                    | 2                    | 2                    | 9               | 2/1/2022   | 2/17/2022 | 13       |
| Building Demolition & Asphalt Demolition                  | 10                   | 4                    | 17                   | 31              | 2/18/2022  | 3/1/2022  | 8        |
| Building Demolition                                       | 5                    | 2                    | 2                    | 9               | 3/2/2022   | 3/15/2022 | 10       |
| Site Preparation  | 3                    | 2                    | 0                    | 5               | 3/18/2022  | 3/18/2022 | 1        |
| Site Preparation & Building Construction                  | 103                  | 41                   | 0                    | 144             | 3/19/2022  | 3/21/2022 | 1        |
| Site Preparation, Building Construction, & Rough Grading  | 118                  | 43                   | 136                  | 297             | 3/22/2022  | 3/24/2022 | 3        |
| Building Construction & Rough Grading                     | 115                  | 41                   | 136                  | 292             | 3/25/2022  | 4/17/2022 | 16       |
| Building Construction, Rough Grading, & Utility Trenching | 120                  | 41                   | 136                  | 297             | 4/18/2022  | 4/20/2022 | 3        |
| Building Construction & Utility Trenching                 | 105                  | 39                   | 0                    | 144             | 4/21/2022  | 5/16/2022 | 18       |
| Building Construction                                     | 100                  | 39                   | 0                    | 139             | 5/17/2022  | 7/1/2022  | 34       |
| Building Construction & Fine Grading                      | 105                  | 41                   | 0                    | 146             | 7/2/2022   | 7/19/2022 | 12       |
| Building Construction & Architectural Coating             | 120                  | 39                   | 0                    | 159             | 7/20/2022  | 8/17/2022 | 21       |
| Building Construction & Finishing/Landscaping             | 103                  | 39                   | 0                    | 142             | 8/18/2022  | 9/20/2022 | 24       |
| Finishing/Landscaping                                     | 3                    | 0                    | 0                    | 3               | 9/21/2022  | 10/4/2022 | 10       |
| <b>Maximum Daily Trips</b>                                | <b>120</b>           | <b>43</b>            | <b>136</b>           | <b>297</b>      |            |           |          |

**CalEEMod Inputs - Operation: Proposed Project**

**Name:**  
**Project Number:** IRW-03  
**Project Location:**  
**County:** Los Angeles County (SC)  
**Source Receptor Area (SRA):** 9 - East San Gabriel Valley  
**Climate Zone:** 9  
**Land Use Setting:** Urban  
**Operational Year:** 2022  
**Utility Company:** Southern California Edison  
**Air Basin:** South Coast Air Basin  
**Air District:** South Coast Air Quality Management District (South Coast AQMD)

|                        | Main Project Site | Off-Site Area | Total |
|------------------------|-------------------|---------------|-------|
| Project Site Acreage   | 5.89              | 0.13          | 6.02  |
| Disturbed Site Acreage | 5.89              | 0.13          | 6.02  |

| New Construction       |                |             |
|------------------------|----------------|-------------|
| Land Use               | Total SQFT     | Acres       |
| Warehouse              | 103,670        | 2.38        |
| Manufacturing          | 17,000         | 0.39        |
| Office                 | 9,160          | 0.11        |
| <b>TOTAL BUILDING</b>  | <b>129,830</b> | <b>2.88</b> |
| Landscaping            | 27,979         | 0.64        |
| Parking Lot            | 20,193         | 0.46        |
| Roadway                | 5,663          | 0.13        |
| Other Asphalt Surfaces | 82,896         | 1.90        |

**CalEEMod Land Use Inputs**

| Land Use Type | Land Use Subtype  | Unit Amount | Size Metric | Lot Acreage | Land Use Square Feet |
|---------------|-------------------|-------------|-------------|-------------|----------------------|
| Industrial    | Warehouse         | 112.830     | 1000 BSF    | 2.49        | 112,830              |
| Industrial    | Manufacturing     | 17.000      | 1000 BSF    | 0.39        | 17,000               |
| Parking Lot   | Parking Lot       | 123         | Stalls      | 0.46        | 20,193               |
| Parking Lot   | Other Non-Asphalt | 27.979      | 1000 BSF    | 0.64        | 0                    |
| Parking Lot   | Other Asphalt     | 2.03        | Acre        | 2.03        | 88,559               |
|               |                   |             |             | 6.02        |                      |

**Daily Trips Calculation**

|                           | Warehouse | Manufacturing | Total  |                           |                            |                    |
|---------------------------|-----------|---------------|--------|---------------------------|----------------------------|--------------------|
| Daily Trips: <sup>1</sup> | 196       | 66            | 262    |                           |                            |                    |
| Passenger                 | 156       | 41            | 197    |                           |                            |                    |
| 2- & 3-Axle Trucks        | 16        | 12            | 28     |                           |                            |                    |
| 4-Axle Trucks             | 24        | 13            | 37     |                           |                            |                    |
| Days Per Week             | 365       | 365           | 365    |                           |                            |                    |
| Weeks Per Year            | 1         | 1             | 1      |                           |                            |                    |
| Annual Trips              | 71,540    | 24,090        | 95,630 | <b>Total Annual Trips</b> | <b>Average Daily Trips</b> | <b>Fleet Mix %</b> |
| Passenger                 | 56,940    | 14,965        | 71,905 | 95,630                    | 263                        | 100%               |
| 2- & 3-Axle Trucks        | 5,840     | 4,380         | 10,220 | 71,905                    | 198                        | 75.19%             |
| 4-Axle Trucks             | 8,760     | 4,745         | 13,505 | 10,220                    | 28                         | 10.69%             |
|                           |           |               |        | 13,505                    | 37                         | 14.12%             |

540200

**Project Trips CalEEMod Inputs**

| Land Use      | Passenger/Main Model Run |                      | Truck Model Run            |                      |
|---------------|--------------------------|----------------------|----------------------------|----------------------|
|               | Trips Per Day            | Trip Generation Rate | Trips Per Day <sup>2</sup> | Trip Generation Rate |
| Warehouse     | 148                      | 1.3097               | 33                         | 0.2888               |
| Manufacturing | 50                       | 2.9272               | 33                         | 1.9170               |
| <b>Total</b>  | <b>198</b>               | <b>NA</b>            | <b>65</b>                  |                      |

<sup>1</sup> Urban Crossroads. 2021, July 24. Azusa Canyon Road Warehouse Transportation Analysis.

<sup>2</sup> For purposes of this analysis, truck trips are proportioned equally between the land uses.

**Vehicle Miles Traveled**

**Passenger Vehicle Trips**

Utilized default CalEEMod trip lengths and trip type assumptions.

**Truck Trips**

| Truck Type         | Daily Trips | Average Trip Length <sup>1</sup> | Daily VMT | Annual VMT <sup>2</sup> | Adjusted Average Trip Length <sup>3</sup> |
|--------------------|-------------|----------------------------------|-----------|-------------------------|---|
| 2- & 3-Axle Trucks | 28          | 39.9                             | 1,120     | 408,898                 | 40.01                                     |
| 4-Axle Trucks      | 37          | 39.9                             | 1,480     | 540,330                 | 40.01                                     |
|                    | <b>65</b>   |                                  |           | <b>949,228</b>          |   |

<sup>1</sup> Derived from the SCAG's Heavy-Duty Truck Regional Travel Demand model and represents the average class 8 truck trip distance within the SoCAB; South Coast Air Quality Management District. 2021, May. Final Staff Report: Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Rule 316 – Fees for Rule 2305

<sup>2</sup> Based on 365 days.

<sup>3</sup> Accounts for CalEEMod methodology which assumes 364 days per year.

**Water Demand\***

|                | Gallons Per Day | Gallons Per Year |
|----------------|-----------------|------------------|
| Indoor Water:  | 854             | 311,710          |
| Outdoor Water: | 565             | 206,225          |
| <b>Total</b>   | <b>1,419</b>    | <b>517,935</b>   |

\*See Table 22, Proposed and Exiting Wastewater Demand, of the MND.

CalEEMod Inputs

| Land Use      | Indoor (gal/yr) | Outdoor (gal/yr) | Total Water Demand (gal/yr) |
|---------------|-----------------|------------------|-----------------------------|
| Warehouse     | 155,855         | 103,113          | 258,968                     |
| Manufacturing | 155,855         | 103,113          | 258,968                     |
| <b>Total:</b> | <b>311,710</b>  | <b>206,225</b>   | <b>517,935</b>              |

\*Assumes 100% aerobic treatment.

**Solid Waste**

| Land Use      | Land Use Amount | Generation Rate (pound/SF/day)* | Daily Solid Waste (lbs/day) | Annual Solid Waste (tons/yr) |
|---------------|-----------------|---------------------------------|-----------------------------|------------------------------|
| Warehouse     | 103,670         | 0.0142                          | 1,472.11                    | 268.66                       |
| Manufacturing | 17,000          | 0.0142                          | 241.40                      | 44.06                        |
| Office        | 9,160           | 0.006                           | 54.96                       | 10.03                        |
| <b>Total</b>  |                 |                                 | <b>1,768.47</b>             | <b>322.75</b>                |

\*See Table 24, Existing and Proposed Solid Waste Generation, of the MND.

CalEEMod Inputs

| Land Use      | Amount (tons/yr) |
|---------------|------------------|
| Warehouse     | 278.69           |
| Manufacturing | 44.06            |

**Architectural Coating**

| Land Use                         | Land Use Square Feet | CalEEMod Factor <sup>2</sup> | Total Paintable | Paintable Interior Area <sup>1</sup> | Paintable Exterior Area <sup>1</sup> |
|----------------------------------|----------------------|------------------------------|-----------------|--------------------------------------|--------------------------------------|
| Warehouse                        | 112,830              | 2.0                          | 225,660         | 169,245                              | 56,415                               |
| Manufacturing                    | 17,000               | 2.0                          | 34,000          | 25,500                               | 8,500                                |
| <b>Total Non-Residential</b>     | <b>129,830</b>       |                              | <b>259,660</b>  | <b>194,745</b>                       | <b>64,915</b>                        |
| Parking Lot and Asphalt Surfaces | 108,752              | 6%                           | 6,525           | -                                    | 6,525                                |
|                                  |                      |                              | 6,525           |                                      | 6,525                                |

<sup>1</sup> CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

<sup>2</sup> The program assumes the total surface for painting equals 2 times the floor square footage for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

**Carbon Intensity Factors**

**Southern California Edison Carbon Intensity Factors**

|   |         |                          |
|---|---------|--------------------------|
| SCE CO <sub>2</sub> e Intensity Factor <sup>1</sup> | 512     | pounds per megawatt hour |
| CO <sub>2</sub> : <sup>1,2</sup>                    | 509.983 | pounds per megawatt hour |
| CH <sub>4</sub> : <sup>3</sup>                      | 0.033   | pound per megawatt hour  |
| N <sub>2</sub> O: <sup>3</sup>                      | 0.004   | pound per megawatt hour  |

<sup>1</sup> Based on CO<sub>2</sub>e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2020. 2020 Sustainability Report. <https://www.edison.com/content/dam/eix/documents/sustainability/eix-2020-sustainability-report.pdf>

<sup>2</sup> Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH<sub>4</sub> and N<sub>2</sub>O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

<sup>3</sup> CalEEMod default values.

**General Conversion Factors**

|                              |             |
|------------------------------|-------------|
| lbs to kg                    | 0.4536      |
| kg to MTons                  | 0.001       |
| Mmbtu to Therm               | 0.1         |
| Therms to kwh                | 29.30711111 |
| kilowatt hrs to megawatt hrs | 0.001       |
| lbs to Tons                  | 2000        |
| Tons to MTON                 | 0.9071847   |

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

**Global Warming Potentials (GWP)**

|                  |     |
|------------------|-----|
| CO <sub>2</sub>  | 1   |
| CH <sub>4</sub>  | 25  |
| N <sub>2</sub> O | 298 |

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH<sub>4</sub> and N<sub>2</sub>O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

### Changes to the CalEEMod Defaults - Fleet Mix 2022 (Passenger Cars)

Passenger Trips: 198

| Commercial Default       | LDA             | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD      | HHD      | OBUS     | UBUS     | MCY             | SBUS     | MH       |              |
|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|----------|----------|----------|-----------------|----------|----------|--------------|
| FleetMix (Model Default) | 0.546774        | 0.061880        | 0.186704        | 0.127505        | 0.022909        | 0.005912        | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937        | 0.000692 | 0.003397 | 100%         |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0            |
| Percent                  | 98%             |                 |                 |                 |                 |                 | 2%       | 1%       |          |          |                 |          |          | 100%         |
| Proportion Assumed Mix   | 0.560437        | 0.063426        | 0.191369        | 0.130691        | 0.023481        | 0.006060        | 0.654637 | 1.000000 | 0.057499 | 0.037742 | 0.024535        | 0.042329 | 0.207793 | 100.00%      |
|                          | 75.19%          |                 |                 |                 |                 |                 | 10.69%   | 14.12%   |          |          |                 |          |          |              |
| adjusted with Assumed    | 0.421397        | 0.047691        | 0.143892        | 0.098268        | 0.017656        | 0.004556        | 0        | 0        | 0        | 0        | 0.018448        | 0        | 0        | 76%          |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0            |
|                          | 42%             | 5%              | 14%             | 10%             | 2%              | 0%              | 0%       | 0%       | 1%       | 0%       | 2%              | 0%       | 0%       | 76%          |
| <b>Modified</b>          | <b>0.555894</b> | <b>0.062912</b> | <b>0.189818</b> | <b>0.129632</b> | <b>0.023291</b> | <b>0.006011</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0.024336</b> | <b>0</b> | <b>0</b> | <b>99.2%</b> |
| Final Check Trips        | 110             | 12              | 37              | 26              | 5               | 1               | 0        | 0        | 0        | 0        | 5               | 0        | 0        | 196          |
|                          | 99%             |                 |                 |                 |                 | 0%              |          | 0%       |          |          |                 |          |          |              |

### Changes to the CalEEMod Defaults - Fleet Mix 2022 (Trucks)

Truck Trips: 65

| Commercial Default                    | LDA             | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD             | HHD             | OBUS            | UBUS            | MCY             | SBUS            | MH              |               |
|---------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
| FleetMix (Model Default)              | 0.546774        | 0.061880        | 0.186704        | 0.127505        | 0.022909        | 0.005912        | 0.010702        | 0.008032        | 0.000940        | 0.000617        | 0.023937        | 0.000692        | 0.003397        | 100%          |
| Trips                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0             |
| Percent                               | 98%             |                 |                 |                 |                 |                 | 2%              | 1%              |                 |                 |                 |                 |                 | 100%          |
| Proportion Assumed Mix                | 0.560437        | 0.063426        | 0.191369        | 0.130691        | 0.023481        | 0.006060        | 0.654637        | 1.000000        | 0.057499        | 0.037742        | 0.024535        | 0.042329        | 0.207793        | 100.00%       |
|                                       | 75.19%          |                 |                 |                 |                 |                 | 10.69%          | 14.12%          |                 |                 |                 |                 |                 |               |
| adjusted with Assumed Trips           | 0               | 0               | 0               | 0               | 0               | 0.000000        | 0.069961        | 0.141221        | 0.006145        | 0.004033        | 0               | 0.004524        | 0.022207        | 25%           |
| Trips                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0             |
|                                       | 0%              | 0%              | 0%              | 0%              | 0%              | 0%              | 7%              | 14%             | 1%              | 0%              | 0%              | 0%              | 2%              | 25%           |
| <b>Modified</b>                       | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.281997</b> | <b>0.569231</b> | <b>0.024769</b> | <b>0.016258</b> | <b>0.000000</b> | <b>0.018234</b> | <b>0.089511</b> | <b>100.0%</b> |
| Trips Check                           | 0               | 0               | 0               | 0               | 0               | 0               | 18              | 37              | 2               | 1               | 0               | 1               | 6               | 65            |
| Assumed MDV/HDT Mix                   | 0%              |                 |                 |                 |                 |                 | 43.08%          | 56.92%          |                 |                 |                 |                 |                 |               |
| MDT truck adjustment (no buses or MH) |                 |                 |                 |                 |                 |                 | 0.281997        |                 | 0               |                 |                 | 0               | 0               | 28%           |
| Adjusted MHD Fleet Mix                |                 |                 |                 |                 |                 |                 | 1.000000        |                 | 0.000000        | 0.000000        |                 | 0.000000        | 0.000000        | 100%          |
| Assumed Truck Mix                     | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0.430769</b> | <b>0.569231</b> | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        |               |
| Trips - Final Check                   |                 |                 |                 | 0               | 0               | 0               | 28              | 37              | 0               | 0               | 0               | 0               | 0               | 65            |

## CalEEMod Inputs - Existing Operations

Name:  
 Project Number: IRW-03  
 Project Location:  
 County: Los Angeles County (SC)  
 Source Receptor Area (SRA): 9 - East San Gabriel Valley  
 Climate Zone: 9  
 Land Use Setting: Urban  
 Operational Year: 2022  
 Utility Company: SCE  
 Air Basin: South Coast Air Basin  
 Air District: South Coast Air Quality Management District (South Coast AQMD)

|                      | Project Site |
|----------------------|--------------|
| Project Site Acreage | 5.89         |

| New Construction       |               |             |
|------------------------|---------------|-------------|
| Land Use               | Total SQFT    | Acres       |
| Warehouse              | 62,713        | 1.44        |
| <b>TOTAL BUILDING</b>  | <b>62,713</b> | <b>1.44</b> |
| Unpaved/Landscaping    | 34,412        | 0.79        |
| Parking Lot            | 30,415        | 0.70        |
| Other Asphalt Surfaces | 129,028       | 2.96        |
|                        |               |             |

## CalEEMod Land Use Inputs

| Land Use Type | Land Use Subtype  | Unit Amount | Size Metric | Lot Acreage | Land Use Square Feet |
|---------------|-------------------|-------------|-------------|-------------|----------------------|
| Industrial    | Warehouse         | 62.713      | 1000 BSF    | 1.44        | 62,713               |
| Parking Lot   | Parking Lot       | 116         | Stalls      | 0.70        | 30,415               |
| Parking Lot   | Other Non-Asphalt | 34.412      | 1000 BSF    | 0.79        | 0                    |
| Parking Lot   | Other Asphalt     | 2.96        | Acre        | 2.96        | 129,028              |
|               |                   |             |             | <b>5.89</b> |                      |

## Daily Trips Calculation

|                           | Total  | Total Annual Trips | Average Daily Trips | Fleet Mix % |
|---------------------------|--------|--------------------|---------------------|-------------|
| Daily Trips: <sup>1</sup> | 110    |                    |                     |             |
| Passenger                 | 88     |                    |                     |             |
| 2- & 3-Axle Trucks        | 11     |                    |                     |             |
| 4-Axle Trucks             | 11     |                    |                     |             |
| Days Per Week             | 365    |                    |                     |             |
| Weeks Per Year            | 1      |                    |                     |             |
| Annual Trips              | 40,150 | 40,150             | 110                 | 100%        |
| Passenger                 | 32,120 | 32,120             | 88                  | 80.00%      |
| 2- & 3-Axle Trucks        | 4,015  | 4,015              | 11                  | 10.00%      |
| 4-Axle Trucks             | 4,015  | 4,015              | 11                  | 10.00%      |

160600

## Project Trips CalEEMod Inputs

| Land Use  | Passenger/Main Model Run |                      | Truck Model Run |                      |
|-----------|--------------------------|----------------------|-----------------|----------------------|
|           | Trips Per Day            | Trip Generation Rate | Trips Per Day   | Trip Generation Rate |
| Warehouse | 88                       | 1.4071               | 22              | 0.3518               |

<sup>1</sup> Urban Crossroads. 2021, July 24. Azusa Canyon Road Warehouse Transportation Analysis.

## Vehicle Miles Traveled

### Passenger Vehicle Trips

Utilized default CalEEMod trip lengths and trip type assumptions.

### Truck Trips

| Truck Type         | Daily Trips | Average Trip Length <sup>1</sup> | Daily VMT | Annual VMT <sup>2</sup> | Adjusted Average Trip Length <sup>3</sup> |
|--------------------|-------------|----------------------------------|-----------|-------------------------|---|
| 2- & 3-Axle Trucks | 11          | 39.9                             | 440       | 160,639                 | 40.010                                    |
| 4-Axle Trucks      | 11          | 39.9                             | 440       | 160,639                 | 40.010                                    |
|                    | <b>22</b>   |                                  |           | <b>321,277</b>          |   |

<sup>1</sup> Derived from the SCAG's Heavy-Duty Truck Regional Travel Demand model and represents the average class 8 truck trip distance within the SoCAB; South Coast Air Quality Management District. 2021, May. Final Staff Report: Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Rule 316 – Fees for Rule 2305

<sup>2</sup> Based on 365 days.

<sup>3</sup> Accounts for CalEEMod methodology which assumes 364 days per year.

**Water Demand**

|                | Gallons Per Day | Gallons Per Year |
|----------------|-----------------|------------------|
| Indoor Water:  | 873             | 318,645          |
| Outdoor Water: | 20              | 7,300            |
| <b>Total</b>   | <b>893</b>      | <b>325,945</b>   |

CalEEMod Inputs

| Land Use  | Indoor (gal/yr) | Outdoor (gal/yr) | Total Water Demand (gal/yr) |
|-----------|-----------------|------------------|-----------------------------|
| Warehouse | 318,645         | 7,300            | 325,945                     |

\*Assumes 100% aerobic treatment.

**Solid Waste**

| Land Use  | Land Use Amount | Generation Rate (pound/SF/day) | Daily Solid Waste (lbs/day) | Annual Solid Waste (tons/yr) |
|-----------|-----------------|--------------------------------|-----------------------------|------------------------------|
| Warehouse | 62,713          | 0.0142                         | 890.52                      | 162.52                       |

CalEEMod Inputs

| Land Use  | Amount (tons/yr) |
|-----------|------------------|
| Warehouse | 162.52           |

**Architectural Coating**

see Construction Assumptions

| Land Use                     | Land Use Square Feet | CalEEMod Factor <sup>2</sup> | Total Paintable Surface | Paintable Interior Area <sup>1</sup> | Paintable Exterior Area <sup>1</sup> |
|------------------------------|----------------------|------------------------------|-------------------------|--------------------------------------|--------------------------------------|
| Warehouse                    | 62,713               | 2.0                          | 125,426                 | 94,070                               | 31,357                               |
| <b>Total Non-Residential</b> | <b>62,713</b>        |                              | <b>125,426</b>          | <b>94,070</b>                        | <b>31,357</b>                        |
| Parking Lot                  | 30,415               | 6%                           | 1,825                   | -                                    | 1,825                                |
|                              |                      |                              | 1,825                   |                                      | 1,825                                |

<sup>1</sup>CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

<sup>2</sup>The program assumes the total surface for painting equals 2 times the floor square footage for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

**Rule 1113**

| Land Use                         | Land Use Square Feet | CalEEMod Factor <sup>2</sup> | Total Paintable Surface | Paintable Interior Area <sup>1</sup> | Paintable Exterior Area <sup>1</sup> |
|----------------------------------|----------------------|------------------------------|-------------------------|--------------------------------------|--------------------------------------|
| Warehouse                        | 62,713               | 2.0                          | 125,426                 | 94,070                               | 31,357                               |
| <b>Total Non-Residential</b>     | <b>62,713</b>        |                              | <b>125,426</b>          | <b>94,070</b>                        | <b>31,357</b>                        |
| Parking Lot and Asphalt Surfaces | 30,415               | 6%                           | 1,825                   | -                                    | 1,825                                |
|                                  |                      |                              | 1,825                   |                                      | 1,825                                |

<sup>1</sup>CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

<sup>2</sup>The program assumes the total surface for painting equals 2 times the floor square footage for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

**Energy**

Utilizes CalEEMod default historical energy rates, which are based on the 2005 Building Energy Efficiency Standards.

**Carbon Intensity Factors**

**Southern California Edison Carbon Intensity Factors**

|   |         |                          |
|---|---------|--------------------------|
| SCE CO <sub>2</sub> e Intensity Factor <sup>1</sup> | 512     | pounds per megawatt hour |
| CO <sub>2</sub> : <sup>1,2</sup>                    | 509.983 | pounds per megawatt hour |
| CH <sub>4</sub> : <sup>3</sup>                      | 0.033   | pound per megawatt hour  |
| N <sub>2</sub> O: <sup>3</sup>                      | 0.004   | pound per megawatt hour  |

<sup>1</sup> Based on CO<sub>2</sub>e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2020. 2020 Sustainability Report. <https://www.edison.com/content/dam/eix/documents/sustainability/eix-2020-sustainability->

<sup>2</sup> Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH<sub>4</sub> and N<sub>2</sub>O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

<sup>3</sup> CalEEMod default values.

**General Conversion Factors**

|                              |             |
|------------------------------|-------------|
| lbs to kg                    | 0.4536      |
| kg to MTons                  | 0.001       |
| Mmbtu to Therm               | 0.1         |
| Therms to kwh                | 29.30711111 |
| kilowatt hrs to megawatt hrs | 0.001       |
| lbs to Tons                  | 2000        |
| Tons to MTon                 | 0.9071847   |

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

**Global Warming Potentials (GWP)**

|                  |     |
|------------------|-----|
| CO <sub>2</sub>  | 1   |
| CH <sub>4</sub>  | 25  |
| N <sub>2</sub> O | 298 |

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH<sub>4</sub> and N<sub>2</sub>O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

### Changes to the CalEEMod Defaults - Fleet Mix 2022 (Passenger Cars): Existing Land Use

Passenger Trips: 88

| Commercial Default       | LDA             | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD      | HHD      | OBUS     | UBUS     | MCY             | SBUS     | MH       |              |
|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|----------|----------|----------|-----------------|----------|----------|--------------|
| FleetMix (Model Default) | 0.546774        | 0.061880        | 0.186704        | 0.127505        | 0.022909        | 0.005912        | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937        | 0.000692 | 0.003397 | 100%         |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0            |
| Percent                  | 98%             |                 |                 |                 |                 |                 | 2%       | 1%       |          |          |                 |          |          | 100%         |
| Proportion Assumed Mix   | 0.560437        | 0.063426        | 0.191369        | 0.130691        | 0.023481        | 0.006060        | 0.654637 | 1.000000 | 0.057499 | 0.037742 | 0.024535        | 0.042329 | 0.207793 | 100.00%      |
|                          | 80.00%          |                 |                 |                 |                 |                 | 10.00%   | 10.00%   |          |          |                 |          |          |              |
| adjusted with Assumed    | 0.448350        | 0.050741        | 0.153096        | 0.104553        | 0.018785        | 0.004848        | 0        | 0        | 0        | 0        | 0.019628        | 0        | 0        | 81%          |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0            |
|                          | 45%             | 5%              | 15%             | 10%             | 2%              | 0%              | 0%       | 0%       | 1%       | 0%       | 2%              | 0%       | 0%       | 81%          |
| <b>Modified</b>          | <b>0.556438</b> | <b>0.062974</b> | <b>0.190004</b> | <b>0.129758</b> | <b>0.023314</b> | <b>0.006016</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0.024360</b> | <b>0</b> | <b>0</b> | <b>99.3%</b> |
| Final Check Trips        | 49              | 6               | 17              | 11              | 2               | 1               | 0        | 0        | 0        | 0        | 2               | 0        | 0        | 88           |
|                          | 99%             |                 |                 |                 |                 | 0%              |          | 0%       |          |          |                 |          |          |              |

### Changes to the CalEEMod Defaults - Fleet Mix 2022 (Trucks): Existing Land Use

Truck Trips: 22

| Commercial Default                    | LDA                | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD                | HHD                | OBUS            | UBUS            | MCY             | SBUS            | MH              |               |
|---------------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
| FleetMix (Model Default)              | 0.546774           | 0.061880        | 0.186704        | 0.127505        | 0.022909        | 0.005912        | 0.010702           | 0.008032           | 0.000940        | 0.000617        | 0.023937        | 0.000692        | 0.003397        | 100%          |
| Trips                                 | 0                  | 0               | 0               | 0               | 0               | 0               | 0                  | 0                  | 0               | 0               | 0               | 0               | 0               | 0             |
| Percent                               | 98%                |                 |                 |                 |                 |                 | 2%                 | 1%                 |                 |                 |                 |                 |                 | 100%          |
| Proportion Assumed Mix                | 0.560437<br>80.00% | 0.063426        | 0.191369        | 0.130691        | 0.023481        | 0.006060        | 0.654637<br>10.00% | 1.000000<br>10.00% | 0.057499        | 0.037742        | 0.024535        | 0.042329        | 0.207793        | 100.00%       |
| adjusted with Assumed Trips           | 0                  | 0               | 0               | 0               | 0               | 0.000000        | 0.065464           | 0.100000           | 0.005750        | 0.003774        | 0               | 0.004233        | 0.020779        | 20%           |
| Trips                                 | 0                  | 0               | 0               | 0               | 0               | 0               | 0                  | 0                  | 0               | 0               | 0               | 0               | 0               | 0             |
|                                       | 0%                 | 0%              | 0%              | 0%              | 0%              | 0%              | 7%                 | 10%                | 1%              | 0%              | 0%              | 0%              | 2%              | 20%           |
| <b>Modified</b>                       | <b>0.000000</b>    | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.327318</b>    | <b>0.500000</b>    | <b>0.028750</b> | <b>0.018871</b> | <b>0.000000</b> | <b>0.021165</b> | <b>0.103897</b> | <b>100.0%</b> |
| Trips Check                           | 0                  | 0               | 0               | 0               | 0               | 0               | 7                  | 11                 | 1               | 0               | 0               | 0               | 2               | 22            |
| Assumed MDV/HDT Mix                   | 0%                 |                 |                 |                 |                 |                 | 50.00%             | 50.00%             |                 |                 |                 |                 |                 |               |
| MDT truck adjustment (no buses or MH) |                    |                 |                 |                 |                 |                 | 0.327318           |                    | 0               | 0               |                 | 0               | 0               | 33%           |
| Adjusted MHD Fleet Mix                |                    |                 |                 |                 |                 |                 | 1.000000           |                    | 0.000000        | 0.000000        |                 | 0.000000        | 0.000000        | 100%          |
| Assumed Truck Mix                     | <b>0</b>           | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0.500000</b>    | <b>0.500000</b>    | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        |               |
| Trips - Final Check                   |                    |                 |                 | 0               | 0               | 0               | 11                 | 11                 | 0               | 0               | 0               | 0               | 0               | 22            |

**Changes to the CalEEMod Defaults - Fleet Mix 2021 (Passenger Cars): Existing Land Use**

Passenger Trips: 88

| Commercial Default       | LDA             | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD      | HHD      | OBUS     | UBUS     | MCY             | SBUS     | MH       |               |
|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|----------|----------|----------|-----------------|----------|----------|---------------|
| FleetMix (Model Default) | 0.548812        | 0.060892        | 0.186048        | 0.127862        | 0.022726        | 0.005730        | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397        | 0.000686 | 0.003425 | 100%          |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0             |
| Percent                  | 98%             |                 |                 |                 |                 |                 | 2%       | 1%       |          |          |                 |          |          | 100%          |
| Proportion Assumed Mix   | 0.562615        | 0.062423        | 0.190727        | 0.131078        | 0.023298        | 0.005874        | 0.655279 | 1.000000 | 0.057908 | 0.037798 | 0.023985        | 0.041553 | 0.207463 | 100.00%       |
|                          | 80.00%          |                 |                 |                 |                 |                 | 10.00%   | 10.00%   |          |          |                 |          |          |               |
| adjusted with Assumed    | 0.450092        | 0.049939        | 0.152582        | 0.104862        | 0.018638        | 0.004699        | 0        | 0        | 0        | 0        | 0.019188        | 0        | 0        | 80%           |
| Trips                    | 0               | 0               | 0               | 0               | 0               | 0               | 0        | 0        | 0        | 0        | 0               | 0        | 0        | 0             |
|                          | 45%             | 5%              | 15%             | 10%             | 2%              | 0%              | 0%       | 0%       | 0%       | 0%       | 2%              | 0%       | 0%       | 80%           |
| <b>Modified</b>          | <b>0.562615</b> | <b>0.062423</b> | <b>0.190727</b> | <b>0.131078</b> | <b>0.023298</b> | <b>0.005874</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0.023985</b> | <b>0</b> | <b>0</b> | <b>100.0%</b> |
| Final Check Trips        | 50              | 6               | 17              | 12              | 2               | 1               | 0        | 0        | 0        | 0        | 2               | 0        | 0        | 88            |
|                          | 100%            |                 |                 |                 |                 | 0%              |          | 0%       |          |          |                 |          |          |               |

### Changes to the CalEEMod Defaults - Fleet Mix 2021 (Trucks): Existing Land Use

Truck Trips: 22

| Commercial Default                    | LDA             | LDT1            | LDT2            | MDV             | LHD1            | LHD2            | MHD             | HHD             | OBUS            | UBUS            | MCY             | SBUS            | MH              |               |
|---------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
| FleetMix (Model Default)              | 0.553113        | 0.036408        | 0.180286        | 0.116335        | 0.016165        | 0.005101        | 0.018218        | 0.063797        | 0.001357        | 0.001565        | 0.005903        | 0.000808        | 0.000944        | 100%          |
| Trips                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0             |
| Percent                               | 91%             |                 |                 |                 |                 |                 | 2%              | 6%              |                 |                 |                 |                 |                 | 100%          |
| Proportion Assumed Mix                | 0.605613        | 0.039864        | 0.197398        | 0.127377        | 0.017699        | 0.005585        | 0.795824        | 1.000000        | 0.059278        | 0.068364        | 0.006463        | 0.035296        | 0.041237        | 100.00%       |
|                                       | 80.00%          |                 |                 |                 |                 |                 | 10.00%          | 10.00%          |                 |                 |                 |                 |                 |               |
| adjusted with Assumed Trips           | 0               | 0               | 0               | 0               | 0               | 0.000000        | 0.079582        | 0.100000        | 0.005928        | 0.006836        | 0               | 0.003530        | 0.004124        | 20%           |
| Trips                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0             |
|                                       | 0%              | 0%              | 0%              | 0%              | 0%              | 0%              | 8%              | 10%             | 1%              | 1%              | 0%              | 0%              | 0%              | 20%           |
| <b>Modified</b>                       | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.000000</b> | <b>0.397912</b> | <b>0.500000</b> | <b>0.029639</b> | <b>0.034182</b> | <b>0.000000</b> | <b>0.017648</b> | <b>0.020619</b> | <b>100.0%</b> |
| Trips Check                           | 0               | 0               | 0               | 0               | 0               | 0               | 9               | 11              | 1               | 1               | 0               | 0               | 0               | 22            |
| Assumed MDV/HDT Mix                   | 0%              |                 |                 |                 |                 |                 | 50.00%          | 50.00%          |                 |                 |                 |                 |                 |               |
| MDT truck adjustment (no buses or MH) |                 |                 |                 |                 |                 |                 | 0.397912        |                 | 0               | 0               |                 | 0               | 0               | 40%           |
| Adjusted MHD Fleet Mix                |                 |                 |                 |                 |                 |                 | 1.000000        |                 | 0.000000        | 0.000000        |                 | 0.000000        | 0.000000        | 100%          |
| Assumed Truck Mix                     | 0               | 0               | 0               | 0               | 0               | 0               | 0.500000        | 0.500000        | 0               | 0               | 0               | 0               | 0               |               |
| Trips - Final Check                   |                 |                 |                 | 0               | 0               | 0               | 11              | 11              | 0               | 0               | 0               | 0               | 0               | 22            |

**Construction Localized Significance Thresholds: Building Demolition**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |              |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|--------------|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |              |
| 9  | 0.5                            | 25                                | 82                              | 168                               | 550                             | 6.02                                     |              |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> |                                   | <b>Equipment</b>                | <b>Acres/8-hr Day</b>             | <b>Daily hours</b>              | <b>Equipment Used</b>                    | <b>Acres</b> |
|  | 25                             |                                   | Tractors                        | 0.5                               | 8                               | 1  | 0.5          |
| <b>NOx</b>                               | <b>89</b>                      |                                   | Graders                         | 0.5                               |                                 |  | 0            |
| <b>CO</b>                                | <b>623</b>                     |                                   | Dozers                          | 0.5                               |                                 |  | 0            |
| <b>PM10</b>                              | <b>61.73</b>                   |                                   | Scrapers                        | 1                                 |                                 |  | 0            |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   |                                 |  | 0            |
|  |                                |                                   |                                 |                                   |                                 | <b>Acres</b>                             | <b>0.50</b>  |
|  | <b>Acres</b>                   | <b>25</b>                         | <b>50</b>                       |                                   | <b>100</b>                      | <b>200</b>                               | <b>500</b>   |
| NOx                                      | 1                              | 89                                | 112                             |                                   | 159                             | 251                                      | 489          |
|  | 1                              | 89                                | 112                             |                                   | 159                             | 251                                      | 489          |
|  |                                | 89                                | 112                             |                                   | 159                             | 251                                      | 489          |
| CO                                       | 1                              | 623                               | 945                             |                                   | 1914                            | 4803                                     | 20721        |
|  | 1                              | 623                               | 945                             |                                   | 1914                            | 4803                                     | 20721        |
|  |                                | 623                               | 945                             |                                   | 1914                            | 4803                                     | 20721        |
| PM10                                     | 1                              | 5                                 | 14                              |                                   | 34                              | 75                                       | 199          |
|  | 1                              | 5                                 | 14                              |                                   | 34                              | 75                                       | 199          |
|  |                                | 5                                 | 14                              |                                   | 34                              | 75                                       | 199          |
| PM2.5                                    | 1                              | 3                                 | 5                               |                                   | 9                               | 22                                       | 94           |
|  | 1                              | 3                                 | 5                               |                                   | 9                               | 22                                       | 94           |
|  |                                | 3                                 | 5                               |                                   | 9                               | 22                                       | 94           |
| East San Gabriel Valley                  |                                |                                   |                                 |                                   |                                 |  |              |
| <b>0.50 Acres</b>                        |                                |                                   |                                 |                                   |                                 |  |              |
|  | <b>25</b>                      | <b>50</b>                         | <b>100</b>                      |                                   | <b>200</b>                      | <b>500</b>                               |              |
| NOx                                      | 89                             | 112                               | 159                             |                                   | 251                             | 489                                      |              |
| CO                                       | 623                            | 945                               | 1914                            |                                   | 4803                            | 20721                                    |              |
| PM10                                     | 5                              | 14                                | 34                              |                                   | 75                              | 199                                      |              |
| PM2.5                                    | 3                              | 5                                 | 9                               |                                   | 22                              | 94                                       |              |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Demolition & Asphalt Demolition**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 1.00                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 8                                 | 2                               | 1  |
| <b>NOx</b>                               | <b>89</b>                      | Graders                           | 0.5                             |                                   |                                 | 0  |
| <b>CO</b>                                | <b>623</b>                     | Dozers                            | 0.5                             |                                   |                                 | 0  |
| <b>PM10</b>                              | <b>61.73</b>                   | Scrapers                          | 1                               |                                   |                                 | 0  |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   |                                 | 0  |
|  |                                |                                   |                                 |                                   | <b>Acres</b>                    | <b>1.00</b>                              |
|  | <b>Acres</b>                   | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  |                                | 89                                | 112                             | 159                               | 251                             | 489                                      |
| CO                                       | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  |                                | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
| PM10                                     | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  |                                | 5                                 | 14                              | 34                                | 75                              | 199                                      |
| PM2.5                                    | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  |                                | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
| East San Gabriel Valley                  | <b>1.00 Acres</b>              | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
|  | <b>25</b>                      | <b>89</b>                         | <b>112</b>                      | <b>159</b>                        | <b>251</b>                      | <b>489</b>                               |
| NOx                                      | 89                             | 112                               | 159                             | 251                               | 489                             |  |
| CO                                       | 623                            | 945                               | 1914                            | 4803                              | 20721                           |  |
| PM10                                     | 5                              | 14                                | 34                              | 75                                | 199                             |  |
| PM2.5                                    | 3                              | 5                                 | 9                               | 22                                | 94                              |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Site Preparation**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 0.50                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 0.0625                            |                                 | 0  |
| <b>NOx</b>                               | <b>89</b>                      | Graders                           | 0.5                             | 0.0625                            |                                 | 0  |
| <b>CO</b>                                | <b>623</b>                     | Dozers                            | 0.5                             | 0.0625                            | 8                               | 1  |
| <b>PM10</b>                              | <b>61.73</b>                   | Scrapers                          | 1                               | 0.125                             |                                 | 0  |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   |                                 | 0.50                                     |
|  |                                |                                   |                                 |                                   | <b>Acres</b>                    |  |
|  | Acres                          | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  |                                | 89                                | 112                             | 159                               | 251                             | 489                                      |
| CO                                       | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  |                                | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
| PM10                                     | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  |                                | 5                                 | 14                              | 34                                | 75                              | 199                                      |
| PM2.5                                    | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  |                                | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
| East San Gabriel Valley                  |                                |                                   |                                 |                                   |                                 |  |
| <b>0.50 Acres</b>                        |                                |                                   |                                 |                                   |                                 |  |
|  | <b>25</b>                      | <b>50</b>                         | <b>100</b>                      | <b>200</b>                        | <b>500</b>                      |  |
| NOx                                      | 89                             | 112                               | 159                             | 251                               | 489                             |  |
| CO                                       | 623                            | 945                               | 1914                            | 4803                              | 20721                           |  |
| PM10                                     | 5                              | 14                                | 34                              | 75                                | 199                             |  |
| PM2.5                                    | 3                              | 5                                 | 9                               | 22                                | 94                              |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Site Preparation & Building Construction**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 0.50                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 0.0625                            |                                 | 0  |
| <b>NOx</b>                               | <b>89</b>                      | Graders                           | 0.5                             | 0.0625                            |                                 | 0  |
| <b>CO</b>                                | <b>623</b>                     | Dozers                            | 0.5                             | 0.0625                            | 8                               | 1  |
| <b>PM10</b>                              | <b>61.73</b>                   | Scrapers                          | 1                               | 0.125                             |                                 | 0  |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   |                                 | 0.50                                     |
|  |                                |                                   |                                 |                                   | <b>Acres</b>                    |  |
|  | <b>Acres</b>                   | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  |                                | 89                                | 112                             | 159                               | 251                             | 489                                      |
| CO                                       | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  |                                | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
| PM10                                     | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  |                                | 5                                 | 14                              | 34                                | 75                              | 199                                      |
| PM2.5                                    | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  |                                | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
| East San Gabriel Valley                  |                                |                                   |                                 |                                   |                                 |  |
| <b>0.50 Acres</b>                        |                                |                                   |                                 |                                   |                                 |  |
|  | <b>25</b>                      | <b>50</b>                         | <b>100</b>                      | <b>200</b>                        | <b>500</b>                      |  |
| NOx                                      | 89                             | 112                               | 159                             | 251                               | 489                             |  |
| CO                                       | 623                            | 945                               | 1914                            | 4803                              | 20721                           |  |
| PM10                                     | 5                              | 14                                | 34                              | 75                                | 199                             |  |
| PM2.5                                    | 3                              | 5                                 | 9                               | 22                                | 94                              |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Site Preparation, Building Construction, & Rough Grading**

| SRA No.                 | Acres                   | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |       |
|-------------------------|-------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|-------|
|                         |                         | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |       |
| 9                       | 5.00                    | 25                                | 82                              | 168                               | 550                             | 6.02                                     |       |
| <b>Source Receptor</b>  |                         |                                   |                                 |                                   |                                 |  |       |
| Distance (meters)       | East San Gabriel Valley | 25                                | Equipment                       | Acres/8-hr Day                    | Daily hours                     | Equipment Used                           | Acres |
| NOx                     | 203                     | 25                                | Tractors                        | 0.5                               | 8                               | 1  | 0.5   |
| CO                      | 1,733                   | 50                                | Graders                         | 0.5                               | 8                               | 1  | 0.5   |
| PM10                    | 91.41                   | 100                               | Dozers                          | 0.5                               | 8                               | 1  | 0.5   |
| PM2.5                   | 29.18                   | 200                               | Scrapers                        | 1                                 | 8                               | 4  | 4     |
|                         |                         | 500                               |                                 |                                   |                                 | <b>Acres</b>                             | 5.50  |
|                         | Acres                   | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |       |
| NOx                     | 5                       | 203                               | 227                             | 286                               | 368                             | 584                                      |       |
|                         | 5                       | 203                               | 227                             | 286                               | 368                             | 584                                      |       |
|                         |                         | 203                               | 227                             | 286                               | 368                             | 584                                      |       |
| CO                      | 5                       | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |       |
|                         | 5                       | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |       |
|                         |                         | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |       |
| PM10                    | 5                       | 14                                | 43                              | 63                                | 105                             | 229                                      |       |
|                         | 5                       | 14                                | 43                              | 63                                | 105                             | 229                                      |       |
|                         |                         | 14                                | 43                              | 63                                | 105                             | 229                                      |       |
| PM2.5                   | 5                       | 8                                 | 11                              | 17                                | 35                              | 116                                      |       |
|                         | 5                       | 8                                 | 11                              | 17                                | 35                              | 116                                      |       |
|                         |                         | 8                                 | 11                              | 17                                | 35                              | 116                                      |       |
| East San Gabriel Valley |                         |                                   |                                 |                                   |                                 |  |       |
| <b>5.00 Acres</b>       |                         |                                   |                                 |                                   |                                 |  |       |
|                         | <b>25</b>               | <b>50</b>                         | <b>100</b>                      | <b>200</b>                        | <b>500</b>                      |  |       |
| NOx                     | 203                     | 227                               | 286                             | 368                               | 584                             |  |       |
| CO                      | 1733                    | 2299                              | 3680                            | 7600                              | 25558                           |  |       |
| PM10                    | 14                      | 43                                | 63                              | 105                               | 229                             |  |       |
| PM2.5                   | 8                       | 11                                | 17                              | 35                                | 116                             |  |       |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 5     | 9          | 5     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction & Rough Grading**

| SRA No. | Acres | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|---------|-------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|         |       | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9       | 5.00  | 25                                | 82                              | 168                               | 550                             | 6.02                                     |

| Source Receptor Distance (meters) | East San Gabriel Valley | Equipment | Acres/8-hr Day | Daily hours | Equipment Used | Acres |      |
|-----------------------------------|-------------------------|-----------|----------------|-------------|----------------|-------|------|
| 25                                |                         | Tractors  | 0.5            | 0.0625      | 8              | 1     | 0.5  |
| NOx                               | 203                     | Graders   | 0.5            | 0.0625      | 8              | 1     | 0.5  |
| CO                                | 1,733                   | Dozers    | 0.5            | 0.0625      |                |       | 0    |
| PM10                              | 91.41                   | Scrapers  | 1              | 0.125       | 8              | 4     | 4    |
| PM2.5                             | 29.18                   |           |                |             |                |       | 5.00 |

|       | Acres | 25   | 50   | 100  | 200  | 500   |
|-------|-------|------|------|------|------|-------|
| NOx   | 5     | 203  | 227  | 286  | 368  | 584   |
|       | 5     | 203  | 227  | 286  | 368  | 584   |
|       | 5     | 203  | 227  | 286  | 368  | 584   |
| CO    | 5     | 1733 | 2299 | 3680 | 7600 | 25558 |
|       | 5     | 1733 | 2299 | 3680 | 7600 | 25558 |
|       | 5     | 1733 | 2299 | 3680 | 7600 | 25558 |
| PM10  | 5     | 14   | 43   | 63   | 105  | 229   |
|       | 5     | 14   | 43   | 63   | 105  | 229   |
|       | 5     | 14   | 43   | 63   | 105  | 229   |
| PM2.5 | 5     | 8    | 11   | 17   | 35   | 116   |
|       | 5     | 8    | 11   | 17   | 35   | 116   |
|       | 5     | 8    | 11   | 17   | 35   | 116   |

East San Gabriel Valley

**5.00 Acres**

|       | 25   | 50   | 100  | 200  | 500   |
|-------|------|------|------|------|-------|
| NOx   | 203  | 227  | 286  | 368  | 584   |
| CO    | 1733 | 2299 | 3680 | 7600 | 25558 |
| PM10  | 14   | 43   | 63   | 105  | 229   |
| PM2.5 | 8    | 11   | 17   | 35   | 116   |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 5     | 9          | 5     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

## Construction Localized Significance Thresholds: Building Construction, Rough Grading, & Utility Trenching

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 5.00                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 0.0625                            | 8                               | 3  |
| <b>NOx</b>                               | <b>203</b>                     | Graders                           | 0.5                             | 0.0625                            | 8                               | 1  |
| <b>CO</b>                                | <b>1,733</b>                   | Dozers                            | 0.5                             | 0.0625                            |                                 |  |
| <b>PM10</b>                              | <b>91.41</b>                   | Scrapers                          | 1                               | 0.125                             | 8                               | 4  |
| <b>PM2.5</b>                             | <b>29.18</b>                   |                                   |                                 |                                   |                                 |  |
|  |                                |                                   |                                 |                                   | <b>Acres</b>                    | 6.00                                     |
|  | Acres                          | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 5                              | 203                               | 227                             | 286                               | 368                             | 584                                      |
|  | 5                              | 203                               | 227                             | 286                               | 368                             | 584                                      |
|  |                                | 203                               | 227                             | 286                               | 368                             | 584                                      |
| CO                                       | 5                              | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |
|  | 5                              | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |
|  |                                | 1733                              | 2299                            | 3680                              | 7600                            | 25558                                    |
| PM10                                     | 5                              | 14                                | 43                              | 63                                | 105                             | 229                                      |
|  | 5                              | 14                                | 43                              | 63                                | 105                             | 229                                      |
|  |                                | 14                                | 43                              | 63                                | 105                             | 229                                      |
| PM2.5                                    | 5                              | 8                                 | 11                              | 17                                | 35                              | 116                                      |
|  | 5                              | 8                                 | 11                              | 17                                | 35                              | 116                                      |
|  |                                | 8                                 | 11                              | 17                                | 35                              | 116                                      |
| East San Gabriel Valley                  |                                |                                   |                                 |                                   |                                 |  |
|  | <b>5.00 Acres</b>              | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 203                            | 227                               | 286                             | 368                               | 584                             |  |
| CO                                       | 1733                           | 2299                              | 3680                            | 7600                              | 25558                           |  |
| PM10                                     | 14                             | 43                                | 63                              | 105                               | 229                             |  |
| PM2.5                                    | 8                              | 11                                | 17                              | 35                                | 116                             |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 5     | 9          | 5     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction & Utility Trenching**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 1.00                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 8                                 | 2                               | 1  |
| <b>NOx</b>                               | <b>89</b>                      | Graders                           | 0.5                             |                                   |                                 | 0  |
| <b>CO</b>                                | <b>623</b>                     | Dozers                            | 0.5                             |                                   |                                 | 0  |
| <b>PM10</b>                              | <b>61.73</b>                   | Scrapers                          | 1                               |                                   |                                 | 0  |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   |                                 | 0  |
|  |                                |                                   |                                 |                                   | <b>Acres</b>                    | <b>1.00</b>                              |
|  | <b>Acres</b>                   | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  |                                | 89                                | 112                             | 159                               | 251                             | 489                                      |
| CO                                       | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  |                                | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
| PM10                                     | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  |                                | 5                                 | 14                              | 34                                | 75                              | 199                                      |
| PM2.5                                    | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  |                                | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
| East San Gabriel Valley                  | <b>1.00 Acres</b>              | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
|  | <b>25</b>                      | <b>89</b>                         | <b>112</b>                      | <b>159</b>                        | <b>251</b>                      | <b>489</b>                               |
| NOx                                      | 89                             | 112                               | 159                             | 251                               | 489                             |  |
| CO                                       | 623                            | 945                               | 1914                            | 4803                              | 20721                           |  |
| PM10                                     | 5                              | 14                                | 34                              | 75                                | 199                             |  |
| PM2.5                                    | 3                              | 5                                 | 9                               | 22                                | 94                              |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction**

| SRA No.                                  | Acres                          | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|--|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|  |                                | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9  | 0.00                           | 25                                | 82                              | 168                               | 550                             | 6.02                                     |
| <b>Source Receptor Distance (meters)</b> | <b>East San Gabriel Valley</b> | <b>Equipment</b>                  | <b>Acres/8-hr Day</b>           | <b>Daily hours</b>                | <b>Equipment Used</b>           | <b>Acres</b>                             |
|  | 25                             | Tractors                          | 0.5                             | 0.0625                            |                                 | 0  |
| <b>NOx</b>                               | <b>89</b>                      | Graders                           | 0.5                             | 0.0625                            |                                 | 0  |
| <b>CO</b>                                | <b>623</b>                     | Dozers                            | 0.5                             | 0.0625                            |                                 | 0  |
| <b>PM10</b>                              | <b>61.73</b>                   | Scrapers                          | 1                               | 0.125                             |                                 | 0  |
| <b>PM2.5</b>                             | <b>17.79</b>                   |                                   |                                 |                                   | <b>Acres</b>                    | <b>0.00</b>                              |
|  | <b>Acres</b>                   | <b>25</b>                         | <b>50</b>                       | <b>100</b>                        | <b>200</b>                      | <b>500</b>                               |
| NOx                                      | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  | 1                              | 89                                | 112                             | 159                               | 251                             | 489                                      |
|  |                                | 89                                | 112                             | 159                               | 251                             | 489                                      |
| CO                                       | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  | 1                              | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
|  |                                | 623                               | 945                             | 1914                              | 4803                            | 20721                                    |
| PM10                                     | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  | 1                              | 5                                 | 14                              | 34                                | 75                              | 199                                      |
|  |                                | 5                                 | 14                              | 34                                | 75                              | 199                                      |
| PM2.5                                    | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  | 1                              | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
|  |                                | 3                                 | 5                               | 9                                 | 22                              | 94                                       |
| East San Gabriel Valley                  | <b>0.00 Acres</b>              |                                   |                                 |                                   |                                 |  |
|  | <b>25</b>                      | <b>50</b>                         | <b>100</b>                      | <b>200</b>                        | <b>500</b>                      |  |
| NOx                                      | 89                             | 112                               | 159                             | 251                               | 489                             |  |
| CO                                       | 623                            | 945                               | 1914                            | 4803                              | 20721                           |  |
| PM10                                     | 5                              | 14                                | 34                              | 75                                | 199                             |  |
| PM2.5                                    | 3                              | 5                                 | 9                               | 22                                | 94                              |  |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction & Fine Grading**

| SRA No. | Acres | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|---------|-------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|         |       | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9       | 0.50  | 25                                | 82                              | 168                               | 550                             | 6.02                                     |

| Source Receptor Distance (meters) | East San Gabriel Valley | Equipment | Acres/8-hr Day | Daily hours | Equipment Used | Acres |
|-----------------------------------|-------------------------|-----------|----------------|-------------|----------------|-------|
|                                   | 25                      | Tractors  | 0.5            | 8           | 1              | 0.5   |
| NOx                               | 89                      | Graders   | 0.5            |             |                | 0     |
| CO                                | 623                     | Dozers    | 0.5            |             |                | 0     |
| PM10                              | 61.73                   | Scrapers  | 1              |             |                | 0     |
| PM2.5                             | 17.79                   |           |                |             |                | 0     |
|                                   |                         |           |                |             | Acres          | 0.50  |

|                         | Acres     | 25        | 50         | 100        | 200        | 500   |
|-------------------------|-----------|-----------|------------|------------|------------|-------|
| NOx                     | 1         | 89        | 112        | 159        | 251        | 489   |
|                         | 1         | 89        | 112        | 159        | 251        | 489   |
|                         | 1         | 89        | 112        | 159        | 251        | 489   |
| CO                      | 1         | 623       | 945        | 1914       | 4803       | 20721 |
|                         | 1         | 623       | 945        | 1914       | 4803       | 20721 |
|                         | 1         | 623       | 945        | 1914       | 4803       | 20721 |
| PM10                    | 1         | 5         | 14         | 34         | 75         | 199   |
|                         | 1         | 5         | 14         | 34         | 75         | 199   |
|                         | 1         | 5         | 14         | 34         | 75         | 199   |
| PM2.5                   | 1         | 3         | 5          | 9          | 22         | 94    |
|                         | 1         | 3         | 5          | 9          | 22         | 94    |
|                         | 1         | 3         | 5          | 9          | 22         | 94    |
| East San Gabriel Valley |           |           |            |            |            |       |
| <b>0.50 Acres</b>       |           |           |            |            |            |       |
|                         | <b>25</b> | <b>50</b> | <b>100</b> | <b>200</b> | <b>500</b> |       |
| NOx                     | 89        | 112       | 159        | 251        | 489        |       |
| CO                      | 623       | 945       | 1914       | 4803       | 20721      |       |
| PM10                    | 5         | 14        | 34         | 75         | 199        |       |
| PM2.5                   | 3         | 5         | 9          | 22         | 94         |       |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction & Architectural Coating**

| SRA No. | Acres | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|---------|-------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|         |       | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9       | 0.00  | 25                                | 82                              | 168                               | 550                             | 6.02                                     |

| Source Receptor Distance (meters) | East San Gabriel Valley | Equipment | Acres/8-hr Day | Daily hours | Equipment Used | Acres |
|-----------------------------------|-------------------------|-----------|----------------|-------------|----------------|-------|
|                                   | 25                      | Tractors  | 0.5            | 0.0625      |                | 0     |
| NOx                               | 89                      | Graders   | 0.5            | 0.0625      |                | 0     |
| CO                                | 623                     | Dozers    | 0.5            | 0.0625      |                | 0     |
| PM10                              | 61.73                   | Scrapers  | 1              | 0.125       |                | 0     |
| PM2.5                             | 17.79                   |           |                |             | Acres          | 0.00  |

|                         | Acres      | 25  | 50   | 100  | 200   | 500   |
|-------------------------|------------|-----|------|------|-------|-------|
| NOx                     | 1          | 89  | 112  | 159  | 251   | 489   |
|                         | 1          | 89  | 112  | 159  | 251   | 489   |
|                         | 1          | 89  | 112  | 159  | 251   | 489   |
| CO                      | 1          | 623 | 945  | 1914 | 4803  | 20721 |
|                         | 1          | 623 | 945  | 1914 | 4803  | 20721 |
|                         | 1          | 623 | 945  | 1914 | 4803  | 20721 |
| PM10                    | 1          | 5   | 14   | 34   | 75    | 199   |
|                         | 1          | 5   | 14   | 34   | 75    | 199   |
|                         | 1          | 5   | 14   | 34   | 75    | 199   |
| PM2.5                   | 1          | 3   | 5    | 9    | 22    | 94    |
|                         | 1          | 3   | 5    | 9    | 22    | 94    |
|                         | 1          | 3   | 5    | 9    | 22    | 94    |
| East San Gabriel Valley |            |     |      |      |       |       |
|                         | 0.00 Acres |     |      |      |       |       |
|                         | 25         | 50  | 100  | 200  | 500   |       |
| NOx                     | 89         | 112 | 159  | 251  | 489   |       |
| CO                      | 623        | 945 | 1914 | 4803 | 20721 |       |
| PM10                    | 5          | 14  | 34   | 75   | 199   |       |
| PM2.5                   | 3          | 5   | 9    | 22   | 94    |       |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Building Construction & Finishing/Landscaping**

| SRA No. | Acres | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|---------|-------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|         |       | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9       | 0.50  | 25                                | 82                              | 168                               | 550                             | 6.02                                     |

| Source Receptor Distance (meters) | East San Gabriel Valley | Equipment | Acres/8-hr Day | Daily hours | Equipment Used | Acres |
|-----------------------------------|-------------------------|-----------|----------------|-------------|----------------|-------|
|                                   | 25                      | Tractors  | 0.5            | 8           | 1              | 0.5   |
| NOx                               | 89                      | Graders   | 0.5            |             |                | 0     |
| CO                                | 623                     | Dozers    | 0.5            |             |                | 0     |
| PM10                              | 61.73                   | Scrapers  | 1              |             |                | 0     |
| PM2.5                             | 17.79                   |           |                |             |                | 0     |
|                                   |                         |           |                |             | Acres          | 0.50  |

|                         | Acres | 25  | 50   | 100  | 200   | 500   |
|-------------------------|-------|-----|------|------|-------|-------|
| NOx                     | 1     | 89  | 112  | 159  | 251   | 489   |
|                         | 1     | 89  | 112  | 159  | 251   | 489   |
|                         | 1     | 89  | 112  | 159  | 251   | 489   |
| CO                      | 1     | 623 | 945  | 1914 | 4803  | 20721 |
|                         | 1     | 623 | 945  | 1914 | 4803  | 20721 |
|                         | 1     | 623 | 945  | 1914 | 4803  | 20721 |
| PM10                    | 1     | 5   | 14   | 34   | 75    | 199   |
|                         | 1     | 5   | 14   | 34   | 75    | 199   |
|                         | 1     | 5   | 14   | 34   | 75    | 199   |
| PM2.5                   | 1     | 3   | 5    | 9    | 22    | 94    |
|                         | 1     | 3   | 5    | 9    | 22    | 94    |
|                         | 1     | 3   | 5    | 9    | 22    | 94    |
| East San Gabriel Valley |       |     |      |      |       |       |
| <b>0.50 Acres</b>       |       |     |      |      |       |       |
|                         | 25    | 50  | 100  | 200  | 500   |       |
| NOx                     | 89    | 112 | 159  | 251  | 489   |       |
| CO                      | 623   | 945 | 1914 | 4803 | 20721 |       |
| PM10                    | 5     | 14  | 34   | 75   | 199   |       |
| PM2.5                   | 3     | 5   | 9    | 22   | 94    |       |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

**Construction Localized Significance Thresholds: Finishing/Landscaping**

| SRA No. | Acres | NOx & CO                          |                                 | PM10 & PM2.5                      |                                 | Construction / Project Site Size (Acres) |
|---------|-------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
|         |       | Source Receptor Distance (meters) | Source Receptor Distance (Feet) | Source Receptor Distance (meters) | Source Receptor Distance (Feet) |  |
| 9       | 0.00  | 25                                | 82                              | 168                               | 550                             | 6.02                                     |

| Source Receptor Distance (meters) | East San Gabriel Valley | Equipment | Acres/8-hr Day | Daily hours | Equipment Used | Acres       |            |
|-----------------------------------|-------------------------|-----------|----------------|-------------|----------------|-------------|------------|
| 25                                |                         | Tractors  | 0.5            | 8           | 1              | 0.5         |            |
| NOx 89                            |                         | Tractors  | 0.5            |             |                | 0           |            |
| CO 623                            |                         | Graders   | 0.5            |             |                | 0           |            |
| PM10 61.73                        |                         | Dozers    | 0.5            |             |                | 0           |            |
| PM2.5 17.79                       |                         | Scrapers  | 1              |             |                | 0           |            |
|                                   |                         |           |                |             | <b>Acres</b>   | <b>0.50</b> |            |
|                                   | Acres                   | <b>25</b> | <b>50</b>      |             | <b>100</b>     | <b>200</b>  | <b>500</b> |
| NOx                               | 1                       | 89        | 112            |             | 159            | 251         | 489        |
|                                   | 1                       | 89        | 112            |             | 159            | 251         | 489        |
|                                   |                         | 89        | 112            |             | 159            | 251         | 489        |
| CO                                | 1                       | 623       | 945            |             | 1914           | 4803        | 20721      |
|                                   | 1                       | 623       | 945            |             | 1914           | 4803        | 20721      |
|                                   |                         | 623       | 945            |             | 1914           | 4803        | 20721      |
| PM10                              | 1                       | 5         | 14             |             | 34             | 75          | 199        |
|                                   | 1                       | 5         | 14             |             | 34             | 75          | 199        |
|                                   |                         | 5         | 14             |             | 34             | 75          | 199        |
| PM2.5                             | 1                       | 3         | 5              |             | 9              | 22          | 94         |
|                                   | 1                       | 3         | 5              |             | 9              | 22          | 94         |
|                                   |                         | 3         | 5              |             | 9              | 22          | 94         |
| East San Gabriel Valley           | <b>0.00 Acres</b>       |           |                |             |                |             |            |
|                                   | <b>25</b>               | <b>50</b> | <b>100</b>     |             | <b>200</b>     | <b>500</b>  |            |
| NOx                               | 89                      | 112       | 159            |             | 251            | 489         |            |
| CO                                | 623                     | 945       | 1914           |             | 4803           | 20721       |            |
| PM10                              | 5                       | 14        | 34             |             | 75             | 199         |            |
| PM2.5                             | 3                       | 5         | 9              |             | 22             | 94          |            |

| Acre Below                      |       | Acre Above |       |
|---------------------------------|-------|------------|-------|
| SRA No.                         | Acres | SRA No.    | Acres |
| 9                               | 1     | 9          | 1     |
| <b>Distance Increment Below</b> |       |            |       |
| 25                              |       |            |       |
| <b>Distance Increment Above</b> |       |            |       |
| 25                              |       |            |       |

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Construction  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| General Light Industry           | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                     |       |                         |     |                                  |      |
|---------------------|-------|-------------------------|-----|----------------------------------|------|
| <b>Urbanization</b> | Urban | <b>Wind Speed (m/s)</b> | 2.2 | <b>Precipitation Freq (Days)</b> | 33   |
| <b>Climate Zone</b> | 9     |                         |     | <b>Operational Year</b>          | 2022 |

**Utility Company**

|                                |   |                                |   |                                |   |
|--------------------------------|---|--------------------------------|---|--------------------------------|---|
| <b>CO2 Intensity (lb/MWhr)</b> | 0 | <b>CH4 Intensity (lb/MWhr)</b> | 0 | <b>N2O Intensity (lb/MWhr)</b> | 0 |
|--------------------------------|---|--------------------------------|---|--------------------------------|---|

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

Project Characteristics -

Land Use - Based on information provided. Please see assumptions in the AQ/GHG appendix.

Construction Phase - Based on information provided. Please see the assumptions file in the AQ/GHG appendix for further details.

Off-road Equipment - Based on information provided.

Grading -

Demolition -

Trips and VMT - Based on information provided. Please see the assumptions in the AQ/GHG appendix for further details.

Construction Off-road Equipment Mitigation - Based on South Coast Rules 403 and 1186.

| Table Name | Column Name | Default Value | New Value |
|------------|-------------|---------------|-----------|
|------------|-------------|---------------|-----------|

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                        |                                |            |           |
|------------------------|--------------------------------|------------|-----------|
| tbiConstDustMitigation | CleanPavedRoadPercentReduction | 0          | 9         |
| tbiConstDustMitigation | WaterUnpavedRoadVehicleSpeed   | 0          | 15        |
| tbiConstructionPhase   | NumDays                        | 20.00      | 21.00     |
| tbiConstructionPhase   | NumDays                        | 230.00     | 132.00    |
| tbiConstructionPhase   | NumDays                        | 20.00      | 31.00     |
| tbiConstructionPhase   | NumDays                        | 20.00      | 22.00     |
| tbiConstructionPhase   | NumDays                        | 10.00      | 5.00      |
| tbiConstructionPhase   | NumDays                        | 20.00      | 8.00      |
| tbiConstructionPhase   | NumDays                        | 20.00      | 12.00     |
| tbiConstructionPhase   | PhaseEndDate                   | 10/18/2022 | 8/17/2022 |
| tbiConstructionPhase   | PhaseEndDate                   | 8/23/2022  | 9/20/2022 |
| tbiConstructionPhase   | PhaseEndDate                   | 8/24/2021  | 3/15/2022 |
| tbiConstructionPhase   | PhaseEndDate                   | 10/5/2021  | 4/20/2022 |
| tbiConstructionPhase   | PhaseEndDate                   | 9/7/2021   | 3/24/2022 |
| tbiConstructionPhase   | PhaseStartDate                 | 9/21/2022  | 7/20/2022 |
| tbiConstructionPhase   | PhaseStartDate                 | 10/6/2021  | 3/19/2022 |
| tbiConstructionPhase   | PhaseStartDate                 | 7/28/2021  | 2/1/2022  |
| tbiConstructionPhase   | PhaseStartDate                 | 9/8/2021   | 3/22/2022 |
| tbiConstructionPhase   | PhaseStartDate                 | 8/25/2021  | 3/18/2022 |
| tbiGrading             | MaterialImported               | 0.00       | 14,933.00 |
| tbiLandUse             | LandUseSquareFeet              | 49,200.00  | 20,193.00 |
| tbiLandUse             | LandUseSquareFeet              | 88,426.80  | 88,559.00 |
| tbiLandUse             | LandUseSquareFeet              | 27,979.00  | 0.00      |
| tbiLandUse             | LotAcreage                     | 2.59       | 2.49      |
| tbiLandUse             | LotAcreage                     | 1.11       | 0.46      |
| tbiOffRoadEquipment    | HorsePower                     | 158.00     | 311.00    |
| tbiOffRoadEquipment    | HorsePower                     | 89.00      | 173.00    |
| tbiOffRoadEquipment    | HorsePower                     | 187.00     | 179.00    |
| tbiOffRoadEquipment    | HorsePower                     | 158.00     | 311.00    |
| tbiOffRoadEquipment    | HorsePower                     | 97.00      | 79.00     |
| tbiOffRoadEquipment    | HorsePower                     | 97.00      | 79.00     |
| tbiOffRoadEquipment    | HorsePower                     | 65.00      | 74.30     |
| tbiOffRoadEquipment    | HorsePower                     | 65.00      | 74.30     |
| tbiOffRoadEquipment    | HorsePower                     | 212.00     | 130.00    |
| tbiOffRoadEquipment    | HorsePower                     | 63.00      | 74.00     |
| tbiOffRoadEquipment    | HorsePower                     | 367.00     | 365.00    |
| tbiOffRoadEquipment    | HorsePower                     | 367.00     | 478.00    |
| tbiOffRoadEquipment    | HorsePower                     | 97.00      | 70.00     |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                     |                            |       |                           |
|---------------------|----------------------------|-------|---------------------------|
| tblOffRoadEquipment | HorsePower                 | 80.00 | 36.00                     |
| tblOffRoadEquipment | HorsePower                 | 63.00 | 74.00                     |
| tblOffRoadEquipment | HorsePower                 | 97.00 | 79.00                     |
| tblOffRoadEquipment | LoadFactor                 | 0.37  | 0.37                      |
| tblOffRoadEquipment | LoadFactor                 | 0.37  | 0.37                      |
| tblOffRoadEquipment | LoadFactor                 | 0.43  | 0.43                      |
| tblOffRoadEquipment | LoadFactor                 | 0.37  | 0.37                      |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Crawler Tractors          |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Aerial Lifts              |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Rollers                   |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Aerial Lifts              |
| tblOffRoadEquipment | OffRoadEquipmentType       |       | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00  | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00  | 1.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00 | 7.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00 | 25.00                     |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                |                   |          |          |
|----------------|-------------------|----------|----------|
| tbiTripsAndVMT | HaulingTripLength | 20.00    | 28.00    |
| tbiTripsAndVMT | HaulingTripNumber | 32.00    | 34.00    |
| tbiTripsAndVMT | HaulingTripNumber | 1,867.00 | 2,987.00 |
| tbiTripsAndVMT | HaulingTripNumber | 112.00   | 114.00   |
| tbiTripsAndVMT | VendorTripNumber  | 0.00     | 2.00     |
| tbiTripsAndVMT | VendorTripNumber  | 0.00     | 2.00     |
| tbiTripsAndVMT | VendorTripNumber  | 0.00     | 2.00     |
| tbiTripsAndVMT | VendorTripNumber  | 0.00     | 2.00     |
| tbiTripsAndVMT | VendorTripNumber  | 0.00     | 2.00     |

**2.0 Emissions Summary**

**2.1 Overall Construction**

Unmitigated Construction

|         | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Year    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| 2022    | 0.7618  | 1.6175 | 1.6088 | 4.7400e-003 | 0.1762        | 0.0502       | 0.2264     | 0.0408         | 0.0464        | 0.0872      | 0.0000   | 437.7325  | 437.7325  | 0.0747 | 0.0281 | 447.9614 |
| Maximum | 0.7618  | 1.6175 | 1.6088 | 4.7400e-003 | 0.1762        | 0.0502       | 0.2264     | 0.0408         | 0.0464        | 0.0872      | 0.0000   | 437.7325  | 437.7325  | 0.0747 | 0.0281 | 447.9614 |

Mitigated Construction

|         | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Year    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| 2022    | 0.7618  | 1.6175 | 1.6088 | 4.7400e-003 | 0.1399        | 0.0502       | 0.1901     | 0.0352         | 0.0464        | 0.0815      | 0.0000   | 437.7322  | 437.7322  | 0.0747 | 0.0281 | 447.9612 |
| Maximum | 0.7618  | 1.6175 | 1.6088 | 4.7400e-003 | 0.1399        | 0.0502       | 0.1901     | 0.0352         | 0.0464        | 0.0815      | 0.0000   | 437.7322  | 437.7322  | 0.0747 | 0.0281 | 447.9612 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 20.62         | 0.00         | 16.05      | 13.82          | 0.00          | 6.47        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 3       | 1-28-2022  | 4-27-2022 | 1.1160                                       | 1.1160                                     |
| 4       | 4-28-2022  | 7-27-2022 | 0.5311                                       | 0.5311                                     |
| 5       | 7-28-2022  | 9-30-2022 | 0.6843                                       | 0.6843                                     |
|         |            | Highest   | 1.1160                                       | 1.1160                                     |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Building Demolition   | Demolition            | 2/1/2022   | 3/15/2022 | 5             | 31       |                   |
| 2            | Asphalt Demolition    | Demolition            | 2/18/2022  | 3/1/2022  | 5             | 8        |                   |
| 3            | Site Preparation      | Site Preparation      | 3/18/2022  | 3/24/2022 | 5             | 5        |                   |
| 4            | Building Construction | Building Construction | 3/19/2022  | 9/20/2022 | 5             | 132      |                   |
| 5            | Rough Grading         | Grading               | 3/22/2022  | 4/20/2022 | 5             | 22       |                   |
| 6            | Utility Trenching     | Trenching             | 4/18/2022  | 5/16/2022 | 5             | 21       |                   |
| 7            | Fine Grading          | Grading               | 7/2/2022   | 7/19/2022 | 5             | 12       |                   |
| 8            | Architectural Coating | Architectural Coating | 7/20/2022  | 8/17/2022 | 5             | 21       |                   |
| 9            | Finishing/Landscaping | Trenching             | 8/18/2022  | 10/4/2022 | 5             | 34       |                   |

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 55

Acres of Paving: 3.13

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 194,745; Non-Residential Outdoor: 64,915; Striped Parking Area: 6,525 (Architectural

**OffRoad Equipment**

| Phase Name            | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|--------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors          | 1      | 6.00        | 78          | 0.48        |
| Building Demolition   | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |
| Building Construction | Cranes                   | 0      | 7.00        | 231         | 0.29        |
| Building Demolition   | Excavators               | 1      | 8.00        | 311         | 0.38        |
| Rough Grading         | Excavators               | 0      | 8.00        | 158         | 0.38        |
| Building Construction | Forklifts                | 3      | 8.00        | 173         | 0.20        |
| Building Construction | Generator Sets           | 0      | 8.00        | 84          | 0.74        |
| Rough Grading         | Graders                  | 1      | 8.00        | 179         | 0.41        |
| Asphalt Demolition    | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |
| Asphalt Demolition    | Excavators               | 1      | 8.00        | 311         | 0.38        |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                       |                           |   |      |      |      |
|-----------------------|---------------------------|---|------|------|------|
| Fine Grading          | Excavators                | 0 | 8.00 | 158  | 0.38 |
| Building Demolition   | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Rough Grading         | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Site Preparation      | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 0 | 7.00 | 97   | 0.37 |
| Rough Grading         | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Site Preparation      | Tractors/Loaders/Backhoes | 0 | 8.00 | 97   | 0.37 |
| Building Construction | Welders                   | 0 | 8.00 | 46   | 0.45 |
| Fine Grading          | Graders                   | 0 | 8.00 | 187  | 0.41 |
| Asphalt Demolition    | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Building Demolition   | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Asphalt Demolition    | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Site Preparation      | Crawler Tractors          | 1 | 8.00 | 130  | 0.43 |
| Building Construction | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 365  | 0.48 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 478  | 0.48 |
| Utility Trenching     | Tractors/Loaders/Backhoes | 2 | 8.00 | 70   | 0.37 |
| Fine Grading          | Rollers                   | 1 | 8.00 | 36   | 0.38 |
| Architectural Coating | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Finishing/Landscaping | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |

Construction - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Building Demolition   | 2                       | 5.00               | 2.00               | 34.00               | 14.70              | 6.90               | 7.00                | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 1                       | 3.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Rough Grading         | 6                       | 15.00              | 2.00               | 2,987.00            | 14.70              | 6.90               | 25.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 6                       | 100.00             | 39.00              | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Asphalt Demolition    | 2                       | 5.00               | 2.00               | 114.00              | 14.70              | 6.90               | 28.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 4                       | 20.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Utility Trenching     | 2                       | 5.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Fine Grading          | 2                       | 5.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Finishing/Landscaping | 1                       | 3.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

**3.2 Building Demolition - 2022**

Unmitigated Construction On-Site

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |                    |               |               |                    | 3.4600e-003        | 0.0000             | 3.4600e-003        | 5.2000e-004        | 0.0000             | 5.2000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 5.3600e-003        | 0.0499        | 0.0587        | 1.9000e-004        |                    | 1.7300e-003        | 1.7300e-003        |                    | 1.6000e-003        | 1.6000e-003        | 0.0000        | 16.9615        | 16.9615        | 5.4900e-003        | 0.0000        | 17.0986        |
| <b>Total</b>  | <b>5.3600e-003</b> | <b>0.0499</b> | <b>0.0587</b> | <b>1.9000e-004</b> | <b>3.4600e-003</b> | <b>1.7300e-003</b> | <b>5.1900e-003</b> | <b>5.2000e-004</b> | <b>1.6000e-003</b> | <b>2.1200e-003</b> | <b>0.0000</b> | <b>16.9615</b> | <b>16.9615</b> | <b>5.4900e-003</b> | <b>0.0000</b> | <b>17.0986</b> |

Unmitigated Construction Off-Site

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

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Hauling      | 4.0000e-005        | 1.2700e-003        | 3.9000e-004        | 0.0000             | 1.0000e-004        | 1.0000e-005        | 1.1000e-004        | 3.0000e-005        | 1.0000e-005        | 4.0000e-005        | 0.0000        | 0.3970        | 0.3970        | 2.0000e-005        | 6.0000e-005        | 0.4163        |
| Vendor       | 6.0000e-005        | 1.5900e-003        | 5.3000e-004        | 1.0000e-005        | 2.0000e-004        | 1.0000e-005        | 2.1000e-004        | 6.0000e-005        | 1.0000e-005        | 7.0000e-005        | 0.0000        | 0.5920        | 0.5920        | 2.0000e-005        | 9.0000e-005        | 0.6179        |
| Worker       | 2.7000e-004        | 2.2000e-004        | 2.8700e-003        | 1.0000e-005        | 8.5000e-004        | 1.0000e-005        | 8.5000e-004        | 2.3000e-004        | 1.0000e-005        | 2.3000e-004        | 0.0000        | 0.6985        | 0.6985        | 2.0000e-005        | 2.0000e-005        | 0.7047        |
| <b>Total</b> | <b>3.7000e-004</b> | <b>3.0800e-003</b> | <b>3.7900e-003</b> | <b>2.0000e-005</b> | <b>1.1500e-003</b> | <b>3.0000e-005</b> | <b>1.1700e-003</b> | <b>3.2000e-004</b> | <b>3.0000e-005</b> | <b>3.4000e-004</b> | <b>0.0000</b> | <b>1.6874</b> | <b>1.6874</b> | <b>6.0000e-005</b> | <b>1.7000e-004</b> | <b>1.7388</b> |

**Mitigated Construction On-Site**

| Category      | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |                    |               |               |                    | 1.4800e-003        | 0.0000             | 1.4800e-003        | 2.2000e-004        | 0.0000             | 2.2000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 5.3600e-003        | 0.0499        | 0.0587        | 1.9000e-004        |                    | 1.7300e-003        | 1.7300e-003        |                    | 1.6000e-003        | 1.6000e-003        | 0.0000        | 16.9615        | 16.9615        | 5.4900e-003        | 0.0000        | 17.0986        |
| <b>Total</b>  | <b>5.3600e-003</b> | <b>0.0499</b> | <b>0.0587</b> | <b>1.9000e-004</b> | <b>1.4800e-003</b> | <b>1.7300e-003</b> | <b>3.2100e-003</b> | <b>2.2000e-004</b> | <b>1.6000e-003</b> | <b>1.8200e-003</b> | <b>0.0000</b> | <b>16.9615</b> | <b>16.9615</b> | <b>5.4900e-003</b> | <b>0.0000</b> | <b>17.0986</b> |

**Mitigated Construction Off-Site**

| Category     | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 4.0000e-005        | 1.2700e-003        | 3.9000e-004        | 0.0000             | 1.0000e-004        | 1.0000e-005        | 1.0000e-004        | 3.0000e-005        | 1.0000e-005        | 3.0000e-005        | 0.0000        | 0.3970        | 0.3970        | 2.0000e-005        | 6.0000e-005        | 0.4163        |
| Vendor       | 6.0000e-005        | 1.5900e-003        | 5.3000e-004        | 1.0000e-005        | 1.8000e-004        | 1.0000e-005        | 2.0000e-004        | 5.0000e-005        | 1.0000e-005        | 7.0000e-005        | 0.0000        | 0.5920        | 0.5920        | 2.0000e-005        | 9.0000e-005        | 0.6179        |
| Worker       | 2.7000e-004        | 2.2000e-004        | 2.8700e-003        | 1.0000e-005        | 7.8000e-004        | 1.0000e-005        | 7.9000e-004        | 2.1000e-004        | 1.0000e-005        | 2.1000e-004        | 0.0000        | 0.6985        | 0.6985        | 2.0000e-005        | 2.0000e-005        | 0.7047        |
| <b>Total</b> | <b>3.7000e-004</b> | <b>3.0800e-003</b> | <b>3.7900e-003</b> | <b>2.0000e-005</b> | <b>1.0600e-003</b> | <b>3.0000e-005</b> | <b>1.0900e-003</b> | <b>2.9000e-004</b> | <b>3.0000e-005</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>1.6874</b> | <b>1.6874</b> | <b>6.0000e-005</b> | <b>1.7000e-004</b> | <b>1.7388</b> |

**3.3 Asphalt Demolition - 2022**

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 0.0121        | 0.0000             | 0.0121        | 1.8300e-003        | 0.0000             | 1.8300e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.3800e-003        | 0.0129        | 0.0151        | 5.0000e-005        |               | 4.5000e-004        | 4.5000e-004   |                    | 4.1000e-004        | 4.1000e-004        | 0.0000        | 4.3772        | 4.3772        | 1.4200e-003        | 0.0000        | 4.4126        |
| <b>Total</b>  | <b>1.3800e-003</b> | <b>0.0129</b> | <b>0.0151</b> | <b>5.0000e-005</b> | <b>0.0121</b> | <b>4.5000e-004</b> | <b>0.0125</b> | <b>1.8300e-003</b> | <b>4.1000e-004</b> | <b>2.2400e-003</b> | <b>0.0000</b> | <b>4.3772</b> | <b>4.3772</b> | <b>1.4200e-003</b> | <b>0.0000</b> | <b>4.4126</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx           | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |               |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 3.4000e-004        | 0.0137        | 2.8300e-003        | 5.0000e-005        | 1.3700e-003        | 1.0000e-004        | 1.4700e-003        | 3.8000e-004        | 1.0000e-004        | 4.7000e-004        | 0.0000        | 4.8681        | 4.8681        | 2.6000e-004        | 7.7000e-004        | 5.1048        |
| Vendor       | 2.0000e-005        | 4.1000e-004   | 1.4000e-004        | 0.0000             | 5.0000e-005        | 0.0000             | 5.0000e-005        | 1.0000e-005        | 0.0000             | 2.0000e-005        | 0.0000        | 0.1528        | 0.1528        | 1.0000e-005        | 2.0000e-005        | 0.1595        |
| Worker       | 7.0000e-005        | 6.0000e-005   | 7.4000e-004        | 0.0000             | 2.2000e-004        | 0.0000             | 2.2000e-004        | 6.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.1803        | 0.1803        | 1.0000e-005        | 0.0000             | 0.1819        |
| <b>Total</b> | <b>4.3000e-004</b> | <b>0.0141</b> | <b>3.7100e-003</b> | <b>5.0000e-005</b> | <b>1.6400e-003</b> | <b>1.0000e-004</b> | <b>1.7400e-003</b> | <b>4.5000e-004</b> | <b>1.0000e-004</b> | <b>5.5000e-004</b> | <b>0.0000</b> | <b>5.2011</b> | <b>5.2011</b> | <b>2.8000e-004</b> | <b>7.9000e-004</b> | <b>5.4461</b> |

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 5.1700e-003        | 0.0000             | 5.1700e-003        | 7.8000e-004        | 0.0000             | 7.8000e-004        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.3800e-003        | 0.0129        | 0.0151        | 5.0000e-005        | 4.5000e-004        | 4.5000e-004        | 4.5000e-004        | 4.1000e-004        | 4.1000e-004        | 4.1000e-004        | 0.0000        | 4.3772        | 4.3772        | 1.4200e-003        | 0.0000        | 4.4126        |
| <b>Total</b>  | <b>1.3800e-003</b> | <b>0.0129</b> | <b>0.0151</b> | <b>5.0000e-005</b> | <b>5.1700e-003</b> | <b>4.5000e-004</b> | <b>5.6200e-003</b> | <b>7.8000e-004</b> | <b>4.1000e-004</b> | <b>1.1900e-003</b> | <b>0.0000</b> | <b>4.3772</b> | <b>4.3772</b> | <b>1.4200e-003</b> | <b>0.0000</b> | <b>4.4126</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx           | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |               |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 3.4000e-004        | 0.0137        | 2.8300e-003        | 5.0000e-005        | 1.2800e-003        | 1.0000e-004        | 1.3800e-003        | 3.5000e-004        | 1.0000e-004        | 4.5000e-004        | 0.0000        | 4.8681        | 4.8681        | 2.6000e-004        | 7.7000e-004        | 5.1048        |
| Vendor       | 2.0000e-005        | 4.1000e-004   | 1.4000e-004        | 0.0000             | 5.0000e-005        | 0.0000             | 5.0000e-005        | 1.0000e-005        | 0.0000             | 2.0000e-005        | 0.0000        | 0.1528        | 0.1528        | 1.0000e-005        | 2.0000e-005        | 0.1595        |
| Worker       | 7.0000e-005        | 6.0000e-005   | 7.4000e-004        | 0.0000             | 2.0000e-004        | 0.0000             | 2.0000e-004        | 5.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.1803        | 0.1803        | 1.0000e-005        | 0.0000             | 0.1819        |
| <b>Total</b> | <b>4.3000e-004</b> | <b>0.0141</b> | <b>3.7100e-003</b> | <b>5.0000e-005</b> | <b>1.5300e-003</b> | <b>1.0000e-004</b> | <b>1.6300e-003</b> | <b>4.1000e-004</b> | <b>1.0000e-004</b> | <b>5.3000e-004</b> | <b>0.0000</b> | <b>5.2011</b> | <b>5.2011</b> | <b>2.8000e-004</b> | <b>7.9000e-004</b> | <b>5.4461</b> |

**3.4 Site Preparation - 2022**

**Unmitigated Construction On-Site**

|               | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |                    |                    |                    | 1.3300e-003        | 0.0000             | 1.3300e-003        | 1.4000e-004        | 0.0000             | 1.4000e-004        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 9.6000e-004        | 9.4100e-003        | 8.0200e-003        | 1.0000e-005        |                    | 5.3000e-004        | 5.3000e-004        |                    | 4.8000e-004        | 4.8000e-004        | 0.0000        | 1.0515        | 1.0515        | 3.4000e-004        | 0.0000        | 1.0600        |
| <b>Total</b>  | <b>9.6000e-004</b> | <b>9.4100e-003</b> | <b>8.0200e-003</b> | <b>1.0000e-005</b> | <b>1.3300e-003</b> | <b>5.3000e-004</b> | <b>1.8600e-003</b> | <b>1.4000e-004</b> | <b>4.8000e-004</b> | <b>6.2000e-004</b> | <b>0.0000</b> | <b>1.0515</b> | <b>1.0515</b> | <b>3.4000e-004</b> | <b>0.0000</b> | <b>1.0600</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        |
| Vendor       | 1.0000e-005        | 2.6000e-004        | 9.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 1.0000e-005        | 0.0000        | 1.0000e-005        | 0.0000        | 0.0955        | 0.0955        | 0.0000        | 1.0000e-005        | 0.0997        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000        | 8.0000e-005        | 0.0000        | 8.0000e-005        | 2.0000e-005        | 0.0000        | 2.0000e-005        | 0.0000        | 0.0676        | 0.0676        | 0.0000        | 0.0000             | 0.0682        |
| <b>Total</b> | <b>4.0000e-005</b> | <b>2.8000e-004</b> | <b>3.7000e-004</b> | <b>0.0000</b> | <b>1.1000e-004</b> | <b>0.0000</b> | <b>1.1000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.1631</b> | <b>0.1631</b> | <b>0.0000</b> | <b>1.0000e-005</b> | <b>0.1679</b> |

**Mitigated Construction On-Site**

|               | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |                    |                    |                    | 5.7000e-004        | 0.0000             | 5.7000e-004        | 6.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 9.6000e-004        | 9.4100e-003        | 8.0200e-003        | 1.0000e-005        | 5.3000e-004        | 5.3000e-004        | 5.3000e-004        | 4.8000e-004        | 4.8000e-004        | 4.8000e-004        | 0.0000        | 1.0515        | 1.0515        | 3.4000e-004        | 0.0000        | 1.0600        |
| <b>Total</b>  | <b>9.6000e-004</b> | <b>9.4100e-003</b> | <b>8.0200e-003</b> | <b>1.0000e-005</b> | <b>5.7000e-004</b> | <b>5.3000e-004</b> | <b>1.1000e-003</b> | <b>6.0000e-005</b> | <b>4.8000e-004</b> | <b>5.4000e-004</b> | <b>0.0000</b> | <b>1.0515</b> | <b>1.0515</b> | <b>3.4000e-004</b> | <b>0.0000</b> | <b>1.0600</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        |
| Vendor       | 1.0000e-005        | 2.6000e-004        | 9.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 1.0000e-005        | 0.0000        | 1.0000e-005        | 0.0000        | 0.0955        | 0.0955        | 0.0000        | 1.0000e-005        | 0.0997        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000        | 8.0000e-005        | 0.0000        | 8.0000e-005        | 2.0000e-005        | 0.0000        | 2.0000e-005        | 0.0000        | 0.0676        | 0.0676        | 0.0000        | 0.0000             | 0.0682        |
| <b>Total</b> | <b>4.0000e-005</b> | <b>2.8000e-004</b> | <b>3.7000e-004</b> | <b>0.0000</b> | <b>1.1000e-004</b> | <b>0.0000</b> | <b>1.1000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.1631</b> | <b>0.1631</b> | <b>0.0000</b> | <b>1.0000e-005</b> | <b>0.1679</b> |

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Off-Road     | 0.0413        | 0.4299        | 0.6408        | 9.8000e-004        |               | 0.0184        | 0.0184        |                | 0.0169        | 0.0169        | 0.0000        | 86.0593        | 86.0593        | 0.0278        | 0.0000        | 86.7551        |
| <b>Total</b> | <b>0.0413</b> | <b>0.4299</b> | <b>0.6408</b> | <b>9.8000e-004</b> |               | <b>0.0184</b> | <b>0.0184</b> |                | <b>0.0169</b> | <b>0.0169</b> | <b>0.0000</b> | <b>86.0593</b> | <b>86.0593</b> | <b>0.0278</b> | <b>0.0000</b> | <b>86.7551</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 5.0200e-003   | 0.1324        | 0.0439        | 5.0000e-004        | 0.0162        | 1.2000e-003        | 0.0174        | 4.6800e-003    | 1.1500e-003        | 5.8300e-003   | 0.0000        | 49.1526         | 49.1526         | 1.6400e-003        | 7.0900e-003        | 51.3065         |
| Worker       | 0.0226        | 0.0188        | 0.2447        | 6.5000e-004        | 0.0723        | 4.7000e-004        | 0.0728        | 0.0192         | 4.3000e-004        | 0.0196        | 0.0000        | 59.4819         | 59.4819         | 1.7100e-003        | 1.6300e-003        | 60.0090         |
| <b>Total</b> | <b>0.0276</b> | <b>0.1512</b> | <b>0.2886</b> | <b>1.1500e-003</b> | <b>0.0885</b> | <b>1.6700e-003</b> | <b>0.0902</b> | <b>0.0239</b>  | <b>1.5800e-003</b> | <b>0.0255</b> | <b>0.0000</b> | <b>108.6345</b> | <b>108.6345</b> | <b>3.3500e-003</b> | <b>8.7200e-003</b> | <b>111.3155</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Off-Road     | 0.0413        | 0.4299        | 0.6408        | 9.8000e-004        |               | 0.0184        | 0.0184        |                | 0.0169        | 0.0169        | 0.0000        | 86.0592        | 86.0592        | 0.0278        | 0.0000        | 86.7550        |
| <b>Total</b> | <b>0.0413</b> | <b>0.4299</b> | <b>0.6408</b> | <b>9.8000e-004</b> |               | <b>0.0184</b> | <b>0.0184</b> |                | <b>0.0169</b> | <b>0.0169</b> | <b>0.0000</b> | <b>86.0592</b> | <b>86.0592</b> | <b>0.0278</b> | <b>0.0000</b> | <b>86.7550</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 5.0200e-003   | 0.1324        | 0.0439        | 5.0000e-004        | 0.0152        | 1.2000e-003        | 0.0164        | 4.4300e-003    | 1.1500e-003        | 5.5800e-003   | 0.0000        | 49.1526         | 49.1526         | 1.6400e-003        | 7.0900e-003        | 51.3065         |
| Worker       | 0.0226        | 0.0188        | 0.2447        | 5.5000e-004        | 0.0667        | 4.7000e-004        | 0.0672        | 0.0178         | 4.3000e-004        | 0.0183        | 0.0000        | 59.4819         | 59.4819         | 1.7100e-003        | 1.6300e-003        | 60.0090         |
| <b>Total</b> | <b>0.0276</b> | <b>0.1512</b> | <b>0.2886</b> | <b>1.1500e-003</b> | <b>0.0819</b> | <b>1.6700e-003</b> | <b>0.0835</b> | <b>0.0223</b>  | <b>1.5800e-003</b> | <b>0.0238</b> | <b>0.0000</b> | <b>108.6345</b> | <b>108.6345</b> | <b>3.3500e-003</b> | <b>8.7200e-003</b> | <b>111.3155</b> |

**3.6 Rough Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                    |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.0300        | 0.0000        | 0.0300        | 3.2800e-003        | 0.0000        | 3.2800e-003   | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0472        | 0.5223        | 0.3604        | 8.6000e-004        |               | 0.0202        | 0.0202        |                    | 0.0186        | 0.0186        | 0.0000        | 75.9776        | 75.9776        | 0.0246        | 0.0000        | 76.5919        |
| <b>Total</b>  | <b>0.0472</b> | <b>0.5223</b> | <b>0.3604</b> | <b>8.6000e-004</b> | <b>0.0300</b> | <b>0.0202</b> | <b>0.0502</b> | <b>3.2800e-003</b> | <b>0.0186</b> | <b>0.0219</b> | <b>0.0000</b> | <b>75.9776</b> | <b>75.9776</b> | <b>0.0246</b> | <b>0.0000</b> | <b>76.5919</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr            |               |               |                    |               |                    |               |                    |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 8.2200e-003        | 0.3230        | 0.0684        | 1.1500e-003        | 0.0321        | 2.3300e-003        | 0.0344        | 8.8200e-003        | 2.2300e-003        | 0.0110        | 0.0000        | 114.3138        | 114.3138        | 6.0900e-003        | 0.0181        | 119.8715        |
| Vendor       | 4.0000e-005        | 1.1300e-003   | 3.8000e-004   | 0.0000             | 1.4000e-004   | 1.0000e-005        | 1.5000e-004   | 4.0000e-005        | 1.0000e-005        | 5.0000e-005   | 0.0000        | 0.4201          | 0.4201          | 1.0000e-005        | 6.0000e-005   | 0.4385          |
| Worker       | 5.7000e-004        | 4.7000e-004   | 5.1200e-003   | 2.0000e-005        | 1.8100e-003   | 1.0000e-005        | 1.8200e-003   | 4.8000e-004        | 1.0000e-005        | 4.9000e-004   | 0.0000        | 1.4871          | 1.4871          | 4.0000e-005        | 4.0000e-005   | 1.5002          |
| <b>Total</b> | <b>8.8300e-003</b> | <b>0.3246</b> | <b>0.0749</b> | <b>1.1700e-003</b> | <b>0.0341</b> | <b>2.3500e-003</b> | <b>0.0364</b> | <b>9.3400e-003</b> | <b>2.2500e-003</b> | <b>0.0116</b> | <b>0.0000</b> | <b>116.2209</b> | <b>116.2209</b> | <b>6.1400e-003</b> | <b>0.0182</b> | <b>121.8102</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                    |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.0128        | 0.0000        | 0.0128        | 1.4000e-003        | 0.0000        | 1.4000e-003   | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0472        | 0.5223        | 0.3604        | 8.6000e-004        |               | 0.0202        | 0.0202        |                    | 0.0186        | 0.0186        | 0.0000        | 75.9775        | 75.9775        | 0.0246        | 0.0000        | 76.5918        |
| <b>Total</b>  | <b>0.0472</b> | <b>0.5223</b> | <b>0.3604</b> | <b>8.6000e-004</b> | <b>0.0128</b> | <b>0.0202</b> | <b>0.0330</b> | <b>1.4000e-003</b> | <b>0.0186</b> | <b>0.0200</b> | <b>0.0000</b> | <b>75.9775</b> | <b>75.9775</b> | <b>0.0246</b> | <b>0.0000</b> | <b>76.5918</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr            |               |               |                    |               |                    |               |                    |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 8.2200e-003        | 0.3230        | 0.0684        | 1.1500e-003        | 0.0299        | 2.3300e-003        | 0.0323        | 8.2900e-003        | 2.2300e-003        | 0.0105        | 0.0000        | 114.3138        | 114.3138        | 6.0900e-003        | 0.0181        | 119.8715        |
| Vendor       | 4.0000e-005        | 1.1300e-003   | 3.8000e-004   | 0.0000             | 1.3000e-004   | 1.0000e-005        | 1.4000e-004   | 4.0000e-005        | 1.0000e-005        | 5.0000e-005   | 0.0000        | 0.4201          | 0.4201          | 1.0000e-005        | 6.0000e-005   | 0.4385          |
| Worker       | 5.7000e-004        | 4.7000e-004   | 5.1200e-003   | 2.0000e-005        | 1.6700e-003   | 1.0000e-005        | 1.6800e-003   | 4.5000e-004        | 1.0000e-005        | 4.6000e-004   | 0.0000        | 1.4871          | 1.4871          | 4.0000e-005        | 4.0000e-005   | 1.5002          |
| <b>Total</b> | <b>8.8300e-003</b> | <b>0.3246</b> | <b>0.0749</b> | <b>1.1700e-003</b> | <b>0.0317</b> | <b>2.3500e-003</b> | <b>0.0341</b> | <b>8.7800e-003</b> | <b>2.2500e-003</b> | <b>0.0110</b> | <b>0.0000</b> | <b>116.2209</b> | <b>116.2209</b> | <b>6.1400e-003</b> | <b>0.0182</b> | <b>121.8102</b> |

**3.7 Utility Trenching - 2022**

**Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.4900e-003        | 0.0253        | 0.0338        | 5.0000e-005        |               | 1.3600e-003        | 1.3600e-003        |                | 1.2500e-003        | 1.2500e-003        | 0.0000        | 4.1247        | 4.1247        | 1.3300e-003        | 0.0000        | 4.1580        |
| <b>Total</b> | <b>2.4900e-003</b> | <b>0.0253</b> | <b>0.0338</b> | <b>5.0000e-005</b> |               | <b>1.3600e-003</b> | <b>1.3600e-003</b> |                | <b>1.2500e-003</b> | <b>1.2500e-003</b> | <b>0.0000</b> | <b>4.1247</b> | <b>4.1247</b> | <b>1.3300e-003</b> | <b>0.0000</b> | <b>4.1580</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.8000e-004        | 1.5000e-004        | 1.9500e-003        | 1.0000e-005        | 5.8000e-004        | 0.0000        | 5.8000e-004        | 1.5000e-004        | 0.0000        | 1.6000e-004        | 0.0000        | 0.4732        | 0.4732        | 1.0000e-005        | 1.0000e-005        | 0.4773        |
| <b>Total</b> | <b>1.8000e-004</b> | <b>1.5000e-004</b> | <b>1.9500e-003</b> | <b>1.0000e-005</b> | <b>5.8000e-004</b> | <b>0.0000</b> | <b>5.8000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.4732</b> | <b>0.4732</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.4773</b> |

**Mitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.4900e-003        | 0.0253        | 0.0338        | 5.0000e-005        |               | 1.3600e-003        | 1.3600e-003        |                | 1.2500e-003        | 1.2500e-003        | 0.0000        | 4.1247        | 4.1247        | 1.3300e-003        | 0.0000        | 4.1580        |
| <b>Total</b> | <b>2.4900e-003</b> | <b>0.0253</b> | <b>0.0338</b> | <b>5.0000e-005</b> |               | <b>1.3600e-003</b> | <b>1.3600e-003</b> |                | <b>1.2500e-003</b> | <b>1.2500e-003</b> | <b>0.0000</b> | <b>4.1247</b> | <b>4.1247</b> | <b>1.3300e-003</b> | <b>0.0000</b> | <b>4.1580</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.8000e-004        | 1.5000e-004        | 1.9500e-003        | 1.0000e-005        | 5.3000e-004        | 0.0000        | 5.3000e-004        | 1.4000e-004        | 0.0000        | 1.5000e-004        | 0.0000        | 0.4732        | 0.4732        | 1.0000e-005        | 1.0000e-005        | 0.4773        |
| <b>Total</b> | <b>1.8000e-004</b> | <b>1.5000e-004</b> | <b>1.9500e-003</b> | <b>1.0000e-005</b> | <b>5.3000e-004</b> | <b>0.0000</b> | <b>5.3000e-004</b> | <b>1.4000e-004</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>0.4732</b> | <b>0.4732</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.4773</b> |

**3.8 Fine Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.8700e-003        | 0.0142        | 0.0173        | 2.0000e-005        |               | 8.0000e-004        | 8.0000e-004        |                | 7.4000e-004        | 7.4000e-004        | 0.0000        | 2.0258        | 2.0258        | 6.6000e-004        | 0.0000        | 2.0422        |
| <b>Total</b>  | <b>1.8700e-003</b> | <b>0.0142</b> | <b>0.0173</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-004</b> | <b>8.0000e-004</b> | <b>0.0000</b>  | <b>7.4000e-004</b> | <b>7.4000e-004</b> | <b>0.0000</b> | <b>2.0258</b> | <b>2.0258</b> | <b>6.6000e-004</b> | <b>0.0000</b> | <b>2.0422</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 2.0000e-005        | 6.2000e-004        | 2.0000e-004        | 0.0000        | 8.0000e-005        | 1.0000e-005        | 8.0000e-005        | 2.0000e-005        | 1.0000e-005        | 3.0000e-005        | 0.0000        | 0.2292        | 0.2292        | 1.0000e-005        | 3.0000e-005        | 0.2392        |
| Worker       | 1.0000e-004        | 9.0000e-005        | 1.1100e-003        | 0.0000        | 3.3000e-004        | 0.0000             | 3.3000e-004        | 9.0000e-005        | 0.0000             | 9.0000e-005        | 0.0000        | 0.2704        | 0.2704        | 1.0000e-005        | 1.0000e-005        | 0.2728        |
| <b>Total</b> | <b>1.2000e-004</b> | <b>7.1000e-004</b> | <b>1.3100e-003</b> | <b>0.0000</b> | <b>4.1000e-004</b> | <b>1.0000e-005</b> | <b>4.1000e-004</b> | <b>1.1000e-004</b> | <b>1.0000e-005</b> | <b>1.2000e-004</b> | <b>0.0000</b> | <b>0.4995</b> | <b>0.4995</b> | <b>2.0000e-005</b> | <b>4.0000e-005</b> | <b>0.5120</b> |

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.8700e-003        | 0.0142        | 0.0173        | 2.0000e-005        |               | 8.0000e-004        | 8.0000e-004        |                | 7.4000e-004        | 7.4000e-004        | 0.0000        | 2.0258        | 2.0258        | 6.6000e-004        | 0.0000        | 2.0422        |
| <b>Total</b>  | <b>1.8700e-003</b> | <b>0.0142</b> | <b>0.0173</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-004</b> | <b>8.0000e-004</b> | <b>0.0000</b>  | <b>7.4000e-004</b> | <b>7.4000e-004</b> | <b>0.0000</b> | <b>2.0258</b> | <b>2.0258</b> | <b>6.6000e-004</b> | <b>0.0000</b> | <b>2.0422</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 2.0000e-005        | 6.2000e-004        | 2.0000e-004        | 0.0000        | 7.0000e-005        | 1.0000e-005        | 8.0000e-005        | 2.0000e-005        | 1.0000e-005        | 3.0000e-005        | 0.0000        | 0.2292        | 0.2292        | 1.0000e-005        | 3.0000e-005        | 0.2392        |
| Worker       | 1.0000e-004        | 9.0000e-005        | 1.1100e-003        | 0.0000        | 3.0000e-004        | 0.0000             | 3.1000e-004        | 8.0000e-005        | 0.0000             | 8.0000e-005        | 0.0000        | 0.2704        | 0.2704        | 1.0000e-005        | 1.0000e-005        | 0.2728        |
| <b>Total</b> | <b>1.2000e-004</b> | <b>7.1000e-004</b> | <b>1.3100e-003</b> | <b>0.0000</b> | <b>3.7000e-004</b> | <b>1.0000e-005</b> | <b>3.9000e-004</b> | <b>1.0000e-004</b> | <b>1.0000e-005</b> | <b>1.1000e-004</b> | <b>0.0000</b> | <b>0.4995</b> | <b>0.4995</b> | <b>2.0000e-005</b> | <b>4.0000e-005</b> | <b>0.5120</b> |

**3.9 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.6169        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 3.4800e-003   | 0.0355        | 0.0595        | 9.0000e-005        |               | 1.2400e-003        | 1.2400e-003        |                | 1.2100e-003        | 1.2100e-003        | 0.0000        | 8.1394        | 8.1394        | 1.9400e-003        | 0.0000        | 8.1879        |
| <b>Total</b>    | <b>0.6204</b> | <b>0.0355</b> | <b>0.0595</b> | <b>9.0000e-005</b> |               | <b>1.2400e-003</b> | <b>1.2400e-003</b> |                | <b>1.2100e-003</b> | <b>1.2100e-003</b> | <b>0.0000</b> | <b>8.1394</b> | <b>8.1394</b> | <b>1.9400e-003</b> | <b>0.0000</b> | <b>8.1879</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 7.2000e-004        | 6.0000e-004        | 7.7900e-003        | 2.0000e-005        | 2.3000e-003        | 2.0000e-005        | 2.3200e-003        | 6.1000e-004        | 1.0000e-005        | 6.3000e-004        | 0.0000        | 1.8926        | 1.8926        | 5.0000e-005        | 5.0000e-005        | 1.9094        |
| <b>Total</b> | <b>7.2000e-004</b> | <b>6.0000e-004</b> | <b>7.7900e-003</b> | <b>2.0000e-005</b> | <b>2.3000e-003</b> | <b>2.0000e-005</b> | <b>2.3200e-003</b> | <b>6.1000e-004</b> | <b>1.0000e-005</b> | <b>6.3000e-004</b> | <b>0.0000</b> | <b>1.8926</b> | <b>1.8926</b> | <b>5.0000e-005</b> | <b>5.0000e-005</b> | <b>1.9094</b> |

**Mitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.6169        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 3.4800e-003   | 0.0355        | 0.0595        | 9.0000e-005        |               | 1.2400e-003        | 1.2400e-003        |                | 1.2100e-003        | 1.2100e-003        | 0.0000        | 8.1394        | 8.1394        | 1.9400e-003        | 0.0000        | 8.1879        |
| <b>Total</b>    | <b>0.6204</b> | <b>0.0355</b> | <b>0.0595</b> | <b>9.0000e-005</b> |               | <b>1.2400e-003</b> | <b>1.2400e-003</b> |                | <b>1.2100e-003</b> | <b>1.2100e-003</b> | <b>0.0000</b> | <b>8.1394</b> | <b>8.1394</b> | <b>1.9400e-003</b> | <b>0.0000</b> | <b>8.1879</b> |

Construction - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 7.2000e-004        | 6.0000e-004        | 7.7900e-003        | 2.0000e-005        | 2.1200e-003        | 2.0000e-005        | 2.1400e-003        | 5.7000e-004        | 1.0000e-005        | 5.8000e-004        | 0.0000        | 1.8926        | 1.8926        | 5.0000e-005        | 5.0000e-005        | 1.9094        |
| <b>Total</b> | <b>7.2000e-004</b> | <b>6.0000e-004</b> | <b>7.7900e-003</b> | <b>2.0000e-005</b> | <b>2.1200e-003</b> | <b>2.0000e-005</b> | <b>2.1400e-003</b> | <b>5.7000e-004</b> | <b>1.0000e-005</b> | <b>5.8000e-004</b> | <b>0.0000</b> | <b>1.8926</b> | <b>1.8926</b> | <b>5.0000e-005</b> | <b>5.0000e-005</b> | <b>1.9094</b> |

**3.10 Finishing/Landscaping - 2022**

**Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.2800e-003        | 0.0232        | 0.0310        | 4.0000e-005        |               | 1.2500e-003        | 1.2500e-003        |                | 1.1500e-003        | 1.1500e-003        | 0.0000        | 3.7837        | 3.7837        | 1.2200e-003        | 0.0000        | 3.8142        |
| <b>Total</b> | <b>2.2800e-003</b> | <b>0.0232</b> | <b>0.0310</b> | <b>4.0000e-005</b> |               | <b>1.2500e-003</b> | <b>1.2500e-003</b> |                | <b>1.1500e-003</b> | <b>1.1500e-003</b> | <b>0.0000</b> | <b>3.7837</b> | <b>3.7837</b> | <b>1.2200e-003</b> | <b>0.0000</b> | <b>3.8142</b> |

Construction - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.7000e-004        | 1.5000e-004        | 1.8900e-003        | 1.0000e-005        | 5.6000e-004        | 0.0000        | 5.6000e-004        | 1.5000e-004        | 0.0000        | 1.5000e-004        | 0.0000        | 0.4596        | 0.4596        | 1.0000e-005        | 1.0000e-005        | 0.4637        |
| <b>Total</b> | <b>1.7000e-004</b> | <b>1.5000e-004</b> | <b>1.8900e-003</b> | <b>1.0000e-005</b> | <b>5.6000e-004</b> | <b>0.0000</b> | <b>5.6000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>0.4596</b> | <b>0.4596</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.4637</b> |

**Mitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.2800e-003        | 0.0232        | 0.0310        | 4.0000e-005        |               | 1.2500e-003        | 1.2500e-003        |                | 1.1500e-003        | 1.1500e-003        | 0.0000        | 3.7837        | 3.7837        | 1.2200e-003        | 0.0000        | 3.8142        |
| <b>Total</b> | <b>2.2800e-003</b> | <b>0.0232</b> | <b>0.0310</b> | <b>4.0000e-005</b> |               | <b>1.2500e-003</b> | <b>1.2500e-003</b> |                | <b>1.1500e-003</b> | <b>1.1500e-003</b> | <b>0.0000</b> | <b>3.7837</b> | <b>3.7837</b> | <b>1.2200e-003</b> | <b>0.0000</b> | <b>3.8142</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.7000e-004        | 1.5000e-004        | 1.8900e-003        | 1.0000e-005        | 5.2000e-004        | 0.0000        | 5.2000e-004        | 1.4000e-004        | 0.0000        | 1.4000e-004        | 0.0000        | 0.4596        | 0.4596        | 1.0000e-005        | 1.0000e-005        | 0.4637        |
| <b>Total</b> | <b>1.7000e-004</b> | <b>1.5000e-004</b> | <b>1.8900e-003</b> | <b>1.0000e-005</b> | <b>5.2000e-004</b> | <b>0.0000</b> | <b>5.2000e-004</b> | <b>1.4000e-004</b> | <b>0.0000</b> | <b>1.4000e-004</b> | <b>0.0000</b> | <b>0.4596</b> | <b>0.4596</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.4637</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Construction**

**Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| General Light Industry           | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                 |       |                                 |     |                                  |      |
|---------------------------------|-------|---------------------------------|-----|----------------------------------|------|
| <b>Urbanization</b>             | Urban | <b>Wind Speed (m/s)</b>         | 2.2 | <b>Precipitation Freq (Days)</b> | 33   |
| <b>Climate Zone</b>             | 9     |                                 |     | <b>Operational Year</b>          | 2022 |
| <b>Utility Company</b>          |       |                                 |     |                                  |      |
| <b>CO2 Intensity (lb/MW hr)</b> | 0     | <b>CH4 Intensity (lb/MW hr)</b> | 0   | <b>N2O Intensity (lb/MW hr)</b>  | 0    |

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

Project Characteristics -

Land Use - Based on information provided. Please see assumptions in the AQ/GHG appendix.

Construction Phase - Based on information provided. Please see the assumptions file in the AQ/GHG appendix for further details.

Off-road Equipment - Based on information provided.

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Based on information provided.

Off-road Equipment - Based on information provided.

Grading -

Demolition -

Trips and VMT - Based on information provided. Please see the assumptions in the AQ/GHG appendix for further details.

Construction Off-road Equipment Mitigation - Based on South Coast Rules 403 and 1186.

| Table Name             | Column Name                    | Default Value | New Value |
|------------------------|--------------------------------|---------------|-----------|
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0             | 9         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed   | 0             | 15        |
| tblConstructionPhase   | NumDays                        | 20.00         | 21.00     |
| tblConstructionPhase   | NumDays                        | 230.00        | 132.00    |
| tblConstructionPhase   | NumDays                        | 20.00         | 31.00     |
| tblConstructionPhase   | NumDays                        | 20.00         | 22.00     |
| tblConstructionPhase   | NumDays                        | 10.00         | 5.00      |
| tblConstructionPhase   | NumDays                        | 20.00         | 8.00      |
| tblConstructionPhase   | NumDays                        | 20.00         | 12.00     |
| tblConstructionPhase   | PhaseEndDate                   | 10/18/2022    | 8/17/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 8/23/2022     | 9/20/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 8/24/2021     | 3/15/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 10/5/2021     | 4/20/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 9/7/2021      | 3/24/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 9/21/2022     | 7/20/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 10/6/2021     | 3/19/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 7/28/2021     | 2/1/2022  |
| tblConstructionPhase   | PhaseStartDate                 | 9/8/2021      | 3/22/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 8/25/2021     | 3/18/2022 |
| tblGrading             | MaterialImported               | 0.00          | 14,933.00 |
| tblLandUse             | LandUseSquareFeet              | 49,200.00     | 20,193.00 |
| tblLandUse             | LandUseSquareFeet              | 88,426.80     | 88,559.00 |
| tblLandUse             | LandUseSquareFeet              | 27,979.00     | 0.00      |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                     |                      |        |                           |
|---------------------|----------------------|--------|---------------------------|
| tblLandUse          | LotAcreage           | 2.59   | 2.49                      |
| tblLandUse          | LotAcreage           | 1.11   | 0.46                      |
| tblOffRoadEquipment | HorsePower           | 158.00 | 311.00                    |
| tblOffRoadEquipment | HorsePower           | 89.00  | 173.00                    |
| tblOffRoadEquipment | HorsePower           | 187.00 | 179.00                    |
| tblOffRoadEquipment | HorsePower           | 158.00 | 311.00                    |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | HorsePower           | 65.00  | 74.30                     |
| tblOffRoadEquipment | HorsePower           | 65.00  | 74.30                     |
| tblOffRoadEquipment | HorsePower           | 212.00 | 130.00                    |
| tblOffRoadEquipment | HorsePower           | 63.00  | 74.00                     |
| tblOffRoadEquipment | HorsePower           | 367.00 | 365.00                    |
| tblOffRoadEquipment | HorsePower           | 367.00 | 478.00                    |
| tblOffRoadEquipment | HorsePower           | 97.00  | 70.00                     |
| tblOffRoadEquipment | HorsePower           | 80.00  | 36.00                     |
| tblOffRoadEquipment | HorsePower           | 63.00  | 74.00                     |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | LoadFactor           | 0.43   | 0.43                      |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Crawler Tractors          |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Aerial Lifts              |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Rollers                   |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Aerial Lifts              |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| tblOffRoadEquipment | OffRoadEquipmentType       |          | Tractors/Loaders/Backhoes |
|---------------------|----------------------------|----------|---------------------------|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 7.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 25.00                     |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 28.00                     |
| tblTripsAndVMT      | HaulingTripNumber          | 32.00    | 34.00                     |
| tblTripsAndVMT      | HaulingTripNumber          | 1,867.00 | 2,987.00                  |
| tblTripsAndVMT      | HaulingTripNumber          | 112.00   | 114.00                    |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

|         | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|---------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Year    | lb/day  |         |         |        |               |              |            |                |               |             | lb/day   |                 |                 |        |        |                 |
| 2022    | 60.2003 | 88.0248 | 57.2767 | 0.2233 | 7.8226        | 2.5662       | 10.3888    | 1.5985         | 2.3694        | 3.9678      | 0.0000   | 23,093.391<br>2 | 23,093.391<br>2 | 3.7517 | 1.9774 | 23,776.439<br>1 |
| Maximum | 60.2003 | 88.0248 | 57.2767 | 0.2233 | 7.8226        | 2.5662       | 10.3888    | 1.5985         | 2.3694        | 3.9678      | 0.0000   | 23,093.391<br>2 | 23,093.391<br>2 | 3.7517 | 1.9774 | 23,776.439<br>1 |

**Mitigated Construction**

|         | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|---------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Year    | lb/day  |         |         |        |               |              |            |                |               |             | lb/day   |                 |                 |        |        |                 |
| 2022    | 60.2003 | 88.0248 | 57.2767 | 0.2233 | 5.6344        | 2.5662       | 8.2006     | 1.3159         | 2.3694        | 3.6853      | 0.0000   | 23,093.391<br>2 | 23,093.391<br>2 | 3.7517 | 1.9774 | 23,776.439<br>1 |
| Maximum | 60.2003 | 88.0248 | 57.2767 | 0.2233 | 5.6344        | 2.5662       | 8.2006     | 1.3159         | 2.3694        | 3.6853      | 0.0000   | 23,093.391<br>2 | 23,093.391<br>2 | 3.7517 | 1.9774 | 23,776.439<br>1 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 27.97         | 0.00         | 21.06      | 17.68          | 0.00          | 7.12        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Building Demolition   | Demolition            | 2/1/2022   | 3/15/2022 | 5             | 31       |                   |
| 2            | Asphalt Demolition    | Demolition            | 2/18/2022  | 3/1/2022  | 5             | 8        |                   |
| 3            | Site Preparation      | Site Preparation      | 3/18/2022  | 3/24/2022 | 5             | 5        |                   |
| 4            | Building Construction | Building Construction | 3/19/2022  | 9/20/2022 | 5             | 132      |                   |
| 5            | Rough Grading         | Grading               | 3/22/2022  | 4/20/2022 | 5             | 22       |                   |
| 6            | Utility Trenching     | Trenching             | 4/18/2022  | 5/16/2022 | 5             | 21       |                   |
| 7            | Fine Grading          | Grading               | 7/2/2022   | 7/19/2022 | 5             | 12       |                   |
| 8            | Architectural Coating | Architectural Coating | 7/20/2022  | 8/17/2022 | 5             | 21       |                   |
| 9            | Finishing/Landscaping | Trenching             | 8/18/2022  | 10/4/2022 | 5             | 34       |                   |

**Acres of Grading (Site Preparation Phase): 2.5**

**Acres of Grading (Grading Phase): 55**

**Acres of Paving: 3.13**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 194,745; Non-Residential Outdoor: 64,915; Striped Parking Area: 6,525**

**OffRoad Equipment**

| Phase Name            | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|--------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors          | 1      | 6.00        | 78          | 0.48        |
| Building Demolition   | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |
| Building Construction | Cranes                   | 0      | 7.00        | 231         | 0.29        |
| Building Demolition   | Excavators               | 1      | 8.00        | 311         | 0.38        |
| Rough Grading         | Excavators               | 0      | 8.00        | 158         | 0.38        |
| Building Construction | Forklifts                | 3      | 8.00        | 173         | 0.20        |
| Building Construction | Generator Sets           | 0      | 8.00        | 84          | 0.74        |
| Rough Grading         | Graders                  | 1      | 8.00        | 179         | 0.41        |
| Asphalt Demolition    | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                       |                           |   |      |      |      |
|-----------------------|---------------------------|---|------|------|------|
| Asphalt Demolition    | Excavators                | 1 | 8.00 | 311  | 0.38 |
| Fine Grading          | Excavators                | 0 | 8.00 | 158  | 0.38 |
| Building Demolition   | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Rough Grading         | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Site Preparation      | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 0 | 7.00 | 97   | 0.37 |
| Rough Grading         | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Site Preparation      | Tractors/Loaders/Backhoes | 0 | 8.00 | 97   | 0.37 |
| Building Construction | Welders                   | 0 | 8.00 | 46   | 0.45 |
| Fine Grading          | Graders                   | 0 | 8.00 | 187  | 0.41 |
| Asphalt Demolition    | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Building Demolition   | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Asphalt Demolition    | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Site Preparation      | Crawler Tractors          | 1 | 8.00 | 130  | 0.43 |
| Building Construction | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 365  | 0.48 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 478  | 0.48 |
| Utility Trenching     | Tractors/Loaders/Backhoes | 2 | 8.00 | 70   | 0.37 |
| Fine Grading          | Rollers                   | 1 | 8.00 | 36   | 0.38 |
| Architectural Coating | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Finishing/Landscaping | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Trips and VMT**

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Building Demolition   | 2                       | 5.00               | 2.00               | 34.00               | 14.70              | 6.90               | 7.00                | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 1                       | 3.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Rough Grading         | 6                       | 15.00              | 2.00               | 2,987.00            | 14.70              | 6.90               | 25.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 6                       | 100.00             | 39.00              | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Asphalt Demolition    | 2                       | 5.00               | 2.00               | 114.00              | 14.70              | 6.90               | 28.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 4                       | 20.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Utility Trenching     | 2                       | 5.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Fine Grading          | 2                       | 5.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Finishing/Landscaping | 1                       | 3.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

**3.2 Building Demolition - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 0.2230        | 0.0000        | 0.2230        | 0.0338         | 0.0000        | 0.0338        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        |          | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>0.2230</b> | <b>0.1119</b> | <b>0.3349</b> | <b>0.0338</b>  | <b>0.1030</b> | <b>0.1367</b> |          | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 2.5600e-003   | 0.0780        | 0.0249        | 2.6000e-004        | 6.7300e-003   | 4.9000e-004        | 7.2200e-003   | 1.8500e-003    | 4.7000e-004        | 2.3200e-003   |          | 28.2245         | 28.2245         | 1.4400e-003        | 4.4800e-003   | 29.5947         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0128        | 9.3000e-004        | 0.0137        | 3.6900e-003    | 8.9000e-004        | 4.5800e-003   |          | 42.0923         | 42.0923         | 1.4100e-003        | 6.0700e-003   | 43.9350         |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 51.6721         | 51.6721         | 1.4100e-003        | 1.2500e-003   | 52.0801         |
| <b>Total</b> | <b>0.0238</b> | <b>0.1886</b> | <b>0.2552</b> | <b>1.1600e-003</b> | <b>0.0754</b> | <b>1.7800e-003</b> | <b>0.0772</b> | <b>0.0204</b>  | <b>1.6900e-003</b> | <b>0.0221</b> |          | <b>121.9889</b> | <b>121.9889</b> | <b>4.2600e-003</b> | <b>0.0118</b> | <b>125.6099</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 0.0953        | 0.0000        | 0.0953        | 0.0144         | 0.0000        | 0.0144        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        | 0.0000        | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>0.0953</b> | <b>0.1119</b> | <b>0.2072</b> | <b>0.0144</b>  | <b>0.1030</b> | <b>0.1174</b> | <b>0.0000</b> | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 2.5600e-003   | 0.0780        | 0.0249        | 2.6000e-004        | 6.2800e-003   | 4.9000e-004        | 6.7700e-003   | 1.7400e-003    | 4.7000e-004        | 2.2000e-003   |          | 28.2245         | 28.2245         | 1.4400e-003        | 4.4800e-003   | 29.5947         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0120        | 9.3000e-004        | 0.0129        | 3.4900e-003    | 8.9000e-004        | 4.3800e-003   |          | 42.0923         | 42.0923         | 1.4100e-003        | 6.0700e-003   | 43.9350         |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 51.6721         | 51.6721         | 1.4100e-003        | 1.2500e-003   | 52.0801         |
| <b>Total</b> | <b>0.0238</b> | <b>0.1886</b> | <b>0.2552</b> | <b>1.1600e-003</b> | <b>0.0698</b> | <b>1.7800e-003</b> | <b>0.0716</b> | <b>0.0190</b>  | <b>1.6900e-003</b> | <b>0.0207</b> |          | <b>121.9889</b> | <b>121.9889</b> | <b>4.2600e-003</b> | <b>0.0118</b> | <b>125.6099</b> |

**3.3 Asphalt Demolition - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 3.0226        | 0.0000        | 3.0226        | 0.4577         | 0.0000        | 0.4577        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        |          | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>3.0226</b> | <b>0.1119</b> | <b>3.1345</b> | <b>0.4577</b>  | <b>0.1030</b> | <b>0.5606</b> |          | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0868        | 3.2426        | 0.7027        | 0.0122        | 0.3491        | 0.0248        | 0.3739        | 0.0957         | 0.0237        | 0.1194        |          | 1,341.4249        | 1,341.4249        | 0.0717        | 0.2129        | 1,406.6449        |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004   | 0.0128        | 9.3000e-004   | 0.0137        | 3.6900e-003    | 8.9000e-004   | 4.5800e-003   |          | 42.0923           | 42.0923           | 1.4100e-003   | 6.0700e-003   | 43.9350           |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004   | 0.0559        | 3.6000e-004   | 0.0563        | 0.0148         | 3.3000e-004   | 0.0152        |          | 51.6721           | 51.6721           | 1.4100e-003   | 1.2500e-003   | 52.0801           |
| <b>Total</b> | <b>0.1080</b> | <b>3.3532</b> | <b>0.9331</b> | <b>0.0131</b> | <b>0.4178</b> | <b>0.0261</b> | <b>0.4439</b> | <b>0.1142</b>  | <b>0.0250</b> | <b>0.1392</b> |          | <b>1,435.1893</b> | <b>1,435.1893</b> | <b>0.0745</b> | <b>0.2202</b> | <b>1,502.6600</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 1.2922        | 0.0000        | 1.2922        | 0.1957         | 0.0000        | 0.1957        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        | 0.0000        | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>1.2922</b> | <b>0.1119</b> | <b>1.4041</b> | <b>0.1957</b>  | <b>0.1030</b> | <b>0.2986</b> | <b>0.0000</b> | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0868        | 3.2426        | 0.7027        | 0.0122        | 0.3253        | 0.0248        | 0.3502        | 0.0899         | 0.0237        | 0.1136        |          | 1,341.4249        | 1,341.4249        | 0.0717        | 0.2129        | 1,406.6449        |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004   | 0.0120        | 9.3000e-004   | 0.0129        | 3.4900e-003    | 8.9000e-004   | 4.3800e-003   |          | 42.0923           | 42.0923           | 1.4100e-003   | 6.0700e-003   | 43.9350           |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004   | 0.0515        | 3.6000e-004   | 0.0519        | 0.0138         | 3.3000e-004   | 0.0141        |          | 51.6721           | 51.6721           | 1.4100e-003   | 1.2500e-003   | 52.0801           |
| <b>Total</b> | <b>0.1080</b> | <b>3.3532</b> | <b>0.9331</b> | <b>0.0131</b> | <b>0.3889</b> | <b>0.0261</b> | <b>0.4149</b> | <b>0.1071</b>  | <b>0.0250</b> | <b>0.1321</b> |          | <b>1,435.1893</b> | <b>1,435.1893</b> | <b>0.0745</b> | <b>0.2202</b> | <b>1,502.6600</b> |

**3.4 Site Preparation - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3826        | 3.7621        | 3.2089        | 4.7900e-003        |               | 0.2101        | 0.2101        |                | 0.1933        | 0.1933        |          | 463.6243        | 463.6243        | 0.1500        |     | 467.3729        |
| <b>Total</b>  | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.7900e-003</b> | <b>0.5303</b> | <b>0.2101</b> | <b>0.7403</b> | <b>0.0573</b>  | <b>0.1933</b> | <b>0.2505</b> |          | <b>463.6243</b> | <b>463.6243</b> | <b>0.1500</b> |     | <b>467.3729</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0128        | 9.3000e-004        | 0.0137        | 3.6900e-003    | 8.9000e-004        | 4.5800e-003   |          | 42.0923        | 42.0923        | 1.4100e-003        | 6.0700e-003        | 43.9350        |
| Worker       | 0.0104        | 7.5800e-003   | 0.1181        | 3.1000e-004        | 0.0335        | 2.1000e-004        | 0.0338        | 8.8900e-003    | 2.0000e-004        | 9.0900e-003   |          | 31.0033        | 31.0033        | 8.4000e-004        | 7.5000e-004        | 31.2481        |
| <b>Total</b> | <b>0.0143</b> | <b>0.1056</b> | <b>0.1517</b> | <b>7.0000e-004</b> | <b>0.0463</b> | <b>1.1400e-003</b> | <b>0.0475</b> | <b>0.0126</b>  | <b>1.0900e-003</b> | <b>0.0137</b> |          | <b>73.0956</b> | <b>73.0956</b> | <b>2.2500e-003</b> | <b>6.8200e-003</b> | <b>75.1831</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.2267        | 0.0000        | 0.2267        | 0.0245         | 0.0000        | 0.0245        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3826        | 3.7621        | 3.2089        | 4.7900e-003        |               | 0.2101        | 0.2101        |                | 0.1933        | 0.1933        | 0.0000        | 463.6243        | 463.6243        | 0.1500        |     | 467.3729        |
| <b>Total</b>  | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.7900e-003</b> | <b>0.2267</b> | <b>0.2101</b> | <b>0.4367</b> | <b>0.0245</b>  | <b>0.1933</b> | <b>0.2177</b> | <b>0.0000</b> | <b>463.6243</b> | <b>463.6243</b> | <b>0.1500</b> |     | <b>467.3729</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0120        | 9.3000e-004        | 0.0129        | 3.4900e-003    | 8.9000e-004        | 4.3800e-003   |          | 42.0923        | 42.0923        | 1.4100e-003        | 6.0700e-003        | 43.9350        |
| Worker       | 0.0104        | 7.5800e-003   | 0.1181        | 3.1000e-004        | 0.0309        | 2.1000e-004        | 0.0311        | 8.2500e-003    | 2.0000e-004        | 8.4500e-003   |          | 31.0033        | 31.0033        | 8.4000e-004        | 7.5000e-004        | 31.2481        |
| <b>Total</b> | <b>0.0143</b> | <b>0.1056</b> | <b>0.1517</b> | <b>7.0000e-004</b> | <b>0.0429</b> | <b>1.1400e-003</b> | <b>0.0440</b> | <b>0.0117</b>  | <b>1.0900e-003</b> | <b>0.0128</b> |          | <b>73.0956</b> | <b>73.0956</b> | <b>2.2500e-003</b> | <b>6.8200e-003</b> | <b>75.1831</b> |

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 0.6259        | 6.5142        | 9.7087        | 0.0149        |               | 0.2790        | 0.2790        |                | 0.2567        | 0.2567        |          | 1,437.3350        | 1,437.3350        | 0.4649        |     | 1,448.9566        |
| <b>Total</b> | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> |               | <b>0.2790</b> | <b>0.2790</b> |                | <b>0.2567</b> | <b>0.2567</b> |          | <b>1,437.3350</b> | <b>1,437.3350</b> | <b>0.4649</b> |     | <b>1,448.9566</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.0767        | 1.9104        | 0.6550        | 7.6400e-003   | 0.2498        | 0.0182        | 0.2680        | 0.0719         | 0.0174        | 0.0893        |          | 820.8002          | 820.8002          | 0.0274        | 0.1183        | 856.7330          |
| Worker       | 0.3460        | 0.2526        | 3.9358        | 0.0102        | 1.1178        | 7.1500e-003   | 1.1249        | 0.2964         | 6.5800e-003   | 0.3030        |          | 1,033.4419        | 1,033.4419        | 0.0282        | 0.0250        | 1,041.6027        |
| <b>Total</b> | <b>0.4227</b> | <b>2.1630</b> | <b>4.5908</b> | <b>0.0179</b> | <b>1.3676</b> | <b>0.0254</b> | <b>1.3929</b> | <b>0.3684</b>  | <b>0.0240</b> | <b>0.3924</b> |          | <b>1,854.2421</b> | <b>1,854.2421</b> | <b>0.0556</b> | <b>0.1433</b> | <b>1,898.3357</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 0.6259        | 6.5142        | 9.7087        | 0.0149        |               | 0.2790        | 0.2790        |                | 0.2567        | 0.2567        | 0.0000        | 1,437.3350        | 1,437.3350        | 0.4649        |     | 1,448.9566        |
| <b>Total</b> | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> |               | <b>0.2790</b> | <b>0.2790</b> |                | <b>0.2567</b> | <b>0.2567</b> | <b>0.0000</b> | <b>1,437.3350</b> | <b>1,437.3350</b> | <b>0.4649</b> |     | <b>1,448.9566</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.0767        | 1.9104        | 0.6550        | 7.6400e-003   | 0.2338        | 0.0182        | 0.2520        | 0.0680         | 0.0174        | 0.0854        |          | 820.8002          | 820.8002          | 0.0274        | 0.1183        | 856.7330          |
| Worker       | 0.3460        | 0.2526        | 3.9358        | 0.0102        | 1.0303        | 7.1500e-003   | 1.0375        | 0.2750         | 6.5800e-003   | 0.2816        |          | 1,033.4419        | 1,033.4419        | 0.0282        | 0.0250        | 1,041.6027        |
| <b>Total</b> | <b>0.4227</b> | <b>2.1630</b> | <b>4.5908</b> | <b>0.0179</b> | <b>1.2641</b> | <b>0.0254</b> | <b>1.2895</b> | <b>0.3430</b>  | <b>0.0240</b> | <b>0.3670</b> |          | <b>1,854.2421</b> | <b>1,854.2421</b> | <b>0.0556</b> | <b>0.1433</b> | <b>1,898.3357</b> |

**3.6 Rough Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 2.7280        | 0.0000        | 2.7280        | 0.2979         | 0.0000        | 0.2979        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.2950        | 47.4838        | 32.7612        | 0.0786        |               | 1.8373        | 1.8373        |                | 1.6903        | 1.6903        |          | 7,613.7217        | 7,613.7217        | 2.4624        |     | 7,675.2825        |
| <b>Total</b>  | <b>4.2950</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>2.7280</b> | <b>1.8373</b> | <b>4.5653</b> | <b>0.2979</b>  | <b>1.6903</b> | <b>1.9882</b> |          | <b>7,613.7217</b> | <b>7,613.7217</b> | <b>2.4624</b> |     | <b>7,675.2825</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Hauling      | 0.7540        | 27.8603        | 6.1783        | 0.1046        | 2.9699        | 0.2113        | 3.1812        | 0.8142         | 0.2022        | 1.0164        |          | 11,454.2639        | 11,454.2639        | 0.6110        | 1.8174        | 12,011.1328        |
| Vendor       | 3.9400e-003   | 0.0980         | 0.0336        | 3.9000e-004   | 0.0128        | 9.3000e-004   | 0.0137        | 3.6900e-003    | 8.9000e-004   | 4.5800e-003   |          | 42.0923            | 42.0923            | 1.4100e-003   | 6.0700e-003   | 43.9350            |
| Worker       | 0.0519        | 0.0379         | 0.5904        | 1.5300e-003   | 0.1677        | 1.0700e-003   | 0.1687        | 0.0445         | 9.9000e-004   | 0.0455        |          | 155.0163           | 155.0163           | 4.2200e-003   | 3.7500e-003   | 156.2404           |
| <b>Total</b> | <b>0.8099</b> | <b>27.9962</b> | <b>6.8023</b> | <b>0.1065</b> | <b>3.1504</b> | <b>0.2133</b> | <b>3.3637</b> | <b>0.8624</b>  | <b>0.2040</b> | <b>1.0664</b> |          | <b>11,651.3725</b> | <b>11,651.3725</b> | <b>0.6166</b> | <b>1.8273</b> | <b>12,211.3083</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.1662        | 0.0000        | 1.1662        | 0.1274         | 0.0000        | 0.1274        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.2950        | 47.4838        | 32.7612        | 0.0786        |               | 1.8373        | 1.8373        |                | 1.6903        | 1.6903        | 0.0000        | 7,613.7217        | 7,613.7217        | 2.4624        |     | 7,675.2825        |
| <b>Total</b>  | <b>4.2950</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>1.1662</b> | <b>1.8373</b> | <b>3.0036</b> | <b>0.1274</b>  | <b>1.6903</b> | <b>1.8177</b> | <b>0.0000</b> | <b>7,613.7217</b> | <b>7,613.7217</b> | <b>2.4624</b> |     | <b>7,675.2825</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Hauling      | 0.7540        | 27.8603        | 6.1783        | 0.1046        | 2.7680        | 0.2113        | 2.9793        | 0.7646         | 0.2022        | 0.9668        |          | 11,454.2639        | 11,454.2639        | 0.6110        | 1.8174        | 12,011.1328        |
| Vendor       | 3.9400e-003   | 0.0980         | 0.0336        | 3.9000e-004   | 0.0120        | 9.3000e-004   | 0.0129        | 3.4900e-003    | 8.9000e-004   | 4.3800e-003   |          | 42.0923            | 42.0923            | 1.4100e-003   | 6.0700e-003   | 43.9350            |
| Worker       | 0.0519        | 0.0379         | 0.5904        | 1.5300e-003   | 0.1546        | 1.0700e-003   | 0.1556        | 0.0413         | 9.9000e-004   | 0.0422        |          | 155.0163           | 155.0163           | 4.2200e-003   | 3.7500e-003   | 156.2404           |
| <b>Total</b> | <b>0.8099</b> | <b>27.9962</b> | <b>6.8023</b> | <b>0.1065</b> | <b>2.9345</b> | <b>0.2133</b> | <b>3.1478</b> | <b>0.8094</b>  | <b>0.2040</b> | <b>1.0134</b> |          | <b>11,651.3725</b> | <b>11,651.3725</b> | <b>0.6166</b> | <b>1.8273</b> | <b>12,211.3083</b> |

**3.7 Utility Trenching - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Off-Road     | 0.2368        | 2.4086        | 3.2169        | 4.4700e-003        |               | 0.1295        | 0.1295        |                | 0.1192        | 0.1192        |          | 433.0153        | 433.0153        | 0.1401        |     | 436.5164        |
| <b>Total</b> | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.4700e-003</b> |               | <b>0.1295</b> | <b>0.1295</b> |                | <b>0.1192</b> | <b>0.1192</b> |          | <b>433.0153</b> | <b>433.0153</b> | <b>0.1401</b> |     | <b>436.5164</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 51.6721        | 51.6721        | 1.4100e-003        | 1.2500e-003        | 52.0801        |
| <b>Total</b> | <b>0.0173</b> | <b>0.0126</b> | <b>0.1968</b> | <b>5.1000e-004</b> | <b>0.0559</b> | <b>3.6000e-004</b> | <b>0.0563</b> | <b>0.0148</b>  | <b>3.3000e-004</b> | <b>0.0152</b> |          | <b>51.6721</b> | <b>51.6721</b> | <b>1.4100e-003</b> | <b>1.2500e-003</b> | <b>52.0801</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Off-Road     | 0.2368        | 2.4086        | 3.2169        | 4.4700e-003        |               | 0.1295        | 0.1295        |                | 0.1192        | 0.1192        | 0.0000        | 433.0153        | 433.0153        | 0.1401        |     | 436.5164        |
| <b>Total</b> | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.4700e-003</b> |               | <b>0.1295</b> | <b>0.1295</b> |                | <b>0.1192</b> | <b>0.1192</b> | <b>0.0000</b> | <b>433.0153</b> | <b>433.0153</b> | <b>0.1401</b> |     | <b>436.5164</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 51.6721        | 51.6721        | 1.4100e-003        | 1.2500e-003        | 52.0801        |
| <b>Total</b> | <b>0.0173</b> | <b>0.0126</b> | <b>0.1968</b> | <b>5.1000e-004</b> | <b>0.0515</b> | <b>3.6000e-004</b> | <b>0.0519</b> | <b>0.0138</b>  | <b>3.3000e-004</b> | <b>0.0141</b> |          | <b>51.6721</b> | <b>51.6721</b> | <b>1.4100e-003</b> | <b>1.2500e-003</b> | <b>52.0801</b> |

**3.8 Fine Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3123        | 2.3606        | 2.8848        | 3.8400e-003        |               | 0.1337        | 0.1337        |                | 0.1230        | 0.1230        |          | 372.1744        | 372.1744        | 0.1204        |     | 375.1837        |
| <b>Total</b>  | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.8400e-003</b> | <b>0.0000</b> | <b>0.1337</b> | <b>0.1337</b> | <b>0.0000</b>  | <b>0.1230</b> | <b>0.1230</b> |          | <b>372.1744</b> | <b>372.1744</b> | <b>0.1204</b> |     | <b>375.1837</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0128        | 9.3000e-004        | 0.0137        | 3.6900e-003    | 8.9000e-004        | 4.5800e-003   |          | 42.0923        | 42.0923        | 1.4100e-003        | 6.0700e-003        | 43.9350        |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 51.6721        | 51.6721        | 1.4100e-003        | 1.2500e-003        | 52.0801        |
| <b>Total</b> | <b>0.0212</b> | <b>0.1106</b> | <b>0.2304</b> | <b>9.0000e-004</b> | <b>0.0687</b> | <b>1.2900e-003</b> | <b>0.0700</b> | <b>0.0185</b>  | <b>1.2200e-003</b> | <b>0.0197</b> |          | <b>93.7644</b> | <b>93.7644</b> | <b>2.8200e-003</b> | <b>7.3200e-003</b> | <b>96.0152</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3123        | 2.3606        | 2.8848        | 3.8400e-003        |               | 0.1337        | 0.1337        |                | 0.1230        | 0.1230        | 0.0000        | 372.1744        | 372.1744        | 0.1204        |     | 375.1837        |
| <b>Total</b>  | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.8400e-003</b> | <b>0.0000</b> | <b>0.1337</b> | <b>0.1337</b> | <b>0.0000</b>  | <b>0.1230</b> | <b>0.1230</b> | <b>0.0000</b> | <b>372.1744</b> | <b>372.1744</b> | <b>0.1204</b> |     | <b>375.1837</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.9400e-003   | 0.0980        | 0.0336        | 3.9000e-004        | 0.0120        | 9.3000e-004        | 0.0129        | 3.4900e-003    | 8.9000e-004        | 4.3800e-003   |          | 42.0923        | 42.0923        | 1.4100e-003        | 6.0700e-003        | 43.9350        |
| Worker       | 0.0173        | 0.0126        | 0.1968        | 5.1000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 51.6721        | 51.6721        | 1.4100e-003        | 1.2500e-003        | 52.0801        |
| <b>Total</b> | <b>0.0212</b> | <b>0.1106</b> | <b>0.2304</b> | <b>9.0000e-004</b> | <b>0.0635</b> | <b>1.2900e-003</b> | <b>0.0648</b> | <b>0.0172</b>  | <b>1.2200e-003</b> | <b>0.0185</b> |          | <b>93.7644</b> | <b>93.7644</b> | <b>2.8200e-003</b> | <b>7.3200e-003</b> | <b>96.0152</b> |

**3.9 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day         |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Archit. Coating | 58.7508        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.3316         | 3.3828        | 5.6686        | 8.8900e-003        |               | 0.1184        | 0.1184        |                | 0.1154        | 0.1154        |          | 854.4894        | 854.4894        | 0.2037        |     | 859.5809        |
| <b>Total</b>    | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.8900e-003</b> |               | <b>0.1184</b> | <b>0.1184</b> |                | <b>0.1154</b> | <b>0.1154</b> |          | <b>854.4894</b> | <b>854.4894</b> | <b>0.2037</b> |     | <b>859.5809</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0692        | 0.0505        | 0.7872        | 2.0400e-003        | 0.2236        | 1.4300e-003        | 0.2250        | 0.0593         | 1.3200e-003        | 0.0606        |          | 206.6884        | 206.6884        | 5.6300e-003        | 5.0000e-003        | 208.3205        |
| <b>Total</b> | <b>0.0692</b> | <b>0.0505</b> | <b>0.7872</b> | <b>2.0400e-003</b> | <b>0.2236</b> | <b>1.4300e-003</b> | <b>0.2250</b> | <b>0.0593</b>  | <b>1.3200e-003</b> | <b>0.0606</b> |          | <b>206.6884</b> | <b>206.6884</b> | <b>5.6300e-003</b> | <b>5.0000e-003</b> | <b>208.3205</b> |

**Mitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day         |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Archit. Coating | 58.7508        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.3316         | 3.3828        | 5.6686        | 8.8900e-003        |               | 0.1184        | 0.1184        |                | 0.1154        | 0.1154        | 0.0000        | 854.4894        | 854.4894        | 0.2037        |     | 859.5809        |
| <b>Total</b>    | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.8900e-003</b> |               | <b>0.1184</b> | <b>0.1184</b> |                | <b>0.1154</b> | <b>0.1154</b> | <b>0.0000</b> | <b>854.4894</b> | <b>854.4894</b> | <b>0.2037</b> |     | <b>859.5809</b> |

Construction - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0692        | 0.0505        | 0.7872        | 2.0400e-003        | 0.2061        | 1.4300e-003        | 0.2075        | 0.0550         | 1.3200e-003        | 0.0563        |          | 206.6884        | 206.6884        | 5.6300e-003        | 5.0000e-003        | 208.3205        |
| <b>Total</b> | <b>0.0692</b> | <b>0.0505</b> | <b>0.7872</b> | <b>2.0400e-003</b> | <b>0.2061</b> | <b>1.4300e-003</b> | <b>0.2075</b> | <b>0.0550</b>  | <b>1.3200e-003</b> | <b>0.0563</b> |          | <b>206.6884</b> | <b>206.6884</b> | <b>5.6300e-003</b> | <b>5.0000e-003</b> | <b>208.3205</b> |

**3.10 Finishing/Landscaping - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Off-Road     | 0.1341        | 1.3647        | 1.8227        | 2.5300e-003        |               | 0.0734        | 0.0734        |                | 0.0675        | 0.0675        |          | 245.3389        | 245.3389        | 0.0794        |     | 247.3226        |
| <b>Total</b> | <b>0.1341</b> | <b>1.3647</b> | <b>1.8227</b> | <b>2.5300e-003</b> |               | <b>0.0734</b> | <b>0.0734</b> |                | <b>0.0675</b> | <b>0.0675</b> |          | <b>245.3389</b> | <b>245.3389</b> | <b>0.0794</b> |     | <b>247.3226</b> |

Construction - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |                    |               |                    |               |                    |               |                    |                    |                    | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0104        | 7.5800e-003        | 0.1181        | 3.1000e-004        | 0.0335        | 2.1000e-004        | 0.0338        | 8.8900e-003        | 2.0000e-004        | 9.0900e-003        |          | 31.0033        | 31.0033        | 8.4000e-004        | 7.5000e-004        | 31.2481        |
| <b>Total</b> | <b>0.0104</b> | <b>7.5800e-003</b> | <b>0.1181</b> | <b>3.1000e-004</b> | <b>0.0335</b> | <b>2.1000e-004</b> | <b>0.0338</b> | <b>8.8900e-003</b> | <b>2.0000e-004</b> | <b>9.0900e-003</b> |          | <b>31.0033</b> | <b>31.0033</b> | <b>8.4000e-004</b> | <b>7.5000e-004</b> | <b>31.2481</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Off-Road     | 0.1341        | 1.3647        | 1.8227        | 2.5300e-003        |               | 0.0734        | 0.0734        |                | 0.0675        | 0.0675        | 0.0000        | 245.3389        | 245.3389        | 0.0794        |     | 247.3226        |
| <b>Total</b> | <b>0.1341</b> | <b>1.3647</b> | <b>1.8227</b> | <b>2.5300e-003</b> |               | <b>0.0734</b> | <b>0.0734</b> |                | <b>0.0675</b> | <b>0.0675</b> | <b>0.0000</b> | <b>245.3389</b> | <b>245.3389</b> | <b>0.0794</b> |     | <b>247.3226</b> |

**Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |                    |               |                    |               |                    |               |                    |                    |                    | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0104        | 7.5800e-003        | 0.1181        | 3.1000e-004        | 0.0309        | 2.1000e-004        | 0.0311        | 8.2500e-003        | 2.0000e-004        | 8.4500e-003        |          | 31.0033        | 31.0033        | 8.4000e-004        | 7.5000e-004        | 31.2481        |
| <b>Total</b> | <b>0.0104</b> | <b>7.5800e-003</b> | <b>0.1181</b> | <b>3.1000e-004</b> | <b>0.0309</b> | <b>2.1000e-004</b> | <b>0.0311</b> | <b>8.2500e-003</b> | <b>2.0000e-004</b> | <b>8.4500e-003</b> |          | <b>31.0033</b> | <b>31.0033</b> | <b>8.4000e-004</b> | <b>7.5000e-004</b> | <b>31.2481</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Construction**

**Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| General Light Industry           | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |       |                                |     |                                  |      |
|--------------------------------|-------|--------------------------------|-----|----------------------------------|------|
| <b>Urbanization</b>            | Urban | <b>Wind Speed (m/s)</b>        | 2.2 | <b>Precipitation Freq (Days)</b> | 33   |
| <b>Climate Zone</b>            | 9     |                                |     | <b>Operational Year</b>          | 2022 |
| <b>Utility Company</b>         |       |                                |     |                                  |      |
| <b>CO2 Intensity (lb/MWhr)</b> | 0     | <b>CH4 Intensity (lb/MWhr)</b> | 0   | <b>N2O Intensity (lb/MWhr)</b>   | 0    |

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

Project Characteristics -

Land Use - Based on information provided. Please see assumptions in the AQ/GHG appendix.

Construction Phase - Based on information provided. Please see the assumptions file in the AQ/GHG appendix for further details.

Off-road Equipment - Based on information provided.

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Off-road Equipment - Based on information provided.

Off-road Equipment - Based on information provided.

Grading -

Demolition -

Trips and VMT - Based on information provided. Please see the assumptions in the AQ/GHG appendix for further details.

Construction Off-road Equipment Mitigation - Based on South Coast Rules 403 and 1186.

| Table Name             | Column Name                    | Default Value | New Value |
|------------------------|--------------------------------|---------------|-----------|
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0             | 9         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed   | 0             | 15        |
| tblConstructionPhase   | NumDays                        | 20.00         | 21.00     |
| tblConstructionPhase   | NumDays                        | 230.00        | 132.00    |
| tblConstructionPhase   | NumDays                        | 20.00         | 31.00     |
| tblConstructionPhase   | NumDays                        | 20.00         | 22.00     |
| tblConstructionPhase   | NumDays                        | 10.00         | 5.00      |
| tblConstructionPhase   | NumDays                        | 20.00         | 8.00      |
| tblConstructionPhase   | NumDays                        | 20.00         | 12.00     |
| tblConstructionPhase   | PhaseEndDate                   | 10/18/2022    | 8/17/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 8/23/2022     | 9/20/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 8/24/2021     | 3/15/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 10/5/2021     | 4/20/2022 |
| tblConstructionPhase   | PhaseEndDate                   | 9/7/2021      | 3/24/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 9/21/2022     | 7/20/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 10/6/2021     | 3/19/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 7/28/2021     | 2/1/2022  |
| tblConstructionPhase   | PhaseStartDate                 | 9/8/2021      | 3/22/2022 |
| tblConstructionPhase   | PhaseStartDate                 | 8/25/2021     | 3/18/2022 |
| tblGrading             | MaterialImported               | 0.00          | 14,933.00 |
| tblLandUse             | LandUseSquareFeet              | 49,200.00     | 20,193.00 |
| tblLandUse             | LandUseSquareFeet              | 88,426.80     | 88,559.00 |
| tblLandUse             | LandUseSquareFeet              | 27,979.00     | 0.00      |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                     |                      |        |                           |
|---------------------|----------------------|--------|---------------------------|
| tblLandUse          | LotAcreage           | 2.59   | 2.49                      |
| tblLandUse          | LotAcreage           | 1.11   | 0.46                      |
| tblOffRoadEquipment | HorsePower           | 158.00 | 311.00                    |
| tblOffRoadEquipment | HorsePower           | 89.00  | 173.00                    |
| tblOffRoadEquipment | HorsePower           | 187.00 | 179.00                    |
| tblOffRoadEquipment | HorsePower           | 158.00 | 311.00                    |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | HorsePower           | 65.00  | 74.30                     |
| tblOffRoadEquipment | HorsePower           | 65.00  | 74.30                     |
| tblOffRoadEquipment | HorsePower           | 212.00 | 130.00                    |
| tblOffRoadEquipment | HorsePower           | 63.00  | 74.00                     |
| tblOffRoadEquipment | HorsePower           | 367.00 | 365.00                    |
| tblOffRoadEquipment | HorsePower           | 367.00 | 478.00                    |
| tblOffRoadEquipment | HorsePower           | 97.00  | 70.00                     |
| tblOffRoadEquipment | HorsePower           | 80.00  | 36.00                     |
| tblOffRoadEquipment | HorsePower           | 63.00  | 74.00                     |
| tblOffRoadEquipment | HorsePower           | 97.00  | 79.00                     |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | LoadFactor           | 0.43   | 0.43                      |
| tblOffRoadEquipment | LoadFactor           | 0.37   | 0.37                      |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Skid Steer Loaders        |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Crawler Tractors          |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Aerial Lifts              |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Scrapers                  |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Rollers                   |
| tblOffRoadEquipment | OffRoadEquipmentType |        | Aerial Lifts              |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| tblOffRoadEquipment | OffRoadEquipmentType       |          | Tractors/Loaders/Backhoes |
|---------------------|----------------------------|----------|---------------------------|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00     | 0.00                      |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00     | 1.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 7.00                      |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 25.00                     |
| tblTripsAndVMT      | HaulingTripLength          | 20.00    | 28.00                     |
| tblTripsAndVMT      | HaulingTripNumber          | 32.00    | 34.00                     |
| tblTripsAndVMT      | HaulingTripNumber          | 1,867.00 | 2,987.00                  |
| tblTripsAndVMT      | HaulingTripNumber          | 112.00   | 114.00                    |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |
| tblTripsAndVMT      | VendorTripNumber           | 0.00     | 2.00                      |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

|         | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|---------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Year    | lb/day  |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| 2022    | 60.2287 | 89.2649 | 57.0063 | 0.2227 | 7.8226        | 2.5666       | 10.3892    | 1.5985         | 2.3698        | 3.9682      | 0.0000   | 23,031.9649 | 23,031.9649 | 3.7511 | 1.9801 | 23,715.7997 |
| Maximum | 60.2287 | 89.2649 | 57.0063 | 0.2227 | 7.8226        | 2.5666       | 10.3892    | 1.5985         | 2.3698        | 3.9682      | 0.0000   | 23,031.9649 | 23,031.9649 | 3.7511 | 1.9801 | 23,715.7997 |

**Mitigated Construction**

|         | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|---------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Year    | lb/day  |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| 2022    | 60.2287 | 89.2649 | 57.0063 | 0.2227 | 5.6344        | 2.5666       | 8.2010     | 1.3159         | 2.3698        | 3.6857      | 0.0000   | 23,031.9649 | 23,031.9649 | 3.7511 | 1.9801 | 23,715.7997 |
| Maximum | 60.2287 | 89.2649 | 57.0063 | 0.2227 | 5.6344        | 2.5666       | 8.2010     | 1.3159         | 2.3698        | 3.6857      | 0.0000   | 23,031.9649 | 23,031.9649 | 3.7511 | 1.9801 | 23,715.7997 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 27.97         | 0.00         | 21.06      | 17.68          | 0.00          | 7.12        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Building Demolition   | Demolition            | 2/1/2022   | 3/15/2022 | 5             | 31       |                   |
| 2            | Asphalt Demolition    | Demolition            | 2/18/2022  | 3/1/2022  | 5             | 8        |                   |
| 3            | Site Preparation      | Site Preparation      | 3/18/2022  | 3/24/2022 | 5             | 5        |                   |
| 4            | Building Construction | Building Construction | 3/19/2022  | 9/20/2022 | 5             | 132      |                   |
| 5            | Rough Grading         | Grading               | 3/22/2022  | 4/20/2022 | 5             | 22       |                   |
| 6            | Utility Trenching     | Trenching             | 4/18/2022  | 5/16/2022 | 5             | 21       |                   |
| 7            | Fine Grading          | Grading               | 7/2/2022   | 7/19/2022 | 5             | 12       |                   |
| 8            | Architectural Coating | Architectural Coating | 7/20/2022  | 8/17/2022 | 5             | 21       |                   |
| 9            | Finishing/Landscaping | Trenching             | 8/18/2022  | 10/4/2022 | 5             | 34       |                   |

**Acres of Grading (Site Preparation Phase): 2.5**

**Acres of Grading (Grading Phase): 55**

**Acres of Paving: 3.13**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 194,745; Non-Residential Outdoor: 64,915; Striped Parking Area: 6,525**

**OffRoad Equipment**

| Phase Name            | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|--------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors          | 1      | 6.00        | 78          | 0.48        |
| Building Demolition   | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |
| Building Construction | Cranes                   | 0      | 7.00        | 231         | 0.29        |
| Building Demolition   | Excavators               | 1      | 8.00        | 311         | 0.38        |
| Rough Grading         | Excavators               | 0      | 8.00        | 158         | 0.38        |
| Building Construction | Forklifts                | 3      | 8.00        | 173         | 0.20        |
| Building Construction | Generator Sets           | 0      | 8.00        | 84          | 0.74        |
| Rough Grading         | Graders                  | 1      | 8.00        | 179         | 0.41        |
| Asphalt Demolition    | Concrete/Industrial Saws | 0      | 8.00        | 81          | 0.73        |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

|                       |                           |   |      |      |      |
|-----------------------|---------------------------|---|------|------|------|
| Asphalt Demolition    | Excavators                | 1 | 8.00 | 311  | 0.38 |
| Fine Grading          | Excavators                | 0 | 8.00 | 158  | 0.38 |
| Building Demolition   | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Rough Grading         | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Site Preparation      | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 0 | 7.00 | 97   | 0.37 |
| Rough Grading         | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Site Preparation      | Tractors/Loaders/Backhoes | 0 | 8.00 | 97   | 0.37 |
| Building Construction | Welders                   | 0 | 8.00 | 46   | 0.45 |
| Fine Grading          | Graders                   | 0 | 8.00 | 187  | 0.41 |
| Asphalt Demolition    | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Rubber Tired Dozers       | 0 | 8.00 | 247  | 0.40 |
| Fine Grading          | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |
| Building Demolition   | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Asphalt Demolition    | Skid Steer Loaders        | 1 | 8.00 | 74.3 | 0.37 |
| Site Preparation      | Crawler Tractors          | 1 | 8.00 | 130  | 0.43 |
| Building Construction | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 365  | 0.48 |
| Rough Grading         | Scrapers                  | 2 | 8.00 | 478  | 0.48 |
| Utility Trenching     | Tractors/Loaders/Backhoes | 2 | 8.00 | 70   | 0.37 |
| Fine Grading          | Rollers                   | 1 | 8.00 | 36   | 0.38 |
| Architectural Coating | Aerial Lifts              | 3 | 8.00 | 74   | 0.31 |
| Finishing/Landscaping | Tractors/Loaders/Backhoes | 1 | 8.00 | 79   | 0.37 |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Trips and VMT**

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Building Demolition   | 2                       | 5.00               | 2.00               | 34.00               | 14.70              | 6.90               | 7.00                | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 1                       | 3.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Rough Grading         | 6                       | 15.00              | 2.00               | 2,987.00            | 14.70              | 6.90               | 25.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 6                       | 100.00             | 39.00              | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Asphalt Demolition    | 2                       | 5.00               | 2.00               | 114.00              | 14.70              | 6.90               | 28.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 4                       | 20.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Utility Trenching     | 2                       | 5.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Fine Grading          | 2                       | 5.00               | 2.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Finishing/Landscaping | 1                       | 3.00               | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

**3.2 Building Demolition - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 0.2230        | 0.0000        | 0.2230        | 0.0338         | 0.0000        | 0.0338        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        |          | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>0.2230</b> | <b>0.1119</b> | <b>0.3349</b> | <b>0.0338</b>  | <b>0.1030</b> | <b>0.1367</b> |          | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 2.4400e-003   | 0.0813        | 0.0256        | 2.6000e-004        | 6.7300e-003   | 4.9000e-004        | 7.2300e-003   | 1.8500e-003    | 4.7000e-004        | 2.3200e-003   |          | 28.2464         | 28.2464         | 1.4400e-003        | 4.4800e-003   | 29.6175         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0128        | 9.4000e-004        | 0.0138        | 3.6900e-003    | 9.0000e-004        | 4.5800e-003   |          | 42.1081         | 42.1081         | 1.4000e-003        | 6.0700e-003   | 43.9531         |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 48.9402         | 48.9402         | 1.4200e-003        | 1.3400e-003   | 49.3742         |
| <b>Total</b> | <b>0.0249</b> | <b>0.1973</b> | <b>0.2411</b> | <b>1.1300e-003</b> | <b>0.0754</b> | <b>1.7900e-003</b> | <b>0.0772</b> | <b>0.0204</b>  | <b>1.7000e-003</b> | <b>0.0221</b> |          | <b>119.2947</b> | <b>119.2947</b> | <b>4.2600e-003</b> | <b>0.0119</b> | <b>122.9448</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 0.0953        | 0.0000        | 0.0953        | 0.0144         | 0.0000        | 0.0144        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        | 0.0000        | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>0.0953</b> | <b>0.1119</b> | <b>0.2072</b> | <b>0.0144</b>  | <b>0.1030</b> | <b>0.1174</b> | <b>0.0000</b> | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 2.4400e-003   | 0.0813        | 0.0256        | 2.6000e-004        | 6.2800e-003   | 4.9000e-004        | 6.7700e-003   | 1.7400e-003    | 4.7000e-004        | 2.2100e-003   |          | 28.2464         | 28.2464         | 1.4400e-003        | 4.4800e-003   | 29.6175         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0120        | 9.4000e-004        | 0.0129        | 3.4900e-003    | 9.0000e-004        | 4.3800e-003   |          | 42.1081         | 42.1081         | 1.4000e-003        | 6.0700e-003   | 43.9531         |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 48.9402         | 48.9402         | 1.4200e-003        | 1.3400e-003   | 49.3742         |
| <b>Total</b> | <b>0.0249</b> | <b>0.1973</b> | <b>0.2411</b> | <b>1.1300e-003</b> | <b>0.0698</b> | <b>1.7900e-003</b> | <b>0.0716</b> | <b>0.0190</b>  | <b>1.7000e-003</b> | <b>0.0207</b> |          | <b>119.2947</b> | <b>119.2947</b> | <b>4.2600e-003</b> | <b>0.0119</b> | <b>122.9448</b> |

**3.3 Asphalt Demolition - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 3.0226        | 0.0000        | 3.0226        | 0.4577         | 0.0000        | 0.4577        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        |          | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>3.0226</b> | <b>0.1119</b> | <b>3.1345</b> | <b>0.4577</b>  | <b>0.1030</b> | <b>0.5606</b> |          | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0852        | 3.3727        | 0.7123        | 0.0123        | 0.3491        | 0.0249        | 0.3739        | 0.0957         | 0.0238        | 0.1195        |          | 1,341.7089        | 1,341.7089        | 0.0716        | 0.2129        | 1,406.9424        |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004   | 0.0128        | 9.4000e-004   | 0.0138        | 3.6900e-003    | 9.0000e-004   | 4.5800e-003   |          | 42.1081           | 42.1081           | 1.4000e-003   | 6.0700e-003   | 43.9531           |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004   | 0.0559        | 3.6000e-004   | 0.0563        | 0.0148         | 3.3000e-004   | 0.0152        |          | 48.9402           | 48.9402           | 1.4200e-003   | 1.3400e-003   | 49.3742           |
| <b>Total</b> | <b>0.1076</b> | <b>3.4887</b> | <b>0.9277</b> | <b>0.0131</b> | <b>0.4178</b> | <b>0.0262</b> | <b>0.4439</b> | <b>0.1142</b>  | <b>0.0250</b> | <b>0.1392</b> |          | <b>1,432.7572</b> | <b>1,432.7572</b> | <b>0.0744</b> | <b>0.2203</b> | <b>1,500.2696</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |               |               |               | 1.2922        | 0.0000        | 1.2922        | 0.1957         | 0.0000        | 0.1957        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 0.3456        | 3.2204        | 3.7849        | 0.0125        |               | 0.1119        | 0.1119        |                | 0.1030        | 0.1030        | 0.0000        | 1,206.2485        | 1,206.2485        | 0.3901        |     | 1,216.0017        |
| <b>Total</b>  | <b>0.3456</b> | <b>3.2204</b> | <b>3.7849</b> | <b>0.0125</b> | <b>1.2922</b> | <b>0.1119</b> | <b>1.4041</b> | <b>0.1957</b>  | <b>0.1030</b> | <b>0.2986</b> | <b>0.0000</b> | <b>1,206.2485</b> | <b>1,206.2485</b> | <b>0.3901</b> |     | <b>1,216.0017</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0852        | 3.3727        | 0.7123        | 0.0123        | 0.3253        | 0.0249        | 0.3502        | 0.0899         | 0.0238        | 0.1136        |          | 1,341.7089        | 1,341.7089        | 0.0716        | 0.2129        | 1,406.9424        |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004   | 0.0120        | 9.4000e-004   | 0.0129        | 3.4900e-003    | 9.0000e-004   | 4.3800e-003   |          | 42.1081           | 42.1081           | 1.4000e-003   | 6.0700e-003   | 43.9531           |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004   | 0.0515        | 3.6000e-004   | 0.0519        | 0.0138         | 3.3000e-004   | 0.0141        |          | 48.9402           | 48.9402           | 1.4200e-003   | 1.3400e-003   | 49.3742           |
| <b>Total</b> | <b>0.1076</b> | <b>3.4887</b> | <b>0.9277</b> | <b>0.0131</b> | <b>0.3889</b> | <b>0.0262</b> | <b>0.4150</b> | <b>0.1071</b>  | <b>0.0250</b> | <b>0.1321</b> |          | <b>1,432.7572</b> | <b>1,432.7572</b> | <b>0.0744</b> | <b>0.2203</b> | <b>1,500.2696</b> |

**3.4 Site Preparation - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3826        | 3.7621        | 3.2089        | 4.7900e-003        |               | 0.2101        | 0.2101        |                | 0.1933        | 0.1933        |          | 463.6243        | 463.6243        | 0.1500        |     | 467.3729        |
| <b>Total</b>  | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.7900e-003</b> | <b>0.5303</b> | <b>0.2101</b> | <b>0.7403</b> | <b>0.0573</b>  | <b>0.1933</b> | <b>0.2505</b> |          | <b>463.6243</b> | <b>463.6243</b> | <b>0.1500</b> |     | <b>467.3729</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0128        | 9.4000e-004        | 0.0138        | 3.6900e-003    | 9.0000e-004        | 4.5800e-003   |          | 42.1081        | 42.1081        | 1.4000e-003        | 6.0700e-003        | 43.9531        |
| Worker       | 0.0111        | 8.3700e-003   | 0.1084        | 2.9000e-004        | 0.0335        | 2.1000e-004        | 0.0338        | 8.8900e-003    | 2.0000e-004        | 9.0900e-003   |          | 29.3641        | 29.3641        | 8.5000e-004        | 8.0000e-004        | 29.6245        |
| <b>Total</b> | <b>0.0150</b> | <b>0.1104</b> | <b>0.1432</b> | <b>6.8000e-004</b> | <b>0.0463</b> | <b>1.1500e-003</b> | <b>0.0475</b> | <b>0.0126</b>  | <b>1.1000e-003</b> | <b>0.0137</b> |          | <b>71.4722</b> | <b>71.4722</b> | <b>2.2500e-003</b> | <b>6.8700e-003</b> | <b>73.5776</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.2267        | 0.0000        | 0.2267        | 0.0245         | 0.0000        | 0.0245        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3826        | 3.7621        | 3.2089        | 4.7900e-003        |               | 0.2101        | 0.2101        |                | 0.1933        | 0.1933        | 0.0000        | 463.6243        | 463.6243        | 0.1500        |     | 467.3729        |
| <b>Total</b>  | <b>0.3826</b> | <b>3.7621</b> | <b>3.2089</b> | <b>4.7900e-003</b> | <b>0.2267</b> | <b>0.2101</b> | <b>0.4367</b> | <b>0.0245</b>  | <b>0.1933</b> | <b>0.2177</b> | <b>0.0000</b> | <b>463.6243</b> | <b>463.6243</b> | <b>0.1500</b> |     | <b>467.3729</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0120        | 9.4000e-004        | 0.0129        | 3.4900e-003    | 9.0000e-004        | 4.3800e-003   |          | 42.1081        | 42.1081        | 1.4000e-003        | 6.0700e-003        | 43.9531        |
| Worker       | 0.0111        | 8.3700e-003   | 0.1084        | 2.9000e-004        | 0.0309        | 2.1000e-004        | 0.0311        | 8.2500e-003    | 2.0000e-004        | 8.4500e-003   |          | 29.3641        | 29.3641        | 8.5000e-004        | 8.0000e-004        | 29.6245        |
| <b>Total</b> | <b>0.0150</b> | <b>0.1104</b> | <b>0.1432</b> | <b>6.8000e-004</b> | <b>0.0429</b> | <b>1.1500e-003</b> | <b>0.0441</b> | <b>0.0117</b>  | <b>1.1000e-003</b> | <b>0.0128</b> |          | <b>71.4722</b> | <b>71.4722</b> | <b>2.2500e-003</b> | <b>6.8700e-003</b> | <b>73.5776</b> |

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 0.6259        | 6.5142        | 9.7087        | 0.0149        |               | 0.2790        | 0.2790        |                | 0.2567        | 0.2567        |          | 1,437.3350        | 1,437.3350        | 0.4649        |     | 1,448.9566        |
| <b>Total</b> | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> |               | <b>0.2790</b> | <b>0.2790</b> |                | <b>0.2567</b> | <b>0.2567</b> |          | <b>1,437.3350</b> | <b>1,437.3350</b> | <b>0.4649</b> |     | <b>1,448.9566</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.0758        | 1.9891        | 0.6776        | 7.6400e-003   | 0.2498        | 0.0183        | 0.2681        | 0.0719         | 0.0175        | 0.0894        |          | 821.1086          | 821.1086          | 0.0273        | 0.1184        | 857.0847          |
| Worker       | 0.3704        | 0.2791        | 3.6137        | 9.6800e-003   | 1.1178        | 7.1500e-003   | 1.1249        | 0.2964         | 6.5800e-003   | 0.3030        |          | 978.8032          | 978.8032          | 0.0285        | 0.0267        | 987.4834          |
| <b>Total</b> | <b>0.4462</b> | <b>2.2682</b> | <b>4.2913</b> | <b>0.0173</b> | <b>1.3676</b> | <b>0.0254</b> | <b>1.3930</b> | <b>0.3684</b>  | <b>0.0241</b> | <b>0.3924</b> |          | <b>1,799.9118</b> | <b>1,799.9118</b> | <b>0.0558</b> | <b>0.1452</b> | <b>1,844.5681</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 0.6259        | 6.5142        | 9.7087        | 0.0149        |               | 0.2790        | 0.2790        |                | 0.2567        | 0.2567        | 0.0000        | 1,437.3350        | 1,437.3350        | 0.4649        |     | 1,448.9566        |
| <b>Total</b> | <b>0.6259</b> | <b>6.5142</b> | <b>9.7087</b> | <b>0.0149</b> |               | <b>0.2790</b> | <b>0.2790</b> |                | <b>0.2567</b> | <b>0.2567</b> | <b>0.0000</b> | <b>1,437.3350</b> | <b>1,437.3350</b> | <b>0.4649</b> |     | <b>1,448.9566</b> |

Construction - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Vendor       | 0.0758        | 1.9891        | 0.6776        | 7.6400e-003   | 0.2338        | 0.0183        | 0.2521        | 0.0680         | 0.0175        | 0.0855        |          | 821.1086          | 821.1086          | 0.0273        | 0.1184        | 857.0847          |
| Worker       | 0.3704        | 0.2791        | 3.6137        | 9.6800e-003   | 1.0303        | 7.1500e-003   | 1.0375        | 0.2750         | 6.5800e-003   | 0.2816        |          | 978.8032          | 978.8032          | 0.0285        | 0.0267        | 987.4834          |
| <b>Total</b> | <b>0.4462</b> | <b>2.2682</b> | <b>4.2913</b> | <b>0.0173</b> | <b>1.2641</b> | <b>0.0254</b> | <b>1.2895</b> | <b>0.3430</b>  | <b>0.0241</b> | <b>0.3670</b> |          | <b>1,799.9118</b> | <b>1,799.9118</b> | <b>0.0558</b> | <b>0.1452</b> | <b>1,844.5681</b> |

**3.6 Rough Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 2.7280        | 0.0000        | 2.7280        | 0.2979         | 0.0000        | 0.2979        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.2950        | 47.4838        | 32.7612        | 0.0786        |               | 1.8373        | 1.8373        |                | 1.6903        | 1.6903        |          | 7,613.7217        | 7,613.7217        | 2.4624        |     | 7,675.2825        |
| <b>Total</b>  | <b>4.2950</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>2.7280</b> | <b>1.8373</b> | <b>4.5653</b> | <b>0.2979</b>  | <b>1.6903</b> | <b>1.9882</b> |          | <b>7,613.7217</b> | <b>7,613.7217</b> | <b>2.4624</b> |     | <b>7,675.2825</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Hauling      | 0.7388        | 28.9822        | 6.2707        | 0.1046        | 2.9699        | 0.2117        | 3.1816        | 0.8142         | 0.2025        | 1.0167        |          | 11,456.9713        | 11,456.9713        | 0.6101        | 1.8179        | 12,013.9664        |
| Vendor       | 3.8900e-003   | 0.1020         | 0.0348        | 3.9000e-004   | 0.0128        | 9.4000e-004   | 0.0138        | 3.6900e-003    | 9.0000e-004   | 4.5800e-003   |          | 42.1081            | 42.1081            | 1.4000e-003   | 6.0700e-003   | 43.9531            |
| Worker       | 0.0556        | 0.0419         | 0.5421        | 1.4500e-003   | 0.1677        | 1.0700e-003   | 0.1687        | 0.0445         | 9.9000e-004   | 0.0455        |          | 146.8205           | 146.8205           | 4.2700e-003   | 4.0100e-003   | 148.1225           |
| <b>Total</b> | <b>0.7983</b> | <b>29.1261</b> | <b>6.8475</b> | <b>0.1064</b> | <b>3.1504</b> | <b>0.2137</b> | <b>3.3641</b> | <b>0.8624</b>  | <b>0.2044</b> | <b>1.0667</b> |          | <b>11,645.8999</b> | <b>11,645.8999</b> | <b>0.6158</b> | <b>1.8280</b> | <b>12,206.0420</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.1662        | 0.0000        | 1.1662        | 0.1274         | 0.0000        | 0.1274        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.2950        | 47.4838        | 32.7612        | 0.0786        |               | 1.8373        | 1.8373        |                | 1.6903        | 1.6903        | 0.0000        | 7,613.7217        | 7,613.7217        | 2.4624        |     | 7,675.2825        |
| <b>Total</b>  | <b>4.2950</b> | <b>47.4838</b> | <b>32.7612</b> | <b>0.0786</b> | <b>1.1662</b> | <b>1.8373</b> | <b>3.0036</b> | <b>0.1274</b>  | <b>1.6903</b> | <b>1.8177</b> | <b>0.0000</b> | <b>7,613.7217</b> | <b>7,613.7217</b> | <b>2.4624</b> |     | <b>7,675.2825</b> |

Construction - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Hauling      | 0.7388        | 28.9822        | 6.2707        | 0.1046        | 2.7680        | 0.2117        | 2.9796        | 0.7646         | 0.2025        | 0.9671        |          | 11,456.9713        | 11,456.9713        | 0.6101        | 1.8179        | 12,013.9664        |
| Vendor       | 3.8900e-003   | 0.1020         | 0.0348        | 3.9000e-004   | 0.0120        | 9.4000e-004   | 0.0129        | 3.4900e-003    | 9.0000e-004   | 4.3800e-003   |          | 42.1081            | 42.1081            | 1.4000e-003   | 6.0700e-003   | 43.9531            |
| Worker       | 0.0556        | 0.0419         | 0.5421        | 1.4500e-003   | 0.1546        | 1.0700e-003   | 0.1556        | 0.0413         | 9.9000e-004   | 0.0422        |          | 146.8205           | 146.8205           | 4.2700e-003   | 4.0100e-003   | 148.1225           |
| <b>Total</b> | <b>0.7983</b> | <b>29.1261</b> | <b>6.8475</b> | <b>0.1064</b> | <b>2.9345</b> | <b>0.2137</b> | <b>3.1482</b> | <b>0.8094</b>  | <b>0.2044</b> | <b>1.0137</b> |          | <b>11,645.8999</b> | <b>11,645.8999</b> | <b>0.6158</b> | <b>1.8280</b> | <b>12,206.0420</b> |

**3.7 Utility Trenching - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Off-Road     | 0.2368        | 2.4086        | 3.2169        | 4.4700e-003        |               | 0.1295        | 0.1295        |                | 0.1192        | 0.1192        |          | 433.0153        | 433.0153        | 0.1401        |     | 436.5164        |
| <b>Total</b> | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.4700e-003</b> |               | <b>0.1295</b> | <b>0.1295</b> |                | <b>0.1192</b> | <b>0.1192</b> |          | <b>433.0153</b> | <b>433.0153</b> | <b>0.1401</b> |     | <b>436.5164</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 48.9402        | 48.9402        | 1.4200e-003        | 1.3400e-003        | 49.3742        |
| <b>Total</b> | <b>0.0185</b> | <b>0.0140</b> | <b>0.1807</b> | <b>4.8000e-004</b> | <b>0.0559</b> | <b>3.6000e-004</b> | <b>0.0563</b> | <b>0.0148</b>  | <b>3.3000e-004</b> | <b>0.0152</b> |          | <b>48.9402</b> | <b>48.9402</b> | <b>1.4200e-003</b> | <b>1.3400e-003</b> | <b>49.3742</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Off-Road     | 0.2368        | 2.4086        | 3.2169        | 4.4700e-003        |               | 0.1295        | 0.1295        |                | 0.1192        | 0.1192        | 0.0000        | 433.0153        | 433.0153        | 0.1401        |     | 436.5164        |
| <b>Total</b> | <b>0.2368</b> | <b>2.4086</b> | <b>3.2169</b> | <b>4.4700e-003</b> |               | <b>0.1295</b> | <b>0.1295</b> |                | <b>0.1192</b> | <b>0.1192</b> | <b>0.0000</b> | <b>433.0153</b> | <b>433.0153</b> | <b>0.1401</b> |     | <b>436.5164</b> |

Construction - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 48.9402        | 48.9402        | 1.4200e-003        | 1.3400e-003        | 49.3742        |
| <b>Total</b> | <b>0.0185</b> | <b>0.0140</b> | <b>0.1807</b> | <b>4.8000e-004</b> | <b>0.0515</b> | <b>3.6000e-004</b> | <b>0.0519</b> | <b>0.0138</b>  | <b>3.3000e-004</b> | <b>0.0141</b> |          | <b>48.9402</b> | <b>48.9402</b> | <b>1.4200e-003</b> | <b>1.3400e-003</b> | <b>49.3742</b> |

**3.8 Fine Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3123        | 2.3606        | 2.8848        | 3.8400e-003        |               | 0.1337        | 0.1337        |                | 0.1230        | 0.1230        |          | 372.1744        | 372.1744        | 0.1204        |     | 375.1837        |
| <b>Total</b>  | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.8400e-003</b> | <b>0.0000</b> | <b>0.1337</b> | <b>0.1337</b> | <b>0.0000</b>  | <b>0.1230</b> | <b>0.1230</b> |          | <b>372.1744</b> | <b>372.1744</b> | <b>0.1204</b> |     | <b>375.1837</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0128        | 9.4000e-004        | 0.0138        | 3.6900e-003    | 9.0000e-004        | 4.5800e-003   |          | 42.1081        | 42.1081        | 1.4000e-003        | 6.0700e-003        | 43.9531        |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0559        | 3.6000e-004        | 0.0563        | 0.0148         | 3.3000e-004        | 0.0152        |          | 48.9402        | 48.9402        | 1.4200e-003        | 1.3400e-003        | 49.3742        |
| <b>Total</b> | <b>0.0224</b> | <b>0.1160</b> | <b>0.2154</b> | <b>8.7000e-004</b> | <b>0.0687</b> | <b>1.3000e-003</b> | <b>0.0700</b> | <b>0.0185</b>  | <b>1.2300e-003</b> | <b>0.0197</b> |          | <b>91.0483</b> | <b>91.0483</b> | <b>2.8200e-003</b> | <b>7.4100e-003</b> | <b>93.3272</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.3123        | 2.3606        | 2.8848        | 3.8400e-003        |               | 0.1337        | 0.1337        |                | 0.1230        | 0.1230        | 0.0000        | 372.1744        | 372.1744        | 0.1204        |     | 375.1837        |
| <b>Total</b>  | <b>0.3123</b> | <b>2.3606</b> | <b>2.8848</b> | <b>3.8400e-003</b> | <b>0.0000</b> | <b>0.1337</b> | <b>0.1337</b> | <b>0.0000</b>  | <b>0.1230</b> | <b>0.1230</b> | <b>0.0000</b> | <b>372.1744</b> | <b>372.1744</b> | <b>0.1204</b> |     | <b>375.1837</b> |

Construction - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 3.8900e-003   | 0.1020        | 0.0348        | 3.9000e-004        | 0.0120        | 9.4000e-004        | 0.0129        | 3.4900e-003    | 9.0000e-004        | 4.3800e-003   |          | 42.1081        | 42.1081        | 1.4000e-003        | 6.0700e-003        | 43.9531        |
| Worker       | 0.0185        | 0.0140        | 0.1807        | 4.8000e-004        | 0.0515        | 3.6000e-004        | 0.0519        | 0.0138         | 3.3000e-004        | 0.0141        |          | 48.9402        | 48.9402        | 1.4200e-003        | 1.3400e-003        | 49.3742        |
| <b>Total</b> | <b>0.0224</b> | <b>0.1160</b> | <b>0.2154</b> | <b>8.7000e-004</b> | <b>0.0635</b> | <b>1.3000e-003</b> | <b>0.0648</b> | <b>0.0172</b>  | <b>1.2300e-003</b> | <b>0.0185</b> |          | <b>91.0483</b> | <b>91.0483</b> | <b>2.8200e-003</b> | <b>7.4100e-003</b> | <b>93.3272</b> |

**3.9 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day         |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Archit. Coating | 58.7508        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.3316         | 3.3828        | 5.6686        | 8.8900e-003        |               | 0.1184        | 0.1184        |                | 0.1154        | 0.1154        |          | 854.4894        | 854.4894        | 0.2037        |     | 859.5809        |
| <b>Total</b>    | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.8900e-003</b> |               | <b>0.1184</b> | <b>0.1184</b> |                | <b>0.1154</b> | <b>0.1154</b> |          | <b>854.4894</b> | <b>854.4894</b> | <b>0.2037</b> |     | <b>859.5809</b> |

Construction - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0741        | 0.0558        | 0.7227        | 1.9400e-003        | 0.2236        | 1.4300e-003        | 0.2250        | 0.0593         | 1.3200e-003        | 0.0606        |          | 195.7606        | 195.7606        | 5.7000e-003        | 5.3500e-003        | 197.4967        |
| <b>Total</b> | <b>0.0741</b> | <b>0.0558</b> | <b>0.7227</b> | <b>1.9400e-003</b> | <b>0.2236</b> | <b>1.4300e-003</b> | <b>0.2250</b> | <b>0.0593</b>  | <b>1.3200e-003</b> | <b>0.0606</b> |          | <b>195.7606</b> | <b>195.7606</b> | <b>5.7000e-003</b> | <b>5.3500e-003</b> | <b>197.4967</b> |

**Mitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day         |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Archit. Coating | 58.7508        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.3316         | 3.3828        | 5.6686        | 8.8900e-003        |               | 0.1184        | 0.1184        |                | 0.1154        | 0.1154        | 0.0000        | 854.4894        | 854.4894        | 0.2037        |     | 859.5809        |
| <b>Total</b>    | <b>59.0825</b> | <b>3.3828</b> | <b>5.6686</b> | <b>8.8900e-003</b> |               | <b>0.1184</b> | <b>0.1184</b> |                | <b>0.1154</b> | <b>0.1154</b> | <b>0.0000</b> | <b>854.4894</b> | <b>854.4894</b> | <b>0.2037</b> |     | <b>859.5809</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0741        | 0.0558        | 0.7227        | 1.9400e-003        | 0.2061        | 1.4300e-003        | 0.2075        | 0.0550         | 1.3200e-003        | 0.0563        |          | 195.7606        | 195.7606        | 5.7000e-003        | 5.3500e-003        | 197.4967        |
| <b>Total</b> | <b>0.0741</b> | <b>0.0558</b> | <b>0.7227</b> | <b>1.9400e-003</b> | <b>0.2061</b> | <b>1.4300e-003</b> | <b>0.2075</b> | <b>0.0550</b>  | <b>1.3200e-003</b> | <b>0.0563</b> |          | <b>195.7606</b> | <b>195.7606</b> | <b>5.7000e-003</b> | <b>5.3500e-003</b> | <b>197.4967</b> |

**3.10 Finishing/Landscaping - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Off-Road     | 0.1341        | 1.3647        | 1.8227        | 2.5300e-003        |               | 0.0734        | 0.0734        |                | 0.0675        | 0.0675        |          | 245.3389        | 245.3389        | 0.0794        |     | 247.3226        |
| <b>Total</b> | <b>0.1341</b> | <b>1.3647</b> | <b>1.8227</b> | <b>2.5300e-003</b> |               | <b>0.0734</b> | <b>0.0734</b> |                | <b>0.0675</b> | <b>0.0675</b> |          | <b>245.3389</b> | <b>245.3389</b> | <b>0.0794</b> |     | <b>247.3226</b> |

Construction - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |                    |               |                    |               |                    |               |                    |                    |                    | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0111        | 8.3700e-003        | 0.1084        | 2.9000e-004        | 0.0335        | 2.1000e-004        | 0.0338        | 8.8900e-003        | 2.0000e-004        | 9.0900e-003        |          | 29.3641        | 29.3641        | 8.5000e-004        | 8.0000e-004        | 29.6245        |
| <b>Total</b> | <b>0.0111</b> | <b>8.3700e-003</b> | <b>0.1084</b> | <b>2.9000e-004</b> | <b>0.0335</b> | <b>2.1000e-004</b> | <b>0.0338</b> | <b>8.8900e-003</b> | <b>2.0000e-004</b> | <b>9.0900e-003</b> |          | <b>29.3641</b> | <b>29.3641</b> | <b>8.5000e-004</b> | <b>8.0000e-004</b> | <b>29.6245</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Off-Road     | 0.1341        | 1.3647        | 1.8227        | 2.5300e-003        |               | 0.0734        | 0.0734        |                | 0.0675        | 0.0675        | 0.0000        | 245.3389        | 245.3389        | 0.0794        |     | 247.3226        |
| <b>Total</b> | <b>0.1341</b> | <b>1.3647</b> | <b>1.8227</b> | <b>2.5300e-003</b> |               | <b>0.0734</b> | <b>0.0734</b> |                | <b>0.0675</b> | <b>0.0675</b> | <b>0.0000</b> | <b>245.3389</b> | <b>245.3389</b> | <b>0.0794</b> |     | <b>247.3226</b> |

**Mitigated Construction Off-Site**

|              | ROG           | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |                    |               |                    |               |                    |               |                    |                    |                    | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0111        | 8.3700e-003        | 0.1084        | 2.9000e-004        | 0.0309        | 2.1000e-004        | 0.0311        | 8.2500e-003        | 2.0000e-004        | 8.4500e-003        |          | 29.3641        | 29.3641        | 8.5000e-004        | 8.0000e-004        | 29.6245        |
| <b>Total</b> | <b>0.0111</b> | <b>8.3700e-003</b> | <b>0.1084</b> | <b>2.9000e-004</b> | <b>0.0309</b> | <b>2.1000e-004</b> | <b>0.0311</b> | <b>8.2500e-003</b> | <b>2.0000e-004</b> | <b>8.4500e-003</b> |          | <b>29.3641</b> | <b>29.3641</b> | <b>8.5000e-004</b> | <b>8.0000e-004</b> | <b>29.6245</b> |

**Construction**  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**  
**Los Angeles-South Coast County, Mitigation Report**

**Construction Mitigation Summary**

| Phase                 | ROG  | NOx  | CO   | SO2  | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-----------------------|------|------|------|------|--------------|---------------|----------|-----------|-----------|------|------|------|
| Percent Reduction     |      |      |      |      |              |               |          |           |           |      |      |      |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Asphalt Demolition    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Building Demolition   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Fine Grading          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Finishing/Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Rough Grading         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Site Preparation      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Utility Trenching     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

**OFFROAD Equipment Mitigation**

| Equipment Type           | Fuel Type | Tier      | Number Mitigated | Total Number of Equipment | DPF       | Oxidation Catalyst |
|--------------------------|-----------|-----------|------------------|---------------------------|-----------|--------------------|
| Air Compressors          | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Excavators               | Diesel    | No Change | 0                | 2                         | No Change | 0.00               |
| Concrete/Industrial Saws | Diesel    | No Change | 0                | 0                         | No Change | 0.00               |
| Cranes                   | Diesel    | No Change | 0                | 0                         | No Change | 0.00               |
| Forklifts                | Diesel    | No Change | 0                | 3                         | No Change | 0.00               |
| Graders                  | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |

### Construction

#### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

|                           |        |           |   |   |           |      |
|---------------------------|--------|-----------|---|---|-----------|------|
| Aerial Lifts              | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Crawler Tractors          | Diesel | No Change | 0 | 1 | No Change | 0.00 |
| Rubber Tired Dozers       | Diesel | No Change | 0 | 0 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 5 | No Change | 0.00 |
| Generator Sets            | Diesel | No Change | 0 | 0 | No Change | 0.00 |
| Scrapers                  | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Welders                   | Diesel | No Change | 0 | 0 | No Change | 0.00 |
| Skid Steer Loaders        | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Rollers                   | Diesel | No Change | 0 | 1 | No Change | 0.00 |

| Equipment Type           | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2          | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|--------------------------|--------------|--------------|--------------|--------------|--------------|---------------|-------------------|--------------|--------------|--------------|--------------|--------------|
| Unmitigated tons/yr      |              |              |              |              |              |               | Unmitigated mt/yr |              |              |              |              |              |
| Aerial Lifts             | 9.72000E-003 | 1.51040E-001 | 2.94910E-001 | 4.50000E-004 | 2.80000E-003 | 2.58000E-003  | 0.00000E+000      | 3.97689E+001 | 3.97689E+001 | 1.28600E-002 | 0.00000E+000 | 4.00904E+001 |
| Air Compressors          | 2.15000E-003 | 1.47900E-002 | 1.90400E-002 | 3.00000E-005 | 8.60000E-004 | 8.60000E-004  | 0.00000E+000      | 2.68092E+000 | 2.68092E+000 | 1.70000E-004 | 0.00000E+000 | 2.68528E+000 |
| Concrete/Industrial Saws | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000      | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Cranes                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000      | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Crawler Tractors         | 9.60000E-004 | 9.41000E-003 | 8.02000E-003 | 1.00000E-005 | 5.30000E-004 | 4.80000E-004  | 0.00000E+000      | 1.05148E+000 | 1.05148E+000 | 3.40000E-004 | 0.00000E+000 | 1.05998E+000 |
| Excavators               | 5.20000E-003 | 4.22700E-002 | 4.31300E-002 | 2.00000E-004 | 1.42000E-003 | 1.31000E-003  | 0.00000E+000      | 1.73192E+001 | 1.73192E+001 | 5.60000E-003 | 0.00000E+000 | 1.74593E+001 |
| Forklifts                | 3.29200E-002 | 2.99630E-001 | 3.86340E-001 | 5.90000E-004 | 1.60000E-002 | 1.47200E-002  | 0.00000E+000      | 5.17489E+001 | 5.17489E+001 | 1.67400E-002 | 0.00000E+000 | 5.21673E+001 |
| Generator Sets           | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000      | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Graders                  | 4.37000E-003 | 5.53600E-002 | 1.81300E-002 | 7.00000E-005 | 1.76000E-003 | 1.62000E-003  | 0.00000E+000      | 6.12557E+000 | 6.12557E+000 | 1.98000E-003 | 0.00000E+000 | 6.17510E+000 |
| Rollers                  | 1.07000E-003 | 5.98000E-003 | 6.37000E-003 | 1.00000E-005 | 3.60000E-004 | 3.30000E-004  | 0.00000E+000      | 6.90380E-001 | 6.90380E-001 | 2.20000E-004 | 0.00000E+000 | 6.95960E-001 |
| Rubber Tired Dozers      | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000      | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

### Construction

#### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

|                           |              |              |              |              |              |              |              |              |              |              |              |              |
|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Scrapers                  | 4.14000E-002 | 4.51950E-001 | 3.22200E-001 | 7.70000E-004 | 1.76400E-002 | 1.62300E-002 | 0.00000E+000 | 6.74038E+001 | 6.74038E+001 | 2.18000E-002 | 0.00000E+000 | 6.79488E+001 |
| Skid Steer Loaders        | 1.54000E-003 | 2.05300E-002 | 3.06700E-002 | 5.00000E-005 | 7.60000E-004 | 7.00000E-004 | 0.00000E+000 | 4.01942E+000 | 4.01942E+000 | 1.30000E-003 | 0.00000E+000 | 4.05192E+000 |
| Tractors/Loaders/Backhoes | 7.05000E-003 | 7.16900E-002 | 9.57500E-002 | 1.30000E-004 | 3.86000E-003 | 3.55000E-003 | 0.00000E+000 | 1.16920E+001 | 1.16920E+001 | 3.78000E-003 | 0.00000E+000 | 1.17865E+001 |
| Welders                   | 0.00000E+000 |

| Equipment Type            | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2        | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|---------------------------|--------------|--------------|--------------|--------------|--------------|---------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| Mitigated tons/yr         |              |              |              |              |              |               | Mitigated mt/yr |              |              |              |              |              |
| Aerial Lifts              | 9.72000E-003 | 1.51030E-001 | 2.94910E-001 | 4.50000E-004 | 2.80000E-003 | 2.58000E-003  | 0.00000E+000    | 3.97688E+001 | 3.97688E+001 | 1.28600E-002 | 0.00000E+000 | 4.00904E+001 |
| Air Compressors           | 2.15000E-003 | 1.47900E-002 | 1.90400E-002 | 3.00000E-005 | 8.60000E-004 | 8.60000E-004  | 0.00000E+000    | 2.68091E+000 | 2.68091E+000 | 1.70000E-004 | 0.00000E+000 | 2.68528E+000 |
| Concrete/Industrial Saws  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Cranes                    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Crawler Tractors          | 9.60000E-004 | 9.41000E-003 | 8.02000E-003 | 1.00000E-005 | 5.30000E-004 | 4.80000E-004  | 0.00000E+000    | 1.05148E+000 | 1.05148E+000 | 3.40000E-004 | 0.00000E+000 | 1.05998E+000 |
| Excavators                | 5.20000E-003 | 4.22700E-002 | 4.31300E-002 | 2.00000E-004 | 1.42000E-003 | 1.31000E-003  | 0.00000E+000    | 1.73192E+001 | 1.73192E+001 | 5.60000E-003 | 0.00000E+000 | 1.74593E+001 |
| Forklifts                 | 3.29200E-002 | 2.99630E-001 | 3.86340E-001 | 5.90000E-004 | 1.60000E-002 | 1.47200E-002  | 0.00000E+000    | 5.17488E+001 | 5.17488E+001 | 1.67400E-002 | 0.00000E+000 | 5.21672E+001 |
| Generator Sets            | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Graders                   | 4.37000E-003 | 5.53600E-002 | 1.81300E-002 | 7.00000E-005 | 1.76000E-003 | 1.62000E-003  | 0.00000E+000    | 6.12557E+000 | 6.12557E+000 | 1.98000E-003 | 0.00000E+000 | 6.17510E+000 |
| Rollers                   | 1.07000E-003 | 5.98000E-003 | 6.37000E-003 | 1.00000E-005 | 3.60000E-004 | 3.30000E-004  | 0.00000E+000    | 6.90380E-001 | 6.90380E-001 | 2.20000E-004 | 0.00000E+000 | 6.95960E-001 |
| Rubber Tired Dozers       | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Scrapers                  | 4.14000E-002 | 4.51950E-001 | 3.22190E-001 | 7.70000E-004 | 1.76400E-002 | 1.62300E-002  | 0.00000E+000    | 6.74037E+001 | 6.74037E+001 | 2.18000E-002 | 0.00000E+000 | 6.79487E+001 |
| Skid Steer Loaders        | 1.54000E-003 | 2.05300E-002 | 3.06700E-002 | 5.00000E-005 | 7.60000E-004 | 7.00000E-004  | 0.00000E+000    | 4.01941E+000 | 4.01941E+000 | 1.30000E-003 | 0.00000E+000 | 4.05191E+000 |
| Tractors/Loaders/Backhoes | 7.05000E-003 | 7.16900E-002 | 9.57500E-002 | 1.30000E-004 | 3.86000E-003 | 3.55000E-003  | 0.00000E+000    | 1.16920E+001 | 1.16920E+001 | 3.78000E-003 | 0.00000E+000 | 1.17865E+001 |
| Welders                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

**Construction**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

| Equipment Type            | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2     | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|---------------------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Percent Reduction         |              |              |              |              |              |               |              |              |              |              |              |              |
| Aerial Lifts              | 0.00000E+000 | 6.62076E-005 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.25727E-006 | 1.25727E-006 | 0.00000E+000 | 0.00000E+000 | 1.24718E-006 |
| Air Compressors           | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 3.73006E-006 | 3.73006E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Concrete/Industrial Saws  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Cranes                    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Crawler Tractors          | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Excavators                | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.15479E-006 | 1.15479E-006 | 0.00000E+000 | 0.00000E+000 | 1.14552E-006 |
| Forklifts                 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.35269E-006 | 1.35269E-006 | 0.00000E+000 | 0.00000E+000 | 1.15015E-006 |
| Generator Sets            | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Graders                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Rollers                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Rubber Tired Dozers       | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Scrapers                  | 0.00000E+000 | 0.00000E+000 | 3.10366E-005 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.18688E-006 | 1.18688E-006 | 0.00000E+000 | 0.00000E+000 | 1.17736E-006 |
| Skid Steer Loaders        | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 2.48792E-006 | 2.48792E-006 | 0.00000E+000 | 0.00000E+000 | 2.46797E-006 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 8.55289E-007 | 8.55289E-007 | 0.00000E+000 | 0.00000E+000 | 8.48428E-007 |
| Welders                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

**Construction**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Fugitive Dust Mitigation**

| Yes/No | Mitigation Measure                     | Mitigation Input   | Mitigation Input | Mitigation Input    | Mitigation Input |                     |      |
|--------|--|--------------------|------------------|---------------------|------------------|---------------------|------|
| No     | Soil Stabilizer for unpaved Roads      | PM10 Reduction     | 0.00             | PM2.5 Reduction     | 0.00             |                     |      |
| Yes    | Replace Ground Cover of Area Disturbed | PM10 Reduction     | 5.00             | PM2.5 Reduction     | 5.00             |                     |      |
| Yes    | Water Exposed Area                     | PM10 Reduction     | 55.00            | PM2.5 Reduction     | 55.00            | Frequency (per day) | 2.00 |
| No     | Unpaved Road Mitigation                | Moisture Content % | 0.00             | Vehicle Speed (mph) | 15.00            |                     |      |
| Yes    | Clean Paved Road                       | % PM Reduction     | 9.00             |                     |                  |                     |      |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Main  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Vehicle Emission Factors -

Vehicle Emission Factors -

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblFleetMix               | HHD                                   | 8.0220e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.7300e-003   | 5.8740e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.4250e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.5600e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.8600e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.2400e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 62,710.00     | 62,713.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,410.00     | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |                    |                 |
| Area         | 0.2667        | 3.0000e-005   | 2.7700e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000             | 5.7200e-003     |
| Energy       | 3.5000e-004   | 3.2000e-003   | 2.6900e-003   | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004   |                | 2.4000e-004        | 2.4000e-004   | 0.0000         | 75.9687         | 75.9687         | 4.7600e-003   | 6.3000e-004        | 76.2761         |
| Mobile       | 0.0602        | 0.0599        | 0.6892        | 1.3700e-003        | 0.1411        | 1.0000e-003        | 0.1421        | 0.0375         | 9.2000e-004        | 0.0384        | 0.0000         | 125.8768        | 125.8768        | 7.4400e-003   | 4.4700e-003        | 127.3943        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 32.9901        | 0.0000          | 32.9901         | 1.9497        | 0.0000             | 81.7316         |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1127         | 0.9785          | 1.0913          | 4.5000e-004   | 2.5000e-004        | 1.1779          |
| <b>Total</b> | <b>0.3273</b> | <b>0.0631</b> | <b>0.6946</b> | <b>1.3900e-003</b> | <b>0.1411</b> | <b>1.2500e-003</b> | <b>0.1423</b> | <b>0.0375</b>  | <b>1.1700e-003</b> | <b>0.0387</b> | <b>33.1028</b> | <b>202.8294</b> | <b>235.9322</b> | <b>1.9623</b> | <b>5.3500e-003</b> | <b>286.5855</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |                    |                 |
| Area         | 0.2667        | 3.0000e-005   | 2.7700e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000             | 5.7200e-003     |
| Energy       | 3.5000e-004   | 3.2000e-003   | 2.6900e-003   | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004   |                | 2.4000e-004        | 2.4000e-004   | 0.0000         | 75.9687         | 75.9687         | 4.7600e-003   | 6.3000e-004        | 76.2761         |
| Mobile       | 0.0602        | 0.0599        | 0.6892        | 1.3700e-003        | 0.1411        | 1.0000e-003        | 0.1421        | 0.0375         | 9.2000e-004        | 0.0384        | 0.0000         | 125.8768        | 125.8768        | 7.4400e-003   | 4.4700e-003        | 127.3943        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 32.9901        | 0.0000          | 32.9901         | 1.9497        | 0.0000             | 81.7316         |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1127         | 0.9785          | 1.0913          | 4.5000e-004   | 2.5000e-004        | 1.1779          |
| <b>Total</b> | <b>0.3273</b> | <b>0.0631</b> | <b>0.6946</b> | <b>1.3900e-003</b> | <b>0.1411</b> | <b>1.2500e-003</b> | <b>0.1423</b> | <b>0.0375</b>  | <b>1.1700e-003</b> | <b>0.0387</b> | <b>33.1028</b> | <b>202.8294</b> | <b>235.9322</b> | <b>1.9623</b> | <b>5.3500e-003</b> | <b>286.5855</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |             |             |          |
| Mitigated   | 0.0602  | 0.0599 | 0.6892 | 1.3700e-003 | 0.1411        | 1.0000e-003  | 0.1421     | 0.0375         | 9.2000e-004   | 0.0384      | 0.0000   | 125.8768  | 125.8768  | 7.4400e-003 | 4.4700e-003 | 127.3943 |
| Unmitigated | 0.0602  | 0.0599 | 0.6892 | 1.3700e-003 | 0.1411        | 1.0000e-003  | 0.1421     | 0.0375         | 9.2000e-004   | 0.0384      | 0.0000   | 125.8768  | 125.8768  | 7.4400e-003 | 4.4700e-003 | 127.3943 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24    | 88.24  | 378,168     | 378,168    |
| Total                            | 88.24                   | 88.24    | 88.24  | 378,168     | 378,168    |

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.562615 | 0.062423 | 0.190727 | 0.131078 | 0.023298 | 0.005874 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.023985 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

|                         | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|-------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category                | tons/yr     |             |             |             |               |              |             |                |               |             | MT/yr    |           |           |             |             |         |
| Electricity Mitigated   |             |             |             |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 72.4882   | 72.4882   | 4.6900e-003 | 5.7000e-004 | 72.7749 |
| Electricity Unmitigated |             |             |             |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 72.4882   | 72.4882   | 4.6900e-003 | 5.7000e-004 | 72.7749 |
| NaturalGas Mitigated    | 3.5000e-004 | 3.2000e-003 | 2.6900e-003 | 2.0000e-005 |               | 2.4000e-004  | 2.4000e-004 |                | 2.4000e-004   | 2.4000e-004 | 0.0000   | 3.4805    | 3.4805    | 7.0000e-005 | 6.0000e-005 | 3.5012  |
| NaturalGas Unmitigated  | 3.5000e-004 | 3.2000e-003 | 2.6900e-003 | 2.0000e-005 |               | 2.4000e-004  | 2.4000e-004 |                | 2.4000e-004   | 2.4000e-004 | 0.0000   | 3.4805    | 3.4805    | 7.0000e-005 | 6.0000e-005 | 3.5012  |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | kBTU/yr         | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 65221.5         | 3.5000e-004        | 3.2000e-003        | 2.6900e-003        | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004        |                | 2.4000e-004        | 2.4000e-004        | 0.0000        | 3.4805        | 3.4805        | 7.0000e-005        | 6.0000e-005        | 3.5012        |
| <b>Total</b>                |                 | <b>3.5000e-004</b> | <b>3.2000e-003</b> | <b>2.6900e-003</b> | <b>2.0000e-005</b> |               | <b>2.4000e-004</b> | <b>2.4000e-004</b> |                | <b>2.4000e-004</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>3.4805</b> | <b>3.4805</b> | <b>7.0000e-005</b> | <b>6.0000e-005</b> | <b>3.5012</b> |

Mitigated

|                             | Natural Gas Use | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | kBTU/yr         | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 65221.5         | 3.5000e-004        | 3.2000e-003        | 2.6900e-003        | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004        |                | 2.4000e-004        | 2.4000e-004        | 0.0000        | 3.4805        | 3.4805        | 7.0000e-005        | 6.0000e-005        | 3.5012        |
| <b>Total</b>                |                 | <b>3.5000e-004</b> | <b>3.2000e-003</b> | <b>2.6900e-003</b> | <b>2.0000e-005</b> |               | <b>2.4000e-004</b> | <b>2.4000e-004</b> |                | <b>2.4000e-004</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>3.4805</b> | <b>3.4805</b> | <b>7.0000e-005</b> | <b>6.0000e-005</b> | <b>3.5012</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                             | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kWh/yr          | MT/yr          |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 26765.2         | 6.1914         | 4.0000e-004        | 5.0000e-005        | 6.2159         |
| Unrefrigerated Warehouse-No | 286598          | 66.2968        | 4.2900e-003        | 5.2000e-004        | 66.5590        |
| <b>Total</b>                |                 | <b>72.4882</b> | <b>4.6900e-003</b> | <b>5.7000e-004</b> | <b>72.7749</b> |

**Mitigated**

|                             | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kWh/yr          | MT/yr          |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 26765.2         | 6.1914         | 4.0000e-004        | 5.0000e-005        | 6.2159         |
| Unrefrigerated Warehouse-No | 286598          | 66.2968        | 4.2900e-003        | 5.2000e-004        | 66.5590        |
| <b>Total</b>                |                 | <b>72.4882</b> | <b>4.6900e-003</b> | <b>5.7000e-004</b> | <b>72.7749</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.2667  | 3.0000e-005 | 2.7700e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |
| Unmitigated | 0.2667  | 3.0000e-005 | 2.7700e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0295        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7700e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2667</b> | <b>3.0000e-005</b> | <b>2.7700e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0295        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7700e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2667</b> | <b>3.0000e-005</b> | <b>2.7700e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4         | N2O         | CO2e   |
|-------------|-----------|-------------|-------------|--------|
| Category    | MT/yr     |             |             |        |
| Mitigated   | 1.0913    | 4.5000e-004 | 2.5000e-004 | 1.1779 |
| Unmitigated | 1.0913    | 4.5000e-004 | 2.5000e-004 | 1.1779 |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

**Unmitigated**

| Indoor/Outdoor Use          |                   | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-------------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | Mgal              | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 0.318645 / 0.0073 | 1.0913        | 4.5000e-004        | 2.5000e-004        | 1.1779        |
| <b>Total</b>                |                   | <b>1.0913</b> | <b>4.5000e-004</b> | <b>2.5000e-004</b> | <b>1.1779</b> |

**Mitigated**

| Indoor/Outdoor Use          |                   | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-------------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | Mgal              | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0 / 0             | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 0.318645 / 0.0073 | 1.0913        | 4.5000e-004        | 2.5000e-004        | 1.1779        |
| <b>Total</b>                |                   | <b>1.0913</b> | <b>4.5000e-004</b> | <b>2.5000e-004</b> | <b>1.1779</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e    |
|-------------|-----------|--------|--------|---------|
|             | MT/yr     |        |        |         |
| Mitigated   | 32.9901   | 1.9497 | 0.0000 | 81.7316 |
| Unmitigated | 32.9901   | 1.9497 | 0.0000 | 81.7316 |

**8.2 Waste by Land Use**

Unmitigated

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|-----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                    | tons           | MT/yr          |               |               |                |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Unrefrigerated Warehouse-No | 162.52         | 32.9901        | 1.9497        | 0.0000        | 81.7316        |
| <b>Total</b>                |                | <b>32.9901</b> | <b>1.9497</b> | <b>0.0000</b> | <b>81.7316</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|-----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                    | tons           | MT/yr          |               |               |                |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Unrefrigerated Warehouse-No | 162.52         | 32.9901        | 1.9497        | 0.0000        | 81.7316        |
| <b>Total</b>                |                | <b>32.9901</b> | <b>1.9497</b> | <b>0.0000</b> | <b>81.7316</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Main  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Vehicle Emission Factors -

Vehicle Emission Factors -

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblFleetMix               | HHD                                   | 8.0220e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.7300e-003   | 5.8740e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.4250e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.5600e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.8600e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.2400e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 62,710.00     | 62,713.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,410.00     | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4619        | 2.0000e-004   | 0.0222        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.3000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3406        | 0.2942        | 3.8835        | 7.8000e-003        | 0.7906        | 5.4700e-003        | 0.7961        | 0.2098         | 5.0600e-003        | 0.2149        |          | 790.9500        | 790.9500        | 0.0441        | 0.0252        | 799.5545        |
| <b>Total</b> | <b>1.8043</b> | <b>0.3120</b> | <b>3.9204</b> | <b>7.9100e-003</b> | <b>0.7906</b> | <b>6.8800e-003</b> | <b>0.7975</b> | <b>0.2098</b>  | <b>6.4700e-003</b> | <b>0.2163</b> |          | <b>812.0195</b> | <b>812.0195</b> | <b>0.0446</b> | <b>0.0256</b> | <b>820.7521</b> |

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4619        | 2.0000e-004   | 0.0222        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.3000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3406        | 0.2942        | 3.8835        | 7.8000e-003        | 0.7906        | 5.4700e-003        | 0.7961        | 0.2098         | 5.0600e-003        | 0.2149        |          | 790.9500        | 790.9500        | 0.0441        | 0.0252        | 799.5545        |
| <b>Total</b> | <b>1.8043</b> | <b>0.3120</b> | <b>3.9204</b> | <b>7.9100e-003</b> | <b>0.7906</b> | <b>6.8800e-003</b> | <b>0.7975</b> | <b>0.2098</b>  | <b>6.4700e-003</b> | <b>0.2163</b> |          | <b>812.0195</b> | <b>812.0195</b> | <b>0.0446</b> | <b>0.0256</b> | <b>820.7521</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| Category    | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
|             | lb/day |        |        |             |               |              |            |                |               |             | lb/day   |           |           |        |        |          |
| Mitigated   | 0.3406 | 0.2942 | 3.8835 | 7.8000e-003 | 0.7906        | 5.4700e-007  | 0.7961     | 0.2098         | 5.0600e-009   | 0.2149      |          | 790.9500  | 790.9500  | 0.0441 | 0.0252 | 799.5545 |
| Unmitigated | 0.3406 | 0.2942 | 3.8835 | 7.8000e-003 | 0.7906        | 5.4700e-007  | 0.7961     | 0.2098         | 5.0600e-009   | 0.2149      |          | 790.9500  | 790.9500  | 0.0441 | 0.0252 | 799.5545 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24    | 88.24  | 378,168     | 378,168    |
| Total                            | 88.24                   | 88.24    | 88.24  | 378,168     | 378,168    |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.562615 | 0.062423 | 0.190727 | 0.131078 | 0.023298 | 0.005874 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.023985 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

| Category               | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
|                        | lb/day      |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |         |
| NaturalGas Mitigated   | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |
| NaturalGas Unmitigated | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

| Land Use                         | NaturalGas Use kBTU/yr | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|----------------------------------|------------------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
|                                  |                        | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces           | 0                      | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces       | 0                      | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                      | 0                      | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No Rail | 178.689                | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                     |                        | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                                    | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|------------------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                           | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces             | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces         | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                        | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No Pallet | 0.178689        | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                       |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 1.4619 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     | 0.0504 |
| Unmitigated | 1.4619 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     | 0.0504 |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4619</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4619</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Main  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Vehicle Emission Factors -

Vehicle Emission Factors -

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblFleetMix               | HHD                                   | 8.0220e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.7300e-003   | 5.8740e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.4250e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.5600e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.8600e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.2400e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 62,710.00     | 62,713.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,410.00     | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4619        | 2.0000e-004   | 0.0222        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.3000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3360        | 0.3226        | 3.7376        | 7.4300e-003        | 0.7906        | 5.4700e-003        | 0.7961        | 0.2098         | 5.0600e-003        | 0.2149        |          | 753.1571        | 753.1571        | 0.0453        | 0.0268        | 762.2612        |
| <b>Total</b> | <b>1.7998</b> | <b>0.3403</b> | <b>3.7745</b> | <b>7.5400e-003</b> | <b>0.7906</b> | <b>6.8800e-003</b> | <b>0.7975</b> | <b>0.2098</b>  | <b>6.4700e-003</b> | <b>0.2163</b> |          | <b>774.2266</b> | <b>774.2266</b> | <b>0.0458</b> | <b>0.0271</b> | <b>783.4588</b> |

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4619        | 2.0000e-004   | 0.0222        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.3000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3360        | 0.3226        | 3.7376        | 7.4300e-003        | 0.7906        | 5.4700e-003        | 0.7961        | 0.2098         | 5.0600e-003        | 0.2149        |          | 753.1571        | 753.1571        | 0.0453        | 0.0268        | 762.2612        |
| <b>Total</b> | <b>1.7998</b> | <b>0.3403</b> | <b>3.7745</b> | <b>7.5400e-003</b> | <b>0.7906</b> | <b>6.8800e-003</b> | <b>0.7975</b> | <b>0.2098</b>  | <b>6.4700e-003</b> | <b>0.2163</b> |          | <b>774.2266</b> | <b>774.2266</b> | <b>0.0458</b> | <b>0.0271</b> | <b>783.4588</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

| Category    | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
|             | lb/day |        |        |             |               |              |            |                |               |             | lb/day   |           |           |        |        |          |
| Mitigated   | 0.3360 | 0.3226 | 3.7376 | 7.4300e-003 | 0.7906        | 5.4700e-003  | 0.7961     | 0.2098         | 5.0600e-003   | 0.2149      | 753.1571 | 753.1571  | 753.1571  | 0.0453 | 0.0268 | 762.2612 |
| Unmitigated | 0.3360 | 0.3226 | 3.7376 | 7.4300e-003 | 0.7906        | 5.4700e-003  | 0.7961     | 0.2098         | 5.0600e-003   | 0.2149      | 753.1571 | 753.1571  | 753.1571  | 0.0453 | 0.0268 | 762.2612 |

**4.2 Trip Summary Information**

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated    | Mitigated      |
|----------------------------------|-------------------------|--------------|--------------|----------------|----------------|
|                                  | Weekday                 | Saturday     | Sunday       | Annual VMT     | Annual VMT     |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                |                |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                |                |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                |                |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24        | 88.24        | 378,168        | 378,168        |
| <b>Total</b>                     | <b>88.24</b>            | <b>88.24</b> | <b>88.24</b> | <b>378,168</b> | <b>378,168</b> |

**4.3 Trip Type Information**

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.562615 | 0.062423 | 0.190727 | 0.131078 | 0.023298 | 0.005874 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.023985 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

| Category               | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
|                        | lb/day      |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |         |
| NaturalGas Mitigated   | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |
| NaturalGas Unmitigated | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

| Land Use                    | NaturalGas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
|                             | kBTU/yr        | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces      | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 178.689        | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                |                | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                                    | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|------------------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                           | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces             | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces         | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                        | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No Pallet | 0.178689        | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                       |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 1.4619 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     | 0.0504 |
| Unmitigated | 1.4619 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     | 0.0504 |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4619</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4619</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

Existing Baseline\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Trucks  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0220e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.7300e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.4250e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.5600e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.8600e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.2400e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 62,710.00     | 62,713.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,410.00     | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |
| tblVehicleTrips           | CW_TL                        | 16.60         | 40.01      |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | CW_TTP                                | 59.00         | 100.00 |
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501,687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Area         | 0.2372        | 3.0000e-005   | 2.7700e-003   | 0.0000             |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000        | 5.7200e-003     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 6.1914          | 6.1914          | 4.0000e-004   | 5.0000e-005   | 6.2159          |
| Mobile       | 0.0459        | 1.1824        | 0.2837        | 4.3800e-003        | 0.1461        | 0.0196        | 0.1657        | 0.0421         | 0.0188        | 0.0609        | 0.0000        | 426.0077        | 426.0077        | 0.0144        | 0.0610        | 444.5559        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2830</b> | <b>1.1824</b> | <b>0.2865</b> | <b>4.3800e-003</b> | <b>0.1461</b> | <b>0.0196</b> | <b>0.1657</b> | <b>0.0421</b>  | <b>0.0188</b> | <b>0.0609</b> | <b>0.0000</b> | <b>432.2044</b> | <b>432.2044</b> | <b>0.0148</b> | <b>0.0611</b> | <b>450.7775</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Area         | 0.2372        | 3.0000e-005   | 2.7700e-003   | 0.0000             |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000        | 5.7200e-003     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 6.1914          | 6.1914          | 4.0000e-004   | 5.0000e-005   | 6.2159          |
| Mobile       | 0.0459        | 1.1824        | 0.2837        | 4.3800e-003        | 0.1461        | 0.0196        | 0.1657        | 0.0421         | 0.0188        | 0.0609        | 0.0000        | 426.0077        | 426.0077        | 0.0144        | 0.0610        | 444.5559        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2830</b> | <b>1.1824</b> | <b>0.2865</b> | <b>4.3800e-003</b> | <b>0.1461</b> | <b>0.0196</b> | <b>0.1657</b> | <b>0.0421</b>  | <b>0.0188</b> | <b>0.0609</b> | <b>0.0000</b> | <b>432.2044</b> | <b>432.2044</b> | <b>0.0148</b> | <b>0.0611</b> | <b>450.7775</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| Mitigated   | 0.0459  | 1.1824 | 0.2837 | 4.3800e-003 | 0.1461        | 0.0196       | 0.1657     | 0.0421         | 0.0188        | 0.0609      | 0.0000   | 426.0077  | 426.0077  | 0.0144 | 0.0610 | 444.5559 |
| Unmitigated | 0.0459  | 1.1824 | 0.2837 | 4.3800e-003 | 0.1461        | 0.0196       | 0.1657     | 0.0421         | 0.0188        | 0.0609      | 0.0000   | 426.0077  | 426.0077  | 0.0144 | 0.0610 | 444.5559 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated    | Mitigated      |
|----------------------------------|-------------------------|--------------|--------------|----------------|----------------|
|                                  | Weekday                 | Saturday     | Sunday       | Annual VMT     | Annual VMT     |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                |                |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                |                |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                |                |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,294        | 321,294        |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,294</b> | <b>321,294</b> |

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

| Category                | ROG     | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e   |
|-------------------------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
|                         | tons/yr |     |    |     |               |              |            |                |               |             | MT/yr    |           |           |             |             |        |
| Electricity Mitigated   |         |     |    |     |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 6.1914    | 6.1914    | 4.0000e-004 | 5.0000e-005 | 6.2159 |
| Electricity Unmitigated |         |     |    |     |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 6.1914    | 6.1914    | 4.0000e-004 | 5.0000e-005 | 6.2159 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                        |        |        |        |        |  |        |        |  |        |        |        |        |        |        |        |        |
|------------------------|--------|--------|--------|--------|--|--------|--------|--|--------|--------|--------|--------|--------|--------|--------|--------|
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 |  | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

**5.2 Energy by Land Use - NaturalGas**  
**Unmitigated**

|                             | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> |

**Mitigated**

|                             | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

| Land Use                    | Electricity Use | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|---------------|--------------------|--------------------|---------------|
|                             | kWh/yr          | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 26765.2         | 6.1914        | 4.0000e-004        | 5.0000e-005        | 6.2159        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b>                |                 | <b>6.1914</b> | <b>4.0000e-004</b> | <b>5.0000e-005</b> | <b>6.2159</b> |

**Mitigated**

| Land Use                    | Electricity Use | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|---------------|--------------------|--------------------|---------------|
|                             | kWh/yr          | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 26765.2         | 6.1914        | 4.0000e-004        | 5.0000e-005        | 6.2159        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b>                |                 | <b>6.1914</b> | <b>4.0000e-004</b> | <b>5.0000e-005</b> | <b>6.2159</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.2372  | 3.0000e-005 | 2.7700e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |
| Unmitigated | 0.2372  | 3.0000e-005 | 2.7700e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0000        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7700e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2372</b> | <b>3.0000e-005</b> | <b>2.7700e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0000        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7700e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2372</b> | <b>3.0000e-005</b> | <b>2.7700e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

**Unmitigated**

| Indoor/Outdoor Use          | Total CO2 | CH4           | N2O           | CO2e          |
|-----------------------------|-----------|---------------|---------------|---------------|
| Land Use                    | Mgal      | MT/yr         |               |               |
| Other Asphalt Surfaces      | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

| Indoor/Outdoor Use          | Total CO2 | CH4           | N2O           | CO2e          |
|-----------------------------|-----------|---------------|---------------|---------------|
| Land Use                    | Mgal      | MT/yr         |               |               |
| Other Asphalt Surfaces      | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**8.2 Waste by Land Use**

Unmitigated

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Trucks  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0220e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.7300e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.4250e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.5600e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.8600e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.2400e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 62,710.00     | 62,713.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,410.00     | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |
| tblVehicleTrips           | CW_TL                        | 16.60         | 40.01      |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | CW_TTP                                | 59.00         | 100.00 |
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501.687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0222        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.3000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.2524        | 6.1536        | 1.5614        | 0.0241        | 0.8160        | 0.1078        | 0.9238        | 0.2346         | 0.1031        | 0.3377        |          | 2,583.2606        | 2,583.2606        | 0.0876        | 0.3697        | 2,695.6112        |
| <b>Total</b> | <b>1.5527</b> | <b>6.1538</b> | <b>1.5836</b> | <b>0.0241</b> | <b>0.8160</b> | <b>0.1079</b> | <b>0.9239</b> | <b>0.2346</b>  | <b>0.1032</b> | <b>0.3378</b> |          | <b>2,583.3079</b> | <b>2,583.3079</b> | <b>0.0877</b> | <b>0.3697</b> | <b>2,695.6617</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0222        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.3000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.2524        | 6.1536        | 1.5614        | 0.0241        | 0.8160        | 0.1078        | 0.9238        | 0.2346         | 0.1031        | 0.3377        |          | 2,583.2606        | 2,583.2606        | 0.0876        | 0.3697        | 2,695.6112        |
| <b>Total</b> | <b>1.5527</b> | <b>6.1538</b> | <b>1.5836</b> | <b>0.0241</b> | <b>0.8160</b> | <b>0.1079</b> | <b>0.9239</b> | <b>0.2346</b>  | <b>0.1032</b> | <b>0.3378</b> |          | <b>2,583.3079</b> | <b>2,583.3079</b> | <b>0.0877</b> | <b>0.3697</b> | <b>2,695.6617</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.2524 | 6.1536 | 1.5614 | 0.0241 | 0.8160        | 0.1078       | 0.9238     | 0.2346         | 0.1031        | 0.3377      |          | 2,583.2606 | 2,583.2606 | 0.0876 | 0.3697 | 2,695.6112 |
| Unmitigated | 0.2524 | 6.1536 | 1.5614 | 0.0241 | 0.8160        | 0.1078       | 0.9238     | 0.2346         | 0.1031        | 0.3377      |          | 2,583.2606 | 2,583.2606 | 0.0876 | 0.3697 | 2,695.6112 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated    | Mitigated      |
|----------------------------------|-------------------------|--------------|--------------|----------------|----------------|
|                                  | Weekday                 | Saturday     | Sunday       | Annual VMT     | Annual VMT     |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                |                |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                |                |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                |                |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,294        | 321,294        |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,294</b> | <b>321,294</b> |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

| Category               | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
|                        | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

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

**Unmitigated**

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e |        |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|------|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |      |        |
| Mitigated   | 1.3003 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     |      | 0.0504 |
| Unmitigated | 1.3003 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     |      | 0.0504 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e   |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|--------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |        |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     |        | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     |        | <b>0.0504</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing Baseline\_Trucks  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2021  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0220e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.7300e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.4250e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.5600e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.8600e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.2400e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 62,710.00     | 62,713.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,410.00     | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |
| tblVehicleTrips           | CW_TL                        | 16.60         | 40.01      |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | CW_TTP                                | 59.00         | 100.00 |
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501.687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0222        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.3000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.2512        | 6.3989        | 1.5667        | 0.0241        | 0.8160        | 0.1079        | 0.9239        | 0.2346         | 0.1032        | 0.3378        |          | 2,583.2581        | 2,583.2581        | 0.0875        | 0.3700        | 2,695.7081        |
| <b>Total</b> | <b>1.5515</b> | <b>6.3991</b> | <b>1.5888</b> | <b>0.0241</b> | <b>0.8160</b> | <b>0.1079</b> | <b>0.9240</b> | <b>0.2346</b>  | <b>0.1033</b> | <b>0.3379</b> |          | <b>2,583.3054</b> | <b>2,583.3054</b> | <b>0.0876</b> | <b>0.3700</b> | <b>2,695.7585</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0222        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.3000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.2512        | 6.3989        | 1.5667        | 0.0241        | 0.8160        | 0.1079        | 0.9239        | 0.2346         | 0.1032        | 0.3378        |          | 2,583.2581        | 2,583.2581        | 0.0875        | 0.3700        | 2,695.7081        |
| <b>Total</b> | <b>1.5515</b> | <b>6.3991</b> | <b>1.5888</b> | <b>0.0241</b> | <b>0.8160</b> | <b>0.1079</b> | <b>0.9240</b> | <b>0.2346</b>  | <b>0.1033</b> | <b>0.3379</b> |          | <b>2,583.3054</b> | <b>2,583.3054</b> | <b>0.0876</b> | <b>0.3700</b> | <b>2,695.7585</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.2512 | 6.3989 | 1.5667 | 0.0241 | 0.8160        | 0.1079       | 0.9239     | 0.2346         | 0.1032        | 0.3378      |          | 2,583.2581 | 2,583.2581 | 0.0875 | 0.3700 | 2,695.7081 |
| Unmitigated | 0.2512 | 6.3989 | 1.5667 | 0.0241 | 0.8160        | 0.1079       | 0.9239     | 0.2346         | 0.1032        | 0.3378      |          | 2,583.2581 | 2,583.2581 | 0.0875 | 0.3700 | 2,695.7081 |

**4.2 Trip Summary Information**

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|--------------|--------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday     | Sunday       |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                        |                      |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                        |                      |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,294                | 321,294              |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,294</b>         | <b>321,294</b>       |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.3 Trip Type Information**

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Other Non-Asphalt Surfaces       | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Parking Lot                      | 0.548812 | 0.060892 | 0.186048 | 0.127862 | 0.022726 | 0.005730 | 0.010818 | 0.008022 | 0.000956 | 0.000624 | 0.023397 | 0.000686 | 0.003425 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

| Category                | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|-------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
|                         | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| Natural Gas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Natural Gas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|                                    | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                           | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces             | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces         | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                        | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No Pallet | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                       |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                                    | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                           | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces             | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces         | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                        | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No Pallet | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                       |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e |        |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|------|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |      |        |
| Mitigated   | 1.3003 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     |      | 0.0504 |
| Unmitigated | 1.3003 | 2.0000e-004 | 0.0222 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.3000e-004 |     |      | 0.0504 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e   |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|--------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |        |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     |        | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     |        | <b>0.0504</b> |

Existing Baseline\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0700e-003   | 2.0000e-004        | 0.0222        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.3000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0222</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.3000e-004</b> |     | <b>0.0504</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Existing\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing\_Main**  
**Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Existing\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblEnergyUse              | LightingElect                         | 0.88          | 0.88        |
| tblFleetMix               | HHD                                   | 8.0320e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.3970e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.4000e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.9200e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.1700e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,412.00     | 0.00        |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |                    |                 |
| Area         | 0.2667        | 3.0000e-005   | 2.7600e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000             | 5.7200e-003     |
| Energy       | 3.5000e-004   | 3.2000e-003   | 2.6900e-003   | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004   |                | 2.4000e-004        | 2.4000e-004   | 0.0000         | 75.9406         | 75.9406         | 4.7600e-003   | 6.3000e-004        | 76.2478         |
| Mobile       | 0.0577        | 0.0542        | 0.6469        | 1.3300e-003        | 0.1411        | 9.4000e-004        | 0.1420        | 0.0375         | 8.7000e-004        | 0.0384        | 0.0000         | 122.5073        | 122.5073        | 7.1000e-003   | 4.2100e-003        | 123.9408        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 32.9901        | 0.0000          | 32.9901         | 1.9497        | 0.0000             | 81.7316         |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1127         | 0.9785          | 1.0913          | 4.5000e-004   | 2.5000e-004        | 1.1779          |
| <b>Total</b> | <b>0.3247</b> | <b>0.0574</b> | <b>0.6524</b> | <b>1.3500e-003</b> | <b>0.1411</b> | <b>1.1900e-003</b> | <b>0.1423</b> | <b>0.0375</b>  | <b>1.1200e-003</b> | <b>0.0386</b> | <b>33.1028</b> | <b>199.4317</b> | <b>232.5346</b> | <b>1.9620</b> | <b>5.0900e-003</b> | <b>283.1038</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |                    |                 |
| Area         | 0.2667        | 3.0000e-005   | 2.7600e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000             | 5.7200e-003     |
| Energy       | 3.5000e-004   | 3.2000e-003   | 2.6900e-003   | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004   |                | 2.4000e-004        | 2.4000e-004   | 0.0000         | 75.9406         | 75.9406         | 4.7600e-003   | 6.3000e-004        | 76.2478         |
| Mobile       | 0.0577        | 0.0542        | 0.6469        | 1.3300e-003        | 0.1411        | 9.4000e-004        | 0.1420        | 0.0375         | 8.7000e-004        | 0.0384        | 0.0000         | 122.5073        | 122.5073        | 7.1000e-003   | 4.2100e-003        | 123.9408        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 32.9901        | 0.0000          | 32.9901         | 1.9497        | 0.0000             | 81.7316         |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1127         | 0.9785          | 1.0913          | 4.5000e-004   | 2.5000e-004        | 1.1779          |
| <b>Total</b> | <b>0.3247</b> | <b>0.0574</b> | <b>0.6524</b> | <b>1.3500e-003</b> | <b>0.1411</b> | <b>1.1900e-003</b> | <b>0.1423</b> | <b>0.0375</b>  | <b>1.1200e-003</b> | <b>0.0386</b> | <b>33.1028</b> | <b>199.4317</b> | <b>232.5346</b> | <b>1.9620</b> | <b>5.0900e-003</b> | <b>283.1038</b> |

Existing\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |             |             |          |
| Mitigated   | 0.0577  | 0.0542 | 0.6469 | 1.3300e-003 | 0.1411        | 9.4000e-004  | 0.1420     | 0.0375         | 8.7000e-004   | 0.0384      | 0.0000   | 122.5073  | 122.5073  | 7.1000e-003 | 4.2100e-003 | 123.9408 |
| Unmitigated | 0.0577  | 0.0542 | 0.6469 | 1.3300e-003 | 0.1411        | 9.4000e-004  | 0.1420     | 0.0375         | 8.7000e-004   | 0.0384      | 0.0000   | 122.5073  | 122.5073  | 7.1000e-003 | 4.2100e-003 | 123.9408 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|----------|--------|------------------------|----------------------|
|                                  | Weekday                 | Saturday | Sunday |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |                        |                      |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |                        |                      |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24    | 88.24  | 378,186                | 378,186              |
| Total                            | 88.24                   | 88.24    | 88.24  | 378,186                | 378,186              |

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Existing\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

|                         | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|-------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category                | tons/yr     |             |             |             |               |              |             |                |               |             | MT/yr    |           |           |             |             |         |
| Electricity Mitigated   |             |             |             |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 72.4601   | 72.4601   | 4.6900e-003 | 5.7000e-004 | 72.7467 |
| Electricity Unmitigated |             |             |             |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 72.4601   | 72.4601   | 4.6900e-003 | 5.7000e-004 | 72.7467 |
| NaturalGas Mitigated    | 3.5000e-004 | 3.2000e-003 | 2.6900e-003 | 2.0000e-005 |               | 2.4000e-004  | 2.4000e-004 |                | 2.4000e-004   | 2.4000e-004 | 0.0000   | 3.4805    | 3.4805    | 7.0000e-005 | 6.0000e-005 | 3.5012  |
| NaturalGas Unmitigated  | 3.5000e-004 | 3.2000e-003 | 2.6900e-003 | 2.0000e-005 |               | 2.4000e-004  | 2.4000e-004 |                | 2.4000e-004   | 2.4000e-004 | 0.0000   | 3.4805    | 3.4805    | 7.0000e-005 | 6.0000e-005 | 3.5012  |

Existing\_Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | kBTU/yr         | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 65221.5         | 3.5000e-004        | 3.2000e-003        | 2.6900e-003        | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004        |                | 2.4000e-004        | 2.4000e-004        | 0.0000        | 3.4805        | 3.4805        | 7.0000e-005        | 6.0000e-005        | 3.5012        |
| <b>Total</b>                |                 | <b>3.5000e-004</b> | <b>3.2000e-003</b> | <b>2.6900e-003</b> | <b>2.0000e-005</b> |               | <b>2.4000e-004</b> | <b>2.4000e-004</b> |                | <b>2.4000e-004</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>3.4805</b> | <b>3.4805</b> | <b>7.0000e-005</b> | <b>6.0000e-005</b> | <b>3.5012</b> |

Mitigated

|                             | Natural Gas Use | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | kBTU/yr         | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 0               | 0.0000             | 0.0000             | 0.0000             | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated Warehouse-No | 65221.5         | 3.5000e-004        | 3.2000e-003        | 2.6900e-003        | 2.0000e-005        |               | 2.4000e-004        | 2.4000e-004        |                | 2.4000e-004        | 2.4000e-004        | 0.0000        | 3.4805        | 3.4805        | 7.0000e-005        | 6.0000e-005        | 3.5012        |
| <b>Total</b>                |                 | <b>3.5000e-004</b> | <b>3.2000e-003</b> | <b>2.6900e-003</b> | <b>2.0000e-005</b> |               | <b>2.4000e-004</b> | <b>2.4000e-004</b> |                | <b>2.4000e-004</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>3.4805</b> | <b>3.4805</b> | <b>7.0000e-005</b> | <b>6.0000e-005</b> | <b>3.5012</b> |

Existing\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                             | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kWh/yr          | MT/yr          |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 26643.5         | 6.1633         | 4.0000e-004        | 5.0000e-005        | 6.1876         |
| Unrefrigerated Warehouse-No | 286598          | 66.2968        | 4.2900e-003        | 5.2000e-004        | 66.5590        |
| <b>Total</b>                |                 | <b>72.4601</b> | <b>4.6900e-003</b> | <b>5.7000e-004</b> | <b>72.7467</b> |

**Mitigated**

|                             | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kWh/yr          | MT/yr          |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 26643.5         | 6.1633         | 4.0000e-004        | 5.0000e-005        | 6.1876         |
| Unrefrigerated Warehouse-No | 286598          | 66.2968        | 4.2900e-003        | 5.2000e-004        | 66.5590        |
| <b>Total</b>                |                 | <b>72.4601</b> | <b>4.6900e-003</b> | <b>5.7000e-004</b> | <b>72.7467</b> |

Existing\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.2667  | 3.0000e-005 | 2.7600e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |
| Unmitigated | 0.2667  | 3.0000e-005 | 2.7600e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0295        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7600e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2667</b> | <b>3.0000e-005</b> | <b>2.7600e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

Existing\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0295        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7600e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2667</b> | <b>3.0000e-005</b> | <b>2.7600e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.7200e-003</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4         | N2O         | CO2e   |
|-------------|-----------|-------------|-------------|--------|
| Category    | MT/yr     |             |             |        |
| Mitigated   | 1.0913    | 4.5000e-004 | 2.5000e-004 | 1.1779 |
| Unmitigated | 1.0913    | 4.5000e-004 | 2.5000e-004 | 1.1779 |

Existing\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

**Unmitigated**

| Indoor/Outdoor Use          | Total CO2         | CH4           | N2O                | CO2e               |
|-----------------------------|-------------------|---------------|--------------------|--------------------|
| Land Use                    | Mgal              | MT/yr         |                    |                    |
| Other Asphalt Surfaces      | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Other Non-Asphalt Surfaces  | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Parking Lot                 | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Unrefrigerated Warehouse-No | 0.318645 / 0.0073 | 1.0913        | 4.5000e-004        | 2.5000e-004        |
| <b>Total</b>                |                   | <b>1.0913</b> | <b>4.5000e-004</b> | <b>2.5000e-004</b> |

**Mitigated**

| Indoor/Outdoor Use          | Total CO2         | CH4           | N2O                | CO2e               |
|-----------------------------|-------------------|---------------|--------------------|--------------------|
| Land Use                    | Mgal              | MT/yr         |                    |                    |
| Other Asphalt Surfaces      | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Other Non-Asphalt Surfaces  | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Parking Lot                 | 0 / 0             | 0.0000        | 0.0000             | 0.0000             |
| Unrefrigerated Warehouse-No | 0.318645 / 0.0073 | 1.0913        | 4.5000e-004        | 2.5000e-004        |
| <b>Total</b>                |                   | <b>1.0913</b> | <b>4.5000e-004</b> | <b>2.5000e-004</b> |

Existing\_Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e    |
|-------------|-----------|--------|--------|---------|
|             | MT/yr     |        |        |         |
| Mitigated   | 32.9901   | 1.9497 | 0.0000 | 81.7316 |
| Unmitigated | 32.9901   | 1.9497 | 0.0000 | 81.7316 |

**8.2 Waste by Land Use**

Unmitigated

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|-----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                    | tons           | MT/yr          |               |               |                |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Unrefrigerated Warehouse-No | 162.52         | 32.9901        | 1.9497        | 0.0000        | 81.7316        |
| <b>Total</b>                |                | <b>32.9901</b> | <b>1.9497</b> | <b>0.0000</b> | <b>81.7316</b> |

Existing\_Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e           |
|-----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use                    | tons           | MT/yr          |               |               |                |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Unrefrigerated Warehouse-No | 162.52         | 32.9901        | 1.9497        | 0.0000        | 81.7316        |
| <b>Total</b>                |                | <b>32.9901</b> | <b>1.9497</b> | <b>0.0000</b> | <b>81.7316</b> |

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing\_Main**

**Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblEnergyUse              | LightingElect                         | 0.88          | 0.88        |
| tblFleetMix               | HHD                                   | 8.0320e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.3970e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.4000e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.9200e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.1700e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,412.00     | 0.00        |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing\_Main - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4618        | 2.0000e-004   | 0.0221        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.2000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3261        | 0.2664        | 3.6389        | 7.5600e-003        | 0.7907        | 5.1700e-003        | 0.7959        | 0.2098         | 4.7800e-003        | 0.2146        |          | 769.6147        | 769.6147        | 0.0421        | 0.0238        | 777.7519        |
| <b>Total</b> | <b>1.7899</b> | <b>0.2841</b> | <b>3.6757</b> | <b>7.6700e-003</b> | <b>0.7907</b> | <b>6.5800e-003</b> | <b>0.7973</b> | <b>0.2098</b>  | <b>6.1900e-003</b> | <b>0.2160</b> |          | <b>790.6842</b> | <b>790.6842</b> | <b>0.0426</b> | <b>0.0242</b> | <b>798.9495</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4618        | 2.0000e-004   | 0.0221        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.2000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3261        | 0.2664        | 3.6389        | 7.5600e-003        | 0.7907        | 5.1700e-003        | 0.7959        | 0.2098         | 4.7800e-003        | 0.2146        |          | 769.6147        | 769.6147        | 0.0421        | 0.0238        | 777.7519        |
| <b>Total</b> | <b>1.7899</b> | <b>0.2841</b> | <b>3.6757</b> | <b>7.6700e-003</b> | <b>0.7907</b> | <b>6.5800e-003</b> | <b>0.7973</b> | <b>0.2098</b>  | <b>6.1900e-003</b> | <b>0.2160</b> |          | <b>790.6842</b> | <b>790.6842</b> | <b>0.0426</b> | <b>0.0242</b> | <b>798.9495</b> |

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

Existing\_Main - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| Category    | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
|             | lb/day |        |        |             |               |              |            |                |               |             | lb/day   |           |           |        |        |          |
| Mitigated   | 0.3261 | 0.2664 | 3.6389 | 7.5600e-003 | 0.7907        | 5.1700e-002  | 0.7959     | 0.2098         | 4.7800e-002   | 0.2146      |          | 769.6147  | 769.6147  | 0.0421 | 0.0238 | 777.7519 |
| Unmitigated | 0.3261 | 0.2664 | 3.6389 | 7.5600e-003 | 0.7907        | 5.1700e-002  | 0.7959     | 0.2098         | 4.7800e-002   | 0.2146      |          | 769.6147  | 769.6147  | 0.0421 | 0.0238 | 777.7519 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24    | 88.24  | 378,186     | 378,186    |
| Total                            | 88.24                   | 88.24    | 88.24  | 378,186     | 378,186    |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

|                         | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category                | lb/day      |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |         |
| Natural Gas Mitigated   | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |
| Natural Gas Unmitigated | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |

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

**Unmitigated**

|                             | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 178.689         | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                                    | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|------------------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                           | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces             | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces         | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                        | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No Pallet | 0.178689        | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                       |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 1.4618 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |
| Unmitigated | 1.4618 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.2000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4618</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |     | <b>0.0504</b> |

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.2000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4618</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |     | <b>0.0504</b> |

Existing\_Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing\_Main**

Los Angeles-South Coast County, Winter

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Based on parking lot only. See assumptions in AQ/GHG appendix for details.

Energy Use -

Water And Wastewater - See assumptions in AQ/GHG appendix for details.

Solid Waste - See assumptions in AQ/GHG appendix for details.

Existing\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                           | Default Value | New Value   |
|---------------------------|---------------------------------------|---------------|-------------|
| tblAreaCoating            | Area_Parking                          | 9567          | 1825        |
| tblEnergyUse              | LightingElect                         | 0.88          | 0.88        |
| tblFleetMix               | HHD                                   | 8.0320e-003   | 0.00        |
| tblFleetMix               | LDA                                   | 0.55          | 0.56        |
| tblFleetMix               | LDT1                                  | 0.06          | 0.06        |
| tblFleetMix               | LDT2                                  | 0.19          | 0.19        |
| tblFleetMix               | LHD1                                  | 0.02          | 0.02        |
| tblFleetMix               | LHD2                                  | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix               | MCY                                   | 0.02          | 0.02        |
| tblFleetMix               | MDV                                   | 0.13          | 0.13        |
| tblFleetMix               | MH                                    | 3.3970e-003   | 0.00        |
| tblFleetMix               | MHD                                   | 0.01          | 0.00        |
| tblFleetMix               | OBUS                                  | 9.4000e-004   | 0.00        |
| tblFleetMix               | SBUS                                  | 6.9200e-004   | 0.00        |
| tblFleetMix               | UBUS                                  | 6.1700e-004   | 0.00        |
| tblLandUse                | LandUseSquareFeet                     | 46,400.00     | 30,415.00   |
| tblLandUse                | LandUseSquareFeet                     | 128,937.60    | 129,028.00  |
| tblLandUse                | LandUseSquareFeet                     | 34,412.00     | 0.00        |
| tblLandUse                | LotAcreage                            | 1.04          | 0.70        |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98      |
| tblSolidWaste             | SolidWasteGenerationRate              | 58.95         | 162.52      |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.41        |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.41        |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00      |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00        |
| tblWater                  | IndoorWaterUseRate                    | 14,501,687.50 | 318,645.00  |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 7,300.00    |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00        |

Existing\_Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4618        | 2.0000e-004   | 0.0221        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.2000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3217        | 0.2921        | 3.5107        | 7.2000e-003        | 0.7907        | 5.1700e-003        | 0.7959        | 0.2098         | 4.7800e-003        | 0.2146        |          | 733.0573        | 733.0573        | 0.0432        | 0.0253        | 741.6609        |
| <b>Total</b> | <b>1.7855</b> | <b>0.3099</b> | <b>3.5475</b> | <b>7.3100e-003</b> | <b>0.7907</b> | <b>6.5800e-003</b> | <b>0.7973</b> | <b>0.2098</b>  | <b>6.1900e-003</b> | <b>0.2160</b> |          | <b>754.1268</b> | <b>754.1268</b> | <b>0.0437</b> | <b>0.0256</b> | <b>762.8585</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Area         | 1.4618        | 2.0000e-004   | 0.0221        | 0.0000             |               | 8.0000e-005        | 8.0000e-005   |                | 8.0000e-005        | 8.0000e-005   |          | 0.0473          | 0.0473          | 1.2000e-004   |               | 0.0504          |
| Energy       | 1.9300e-003   | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003   |                | 1.3300e-003        | 1.3300e-003   |          | 21.0223         | 21.0223         | 4.0000e-004   | 3.9000e-004   | 21.1472         |
| Mobile       | 0.3217        | 0.2921        | 3.5107        | 7.2000e-003        | 0.7907        | 5.1700e-003        | 0.7959        | 0.2098         | 4.7800e-003        | 0.2146        |          | 733.0573        | 733.0573        | 0.0432        | 0.0253        | 741.6609        |
| <b>Total</b> | <b>1.7855</b> | <b>0.3099</b> | <b>3.5475</b> | <b>7.3100e-003</b> | <b>0.7907</b> | <b>6.5800e-003</b> | <b>0.7973</b> | <b>0.2098</b>  | <b>6.1900e-003</b> | <b>0.2160</b> |          | <b>754.1268</b> | <b>754.1268</b> | <b>0.0437</b> | <b>0.0256</b> | <b>762.8585</b> |

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

Existing\_Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| Category    | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
|             | lb/day |        |        |             |               |              |            |                |               |             | lb/day   |           |           |        |        |          |
| Mitigated   | 0.3217 | 0.2921 | 3.5107 | 7.2000e-003 | 0.7907        | 5.1700e-002  | 0.7959     | 0.2098         | 4.7800e-002   | 0.2146      |          | 733.0573  | 733.0573  | 0.0432 | 0.0253 | 741.6609 |
| Unmitigated | 0.3217 | 0.2921 | 3.5107 | 7.2000e-003 | 0.7907        | 5.1700e-002  | 0.7959     | 0.2098         | 4.7800e-002   | 0.2146      |          | 733.0573  | 733.0573  | 0.0432 | 0.0253 | 741.6609 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 88.24                   | 88.24    | 88.24  | 378,186     | 378,186    |
| Total                            | 88.24                   | 88.24    | 88.24  | 378,186     | 378,186    |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

Existing\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

|                         | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category                | lb/day      |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |         |
| Natural Gas Mitigated   | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |
| Natural Gas Unmitigated | 1.9300e-003 | 0.0175 | 0.0147 | 1.1000e-004 |               | 1.3300e-003  | 1.3300e-003 |                | 1.3300e-003   | 1.3300e-003 |          | 21.0223   | 21.0223   | 4.0000e-004 | 3.9000e-004 | 21.1472 |

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

|                             | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 178.689         | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

Existing\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                                    | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|------------------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                           | kBTU/yr         | lb/day             |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                |                |                    |                    |                |
| Other Asphalt Surfaces             | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces         | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                        | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No Pallet | 0.178689        | 1.9300e-003        | 0.0175        | 0.0147        | 1.1000e-004        |               | 1.3300e-003        | 1.3300e-003        |                | 1.3300e-003        | 1.3300e-003        |          | 21.0223        | 21.0223        | 4.0000e-004        | 3.9000e-004        | 21.1472        |
| <b>Total</b>                       |                 | <b>1.9300e-003</b> | <b>0.0175</b> | <b>0.0147</b> | <b>1.1000e-004</b> |               | <b>1.3300e-003</b> | <b>1.3300e-003</b> |                | <b>1.3300e-003</b> | <b>1.3300e-003</b> |          | <b>21.0223</b> | <b>21.0223</b> | <b>4.0000e-004</b> | <b>3.9000e-004</b> | <b>21.1472</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 1.4618 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |
| Unmitigated | 1.4618 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |

Existing\_Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.2000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4618</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |     | <b>0.0504</b> |

Mitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.1616        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.2000e-004        |     | 0.0504        |
| <b>Total</b>          | <b>1.4618</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |     | <b>0.0504</b> |

Existing\_Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing\_Trucks**

**Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0320e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.9120e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.3970e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.4000e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.9200e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.1700e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,412.00     | 0.00       |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |
| tblVehicleTrips           | CW_TL                        | 16.60         | 40.01      |
| tblVehicleTrips           | CW_TTP                       | 59.00         | 100.00     |

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501,687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Area         | 0.2372        | 3.0000e-005   | 2.7600e-003   | 0.0000             |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000        | 5.7200e-003     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 6.1914          | 6.1914          | 4.0000e-004   | 5.0000e-005   | 6.2159          |
| Mobile       | 0.0281        | 0.9658        | 0.2211        | 4.2400e-003        | 0.1461        | 0.0106        | 0.1567        | 0.0421         | 0.0101        | 0.0523        | 0.0000        | 413.7921        | 413.7921        | 0.0138        | 0.0593        | 431.7933        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2653</b> | <b>0.9658</b> | <b>0.2239</b> | <b>4.2400e-003</b> | <b>0.1461</b> | <b>0.0106</b> | <b>0.1567</b> | <b>0.0421</b>  | <b>0.0102</b> | <b>0.0523</b> | <b>0.0000</b> | <b>419.9889</b> | <b>419.9889</b> | <b>0.0142</b> | <b>0.0593</b> | <b>438.0149</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                 |                 |               |               |                 |
| Area         | 0.2372        | 3.0000e-005   | 2.7600e-003   | 0.0000             |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 5.3600e-003     | 5.3600e-003     | 1.0000e-005   | 0.0000        | 5.7200e-003     |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 6.1914          | 6.1914          | 4.0000e-004   | 5.0000e-005   | 6.2159          |
| Mobile       | 0.0281        | 0.9658        | 0.2211        | 4.2400e-003        | 0.1461        | 0.0106        | 0.1567        | 0.0421         | 0.0101        | 0.0523        | 0.0000        | 413.7921        | 413.7921        | 0.0138        | 0.0593        | 431.7933        |
| Waste        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Water        |               |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b> | <b>0.2653</b> | <b>0.9658</b> | <b>0.2239</b> | <b>4.2400e-003</b> | <b>0.1461</b> | <b>0.0106</b> | <b>0.1567</b> | <b>0.0421</b>  | <b>0.0102</b> | <b>0.0523</b> | <b>0.0000</b> | <b>419.9889</b> | <b>419.9889</b> | <b>0.0142</b> | <b>0.0593</b> | <b>438.0149</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| Mitigated   | 0.0281  | 0.9658 | 0.2211 | 4.2400e-003 | 0.1461        | 0.0106       | 0.1567     | 0.0421         | 0.0101        | 0.0523      | 0.0000   | 413.7921  | 413.7921  | 0.0138 | 0.0593 | 431.7933 |
| Unmitigated | 0.0281  | 0.9658 | 0.2211 | 4.2400e-003 | 0.1461        | 0.0106       | 0.1567     | 0.0421         | 0.0101        | 0.0523      | 0.0000   | 413.7921  | 413.7921  | 0.0138 | 0.0593 | 431.7933 |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|--------------|--------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday     | Sunday       |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                        |                      |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                        |                      |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,309                | 321,309              |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,309</b>         | <b>321,309</b>       |

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

|                         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e   |
|-------------------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category                | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |             |             |        |
| Electricity Mitigated   |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 6.1914    | 6.1914    | 4.0000e-004 | 5.0000e-005 | 6.2159 |
| Electricity Unmitigated |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 6.1914    | 6.1914    | 4.0000e-004 | 5.0000e-005 | 6.2159 |
| NaturalGas Mitigated    | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000 |
| NaturalGas Unmitigated  | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000 |

5.2 Energy by Land Use - NaturalGas

Unmitigated

|                               | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                      | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Other Asphalt Surfaces        | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                   | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No P | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                  |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Mitigated**

| Land Use                    | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr         | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> |

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

| Land Use                    | Electricity Use | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|-----------------|---------------|--------------------|--------------------|---------------|
| Land Use                    | kWh/yr          | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 26765.2         | 6.1914        | 4.0000e-004        | 5.0000e-005        | 6.2159        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b>                |                 | <b>6.1914</b> | <b>4.0000e-004</b> | <b>5.0000e-005</b> | <b>6.2159</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

| Land Use                    | Electricity Use<br>kWh/yr | Total CO2     | CH4                | N2O                | CO2e          |
|-----------------------------|---------------------------|---------------|--------------------|--------------------|---------------|
|                             |                           | MT/yr         |                    |                    |               |
| Other Asphalt Surfaces      | 0                         | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt Surfaces  | 0                         | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                 | 26765.2                   | 6.1914        | 4.0000e-004        | 5.0000e-005        | 6.2159        |
| Unrefrigerated Warehouse-No | 0                         | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| <b>Total</b>                |                           | <b>6.1914</b> | <b>4.0000e-004</b> | <b>5.0000e-005</b> | <b>6.2159</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

| Category    | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
|             | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.2372  | 3.0000e-005 | 2.7600e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |
| Unmitigated | 0.2372  | 3.0000e-005 | 2.7600e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 5.3600e-003 | 5.3600e-003 | 1.0000e-005 | 0.0000 | 5.7200e-003 |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e   |                    |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |        |                    |
| Architectural Coating | 0.0000        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7600e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        |        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2372</b> | <b>3.0000e-005</b> | <b>2.7600e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> |        | <b>5.7200e-003</b> |

Mitigated

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e   |                    |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |        |                    |
| Architectural Coating | 0.0000        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Consumer Products     | 0.2369        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Landscaping           | 2.6000e-004   | 3.0000e-005        | 2.7600e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 5.3600e-003        | 5.3600e-003        | 1.0000e-005        | 0.0000        |        | 5.7200e-003        |
| <b>Total</b>          | <b>0.2372</b> | <b>3.0000e-005</b> | <b>2.7600e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>5.3600e-003</b> | <b>5.3600e-003</b> | <b>1.0000e-005</b> | <b>0.0000</b> |        | <b>5.7200e-003</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.0 Water Detail

7.1 Mitigation Measures Water

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

7.2 Water by Land Use

Unmitigated

|                             | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                    | Mgal               | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                    | Mgal               | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**Category/Year**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing\_Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Existing\_Trucks**

**Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                |                            |                                |       |                                  |       |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                      | <b>Wind Speed (m/s)</b>        | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>            | 9                          |                                |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>         | Southern California Edison |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 509.98                     | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0320e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.9120e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.3970e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.4000e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.9200e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.1700e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,412.00     | 0.00       |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |
| tblVehicleTrips           | CW_TL                        | 16.60         | 40.01      |
| tblVehicleTrips           | CW_TTP                       | 59.00         | 100.00     |

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501,687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0221        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.2000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.1550        | 5.0278        | 1.2161        | 0.0234        | 0.8161        | 0.0583        | 0.8744        | 0.2346         | 0.0558        | 0.2904        |          | 2,509.1168        | 2,509.1168        | 0.0836        | 0.3589        | 2,618.1635        |
| <b>Total</b> | <b>1.4552</b> | <b>5.0280</b> | <b>1.2382</b> | <b>0.0234</b> | <b>0.8161</b> | <b>0.0584</b> | <b>0.8745</b> | <b>0.2346</b>  | <b>0.0559</b> | <b>0.2905</b> |          | <b>2,509.1641</b> | <b>2,509.1641</b> | <b>0.0838</b> | <b>0.3589</b> | <b>2,618.2139</b> |

Existing\_Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0221        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.2000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.1550        | 5.0278        | 1.2161        | 0.0234        | 0.8161        | 0.0583        | 0.8744        | 0.2346         | 0.0558        | 0.2904        |          | 2,509.1168        | 2,509.1168        | 0.0836        | 0.3589        | 2,618.1635        |
| <b>Total</b> | <b>1.4552</b> | <b>5.0280</b> | <b>1.2382</b> | <b>0.0234</b> | <b>0.8161</b> | <b>0.0584</b> | <b>0.8745</b> | <b>0.2346</b>  | <b>0.0559</b> | <b>0.2905</b> |          | <b>2,509.1641</b> | <b>2,509.1641</b> | <b>0.0838</b> | <b>0.3589</b> | <b>2,618.2139</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.1550 | 5.0278 | 1.2161 | 0.0234 | 0.8161        | 0.0583       | 0.8744     | 0.2346         | 0.0558        | 0.2904      |          | 2,509.1168 | 2,509.1168 | 0.0836 | 0.3589 | 2,618.1635 |
| Unmitigated | 0.1550 | 5.0278 | 1.2161 | 0.0234 | 0.8161        | 0.0583       | 0.8744     | 0.2346         | 0.0558        | 0.2904      |          | 2,509.1168 | 2,509.1168 | 0.0836 | 0.3589 | 2,618.1635 |

Existing\_Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated    | Mitigated      |
|----------------------------------|-------------------------|--------------|--------------|----------------|----------------|
|                                  | Weekday                 | Saturday     | Sunday       | Annual VMT     | Annual VMT     |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                |                |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                |                |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                |                |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,309        | 321,309        |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,309</b> | <b>321,309</b> |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

| Category               | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
|                        | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|                             | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                             | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e |        |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|------|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |      |        |
| Mitigated   | 1.3003 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     |      | 0.0504 |
| Unmitigated | 1.3003 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     |      | 0.0504 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e   |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|--------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |        |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          | 0.0473        | 0.0473        | 1.2000e-004        |     |        | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |     |        | <b>0.0504</b> |

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2 | Total CO2     | CH4           | N2O                | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------|---------------|---------------|--------------------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |           |               |               |                    |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          |           | 0.0473        | 0.0473        | 1.2000e-004        | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          |           | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> | <b>0.0504</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Existing\_Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Existing\_Trucks - Los Angeles-South Coast County, Winter  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**  
**Existing\_Trucks**  
 Los Angeles-South Coast County, Winter

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 62.71  | 1000sqft | 1.44        | 62,713.00          | 0          |
| Parking Lot                      | 116.00 | Space    | 0.70        | 30,415.00          | 0          |
| Other Asphalt Surfaces           | 2.96   | Acre     | 2.96        | 129,028.00         | 0          |
| Other Non-Asphalt Surfaces       | 34.41  | 1000sqft | 0.79        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity factor 512 lbs/MWh per SCE 2020 Sustainability Report. See assumptions file in AQ/GHG appendix for details.

Land Use - Based on existing uses and project description. See assumptions file in AQ/GHG appendix.

Construction Phase -

Vehicle Trips - See assumptions in AQ/GHG appendix for details.

Fleet Mix - See assumptions in AQ/GHG appendix for details.

Area Coating - Modeling mobile-source emissions only.

Energy Use - Modeling mobile-source emissions only.

Water And Wastewater - Modeling mobile-source emissions only.

Solid Waste - Modeling mobile-source emissions only.

Existing\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name                | Column Name                  | Default Value | New Value  |
|---------------------------|------------------------------|---------------|------------|
| tblAreaCoating            | Area_Nonresidential_Exterior | 31357         | 0          |
| tblAreaCoating            | Area_Nonresidential_Interior | 94070         | 0          |
| tblAreaCoating            | Area_Parking                 | 9567          | 0          |
| tblEnergyUse              | LightingElect                | 2.38          | 0.00       |
| tblEnergyUse              | NT24E                        | 1.34          | 0.00       |
| tblEnergyUse              | NT24NG                       | 0.03          | 0.00       |
| tblEnergyUse              | T24E                         | 0.85          | 0.00       |
| tblEnergyUse              | T24NG                        | 1.01          | 0.00       |
| tblFleetMix               | HHD                          | 8.0320e-003   | 0.50       |
| tblFleetMix               | LDA                          | 0.55          | 0.00       |
| tblFleetMix               | LDT1                         | 0.06          | 0.00       |
| tblFleetMix               | LDT2                         | 0.19          | 0.00       |
| tblFleetMix               | LHD1                         | 0.02          | 0.00       |
| tblFleetMix               | LHD2                         | 5.9120e-003   | 0.00       |
| tblFleetMix               | MCY                          | 0.02          | 0.00       |
| tblFleetMix               | MDV                          | 0.13          | 0.00       |
| tblFleetMix               | MH                           | 3.3970e-003   | 0.00       |
| tblFleetMix               | MHD                          | 0.01          | 0.50       |
| tblFleetMix               | OBUS                         | 9.4000e-004   | 0.00       |
| tblFleetMix               | SBUS                         | 6.9200e-004   | 0.00       |
| tblFleetMix               | UBUS                         | 6.1700e-004   | 0.00       |
| tblLandUse                | LandUseSquareFeet            | 46,400.00     | 30,415.00  |
| tblLandUse                | LandUseSquareFeet            | 128,937.60    | 129,028.00 |
| tblLandUse                | LandUseSquareFeet            | 34,412.00     | 0.00       |
| tblLandUse                | LotAcreage                   | 1.04          | 0.70       |
| tblProjectCharacteristics | CO2IntensityFactor           | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate     | 58.95         | 0.00       |
| tblVehicleTrips           | CNW_TTP                      | 41.00         | 0.00       |

Existing\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                 |                                       |               |        |
|-----------------|---------------------------------------|---------------|--------|
| tblVehicleTrips | CW_TL                                 | 16.60         | 40.01  |
| tblVehicleTrips | CW_TTP                                | 59.00         | 100.00 |
| tblVehicleTrips | DV_TP                                 | 5.00          | 0.00   |
| tblVehicleTrips | PB_TP                                 | 3.00          | 0.00   |
| tblVehicleTrips | PR_TP                                 | 92.00         | 100.00 |
| tblVehicleTrips | ST_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | SU_TR                                 | 1.74          | 0.35   |
| tblVehicleTrips | WD_TR                                 | 1.74          | 0.35   |
| tblWater        | AerobicPercent                        | 87.46         | 100.00 |
| tblWater        | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00   |
| tblWater        | IndoorWaterUseRate                    | 14,501,687.50 | 0.00   |
| tblWater        | SepticTankPercent                     | 10.33         | 0.00   |

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 1.3003        | 2.0000e-004   | 0.0221        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          | 0.0473            | 0.0473            | 1.2000e-004   |               | 0.0504            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.1536        | 5.2300        | 1.2221        | 0.0234        | 0.8161        | 0.0584        | 0.8744        | 0.2346         | 0.0558        | 0.2905        |          | 2,509.2794        | 2,509.2794        | 0.0835        | 0.3592        | 2,618.4190        |
| <b>Total</b> | <b>1.4539</b> | <b>5.2302</b> | <b>1.2442</b> | <b>0.0234</b> | <b>0.8161</b> | <b>0.0584</b> | <b>0.8745</b> | <b>0.2346</b>  | <b>0.0559</b> | <b>0.2905</b> |          | <b>2,509.3267</b> | <b>2,509.3267</b> | <b>0.0837</b> | <b>0.3592</b> | <b>2,618.4694</b> |

Existing\_Trucks - Los Angeles-South Coast County, Winter  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2 | Total CO2         | CH4               | N2O           | CO2e |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------|-------------------|-------------------|---------------|------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |           |                   |                   |               |      |               |
| Area         | 1.3003        | 2.0000e-004   | 0.0221        | 0.0000        |               | 8.0000e-005   | 8.0000e-005   |                | 8.0000e-005   | 8.0000e-005   |          |           | 0.0473            | 0.0473            | 1.2000e-004   |      | 0.0504        |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |           | 0.0000            | 0.0000            | 0.0000        |      | 0.0000        |
| Mobile       | 0.1536        | 5.2300        | 1.2221        | 0.0234        | 0.8161        | 0.0584        | 0.8744        | 0.2346         | 0.0558        | 0.2905        |          |           | 2,509.2794        | 2,509.2794        | 0.0835        |      | 0.3592        |
| <b>Total</b> | <b>1.4539</b> | <b>5.2302</b> | <b>1.2442</b> | <b>0.0234</b> | <b>0.8161</b> | <b>0.0584</b> | <b>0.8745</b> | <b>0.2346</b>  | <b>0.0559</b> | <b>0.2905</b> |          |           | <b>2,509.3267</b> | <b>2,509.3267</b> | <b>0.0837</b> |      | <b>0.3592</b> |

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2  | CH4        | N2O    | CO2e |        |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|------------|------------|--------|------|--------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |            |            |        |      |        |
| Mitigated   | 0.1536 | 5.2300 | 1.2221 | 0.0234 | 0.8161        | 0.0584       | 0.8744     | 0.2346         | 0.0558        | 0.2905      |          |           | 2,509.2794 | 2,509.2794 | 0.0835 |      | 0.3592 |
| Unmitigated | 0.1536 | 5.2300 | 1.2221 | 0.0234 | 0.8161        | 0.0584       | 0.8744     | 0.2346         | 0.0558        | 0.2905      |          |           | 2,509.2794 | 2,509.2794 | 0.0835 |      | 0.3592 |

Existing\_Trucks - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|--------------|--------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday     | Sunday       |                        |                      |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                        |                      |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                        |                      |
| Unrefrigerated Warehouse-No Rail | 22.06                   | 22.06        | 22.06        | 321,309                | 321,309              |
| <b>Total</b>                     | <b>22.06</b>            | <b>22.06</b> | <b>22.06</b> | <b>321,309</b>         | <b>321,309</b>       |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.500000 | 0.500000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

Existing\_Trucks - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

5.2 Energy by Land Use - NaturalGas

Unmitigated

|                             | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Existing\_Trucks - Los Angeles-South Coast County, Winter  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 1.3003 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |
| Unmitigated | 1.3003 | 2.0000e-004 | 0.0221 | 0.0000 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 |          | 0.0473    | 0.0473    | 1.2000e-004 |     | 0.0504 |

Existing\_Trucks - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2 | Total CO2     | CH4           | N2O                | CO2e |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------|---------------|---------------|--------------------|------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |           |               |               |                    |      |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    |      | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    |      | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          |           | 0.0473        | 0.0473        | 1.2000e-004        |      | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          |           | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |      | <b>0.0504</b> |

Mitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2 | Total CO2     | CH4           | N2O                | CO2e |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------|---------------|---------------|--------------------|------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |           |               |               |                    |      |               |
| Architectural Coating | 0.0000        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    |      | 0.0000        |
| Consumer Products     | 1.2982        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000        |               |                    |      | 0.0000        |
| Landscaping           | 2.0600e-003   | 2.0000e-004        | 0.0221        | 0.0000        |               | 8.0000e-005        | 8.0000e-005        |                | 8.0000e-005        | 8.0000e-005        |          |           | 0.0473        | 0.0473        | 1.2000e-004        |      | 0.0504        |
| <b>Total</b>          | <b>1.3003</b> | <b>2.0000e-004</b> | <b>0.0221</b> | <b>0.0000</b> |               | <b>8.0000e-005</b> | <b>8.0000e-005</b> |                | <b>8.0000e-005</b> | <b>8.0000e-005</b> |          |           | <b>0.0473</b> | <b>0.0473</b> | <b>1.2000e-004</b> |      | <b>0.0504</b> |

Existing\_Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Main  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - See assumptions file in the AQ/GHG appendix.

Solid Waste - See assumptions file in the AQ/GHG appendix.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Area Coating - .

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name  | Column Name       | Default Value | New Value   |
|-------------|-------------------|---------------|-------------|
| tblFleetMix | HHD               | 8.0320e-003   | 0.00        |
| tblFleetMix | HHD               | 8.0320e-003   | 0.00        |
| tblFleetMix | LDA               | 0.55          | 0.56        |
| tblFleetMix | LDA               | 0.55          | 0.56        |
| tblFleetMix | LDT1              | 0.06          | 0.06        |
| tblFleetMix | LDT1              | 0.06          | 0.06        |
| tblFleetMix | LDT2              | 0.19          | 0.19        |
| tblFleetMix | LDT2              | 0.19          | 0.19        |
| tblFleetMix | LHD1              | 0.02          | 0.02        |
| tblFleetMix | LHD1              | 0.02          | 0.02        |
| tblFleetMix | LHD2              | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix | LHD2              | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix | MCY               | 0.02          | 0.02        |
| tblFleetMix | MCY               | 0.02          | 0.02        |
| tblFleetMix | MDV               | 0.13          | 0.13        |
| tblFleetMix | MDV               | 0.13          | 0.13        |
| tblFleetMix | MH                | 3.3970e-003   | 0.00        |
| tblFleetMix | MH                | 3.3970e-003   | 0.00        |
| tblFleetMix | MHD               | 0.01          | 0.00        |
| tblFleetMix | MHD               | 0.01          | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00        |
| tblLandUse  | LandUseSquareFeet | 88,426.80     | 88,559.00   |
| tblLandUse  | LandUseSquareFeet | 27,980.00     | 0.00        |
| tblLandUse  | LandUseSquareFeet | 49,200.00     | 20,193.00   |
| tblLandUse  | LotAcreage        | 2.59          | 2.49        |

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                                       |               |            |
|---------------------------|---------------------------------------|---------------|------------|
| tblLandUse                | LotAcreage                            | 1.11          | 0.46       |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate              | 21.08         | 44.06      |
| tblSolidWaste             | SolidWasteGenerationRate              | 106.06        | 278.69     |
| tblVehicleTrips           | ST_TR                                 | 6.42          | 2.93       |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | SU_TR                                 | 5.09          | 2.93       |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | WD_TR                                 | 3.93          | 2.93       |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.31       |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | IndoorWaterUseRate                    | 3,931,250.00  | 155,855.00 |
| tblWater                  | IndoorWaterUseRate                    | 26,091,937.50 | 155,855.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |

Operation - Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |               |                 |
| Area         | 0.5382        | 3.0000e-005   | 3.6200e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 7.0200e-003     | 7.0200e-003     | 2.0000e-005   | 0.0000        | 7.4800e-003     |
| Energy       | 2.1700e-003   | 0.0197        | 0.0166        | 1.2000e-004        |               | 1.5000e-003        | 1.5000e-003   |                | 1.5000e-003        | 1.5000e-003   | 0.0000         | 165.7766        | 165.7766        | 9.7500e-003   | 1.5300e-003   | 166.4749        |
| Mobile       | 0.1298        | 0.1222        | 1.4586        | 2.9900e-003        | 0.3185        | 2.1200e-003        | 0.3206        | 0.0846         | 1.9600e-003        | 0.0866        | 0.0000         | 276.4983        | 276.4983        | 0.0160        | 9.5000e-003   | 279.7283        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 65.5153        | 0.0000          | 65.5153         | 3.8719        | 0.0000        | 162.3115        |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1103         | 1.4689          | 1.5792          | 4.7000e-004   | 2.5000e-004   | 1.6659          |
| <b>Total</b> | <b>0.6702</b> | <b>0.1419</b> | <b>1.4788</b> | <b>3.1100e-003</b> | <b>0.3185</b> | <b>3.6300e-003</b> | <b>0.3221</b> | <b>0.0846</b>  | <b>3.4700e-003</b> | <b>0.0881</b> | <b>65.6256</b> | <b>443.7507</b> | <b>509.3763</b> | <b>3.8981</b> | <b>0.0113</b> | <b>610.1881</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2       | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr          |                 |                 |               |               |                 |
| Area         | 0.5382        | 3.0000e-005   | 3.6200e-003   | 0.0000             |               | 1.0000e-005        | 1.0000e-005   |                | 1.0000e-005        | 1.0000e-005   | 0.0000         | 7.0200e-003     | 7.0200e-003     | 2.0000e-005   | 0.0000        | 7.4800e-003     |
| Energy       | 2.1700e-003   | 0.0197        | 0.0166        | 1.2000e-004        |               | 1.5000e-003        | 1.5000e-003   |                | 1.5000e-003        | 1.5000e-003   | 0.0000         | 165.7766        | 165.7766        | 9.7500e-003   | 1.5300e-003   | 166.4749        |
| Mobile       | 0.1298        | 0.1222        | 1.4586        | 2.9900e-003        | 0.3185        | 2.1200e-003        | 0.3206        | 0.0846         | 1.9600e-003        | 0.0866        | 0.0000         | 276.4983        | 276.4983        | 0.0160        | 9.5000e-003   | 279.7283        |
| Waste        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 65.5153        | 0.0000          | 65.5153         | 3.8719        | 0.0000        | 162.3115        |
| Water        |               |               |               |                    |               | 0.0000             | 0.0000        |                | 0.0000             | 0.0000        | 0.1103         | 1.4689          | 1.5792          | 4.7000e-004   | 2.5000e-004   | 1.6659          |
| <b>Total</b> | <b>0.6702</b> | <b>0.1419</b> | <b>1.4788</b> | <b>3.1100e-003</b> | <b>0.3185</b> | <b>3.6300e-003</b> | <b>0.3221</b> | <b>0.0846</b>  | <b>3.4700e-003</b> | <b>0.0881</b> | <b>65.6256</b> | <b>443.7507</b> | <b>509.3763</b> | <b>3.8981</b> | <b>0.0113</b> | <b>610.1881</b> |

Operation - Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

|             | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O         | CO2e     |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|-------------|----------|
| Category    | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |             |          |
| Mitigated   | 0.1298  | 0.1222 | 1.4586 | 2.9900e-003 | 0.3185        | 2.1200e-003  | 0.3206     | 0.0846         | 1.9600e-003   | 0.0866      | 0.0000   | 276.4983  | 276.4983  | 0.0160 | 9.5000e-003 | 279.7283 |
| Unmitigated | 0.1298  | 0.1222 | 1.4586 | 2.9900e-003 | 0.3185        | 2.1200e-003  | 0.3206     | 0.0846         | 1.9600e-003   | 0.0866      | 0.0000   | 276.4983  | 276.4983  | 0.0160 | 9.5000e-003 | 279.7283 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Manufacturing                    | 49.76                   | 49.76    | 49.76  | 220,362     | 220,362    |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 147.77                  | 147.77   | 147.77 | 633,315     | 633,315    |
| Total                            | 197.54                  | 197.54   | 197.54 | 853,677     | 853,677    |

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing               | 16.60      | 8.40       | 6.90        | 59.00      | 28.00      | 13.00       | 92             | 5        | 3       |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Operation - Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

|                         | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category                | tons/yr     |        |        |             |               |              |             |                |               |             | MT/yr    |           |           |             |             |          |
| Electricity Mitigated   |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 144.3054  | 144.3054  | 9.3400e-003 | 1.1300e-003 | 144.8762 |
| Electricity Unmitigated |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 144.3054  | 144.3054  | 9.3400e-003 | 1.1300e-003 | 144.8762 |
| NaturalGas Mitigated    | 2.1700e-003 | 0.0197 | 0.0166 | 1.2000e-004 | 1.5000e-003   | 1.5000e-003  | 1.5000e-003 | 1.5000e-003    | 1.5000e-003   | 1.5000e-003 | 0.0000   | 21.4711   | 21.4711   | 4.1000e-004 | 3.9000e-004 | 21.5987  |
| NaturalGas Unmitigated  | 2.1700e-003 | 0.0197 | 0.0166 | 1.2000e-004 | 1.5000e-003   | 1.5000e-003  | 1.5000e-003 | 1.5000e-003    | 1.5000e-003   | 1.5000e-003 | 0.0000   | 21.4711   | 21.4711   | 4.1000e-004 | 3.9000e-004 | 21.5987  |

Operation - Main - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr         | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |                    |                |
| Manufacturing               | 305320          | 1.6500e-003        | 0.0150        | 0.0126        | 9.0000e-005        |               | 1.1400e-003        | 1.1400e-003        |                | 1.1400e-003        | 1.1400e-003        | 0.0000        | 16.2930        | 16.2930        | 3.1000e-004        | 3.0000e-004        | 16.3899        |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 97033.8         | 5.2000e-004        | 4.7600e-003   | 4.0000e-003   | 3.0000e-005        |               | 3.6000e-004        | 3.6000e-004        |                | 3.6000e-004        | 3.6000e-004        | 0.0000        | 5.1781         | 5.1781         | 1.0000e-004        | 9.0000e-005        | 5.2089         |
| <b>Total</b>                |                 | <b>2.1700e-003</b> | <b>0.0197</b> | <b>0.0166</b> | <b>1.2000e-004</b> |               | <b>1.5000e-003</b> | <b>1.5000e-003</b> |                | <b>1.5000e-003</b> | <b>1.5000e-003</b> | <b>0.0000</b> | <b>21.4711</b> | <b>21.4711</b> | <b>4.1000e-004</b> | <b>3.9000e-004</b> | <b>21.5987</b> |

Mitigated

|                             | Natural Gas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|-----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr         | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |                    |                |
| Manufacturing               | 305320          | 1.6500e-003        | 0.0150        | 0.0126        | 9.0000e-005        |               | 1.1400e-003        | 1.1400e-003        |                | 1.1400e-003        | 1.1400e-003        | 0.0000        | 16.2930        | 16.2930        | 3.1000e-004        | 3.0000e-004        | 16.3899        |
| Other Asphalt Surfaces      | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0               | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 97033.8         | 5.2000e-004        | 4.7600e-003   | 4.0000e-003   | 3.0000e-005        |               | 3.6000e-004        | 3.6000e-004        |                | 3.6000e-004        | 3.6000e-004        | 0.0000        | 5.1781         | 5.1781         | 1.0000e-004        | 9.0000e-005        | 5.2089         |
| <b>Total</b>                |                 | <b>2.1700e-003</b> | <b>0.0197</b> | <b>0.0166</b> | <b>1.2000e-004</b> |               | <b>1.5000e-003</b> | <b>1.5000e-003</b> |                | <b>1.5000e-003</b> | <b>1.5000e-003</b> | <b>0.0000</b> | <b>21.4711</b> | <b>21.4711</b> | <b>4.1000e-004</b> | <b>3.9000e-004</b> | <b>21.5987</b> |

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                             | Electricity Use | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kWh/yr          | MT/yr           |                    |                    |                 |
| Manufacturing               | 184620          | 42.7069         | 2.7600e-003        | 3.3000e-004        | 42.8758         |
| Other Asphalt Surfaces      | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 7067.55         | 1.6349          | 1.1000e-004        | 1.0000e-005        | 1.6414          |
| Unrefrigerated Warehouse-No | 432139          | 99.9637         | 6.4700e-003        | 7.8000e-004        | 100.3590        |
| <b>Total</b>                |                 | <b>144.3054</b> | <b>9.3400e-003</b> | <b>1.1200e-003</b> | <b>144.8762</b> |

**Mitigated**

|                             | Electricity Use | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kWh/yr          | MT/yr           |                    |                    |                 |
| Manufacturing               | 184620          | 42.7069         | 2.7600e-003        | 3.3000e-004        | 42.8758         |
| Other Asphalt Surfaces      | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 7067.55         | 1.6349          | 1.1000e-004        | 1.0000e-005        | 1.6414          |
| Unrefrigerated Warehouse-No | 432139          | 99.9637         | 6.4700e-003        | 7.8000e-004        | 100.3590        |
| <b>Total</b>                |                 | <b>144.3054</b> | <b>9.3400e-003</b> | <b>1.1200e-003</b> | <b>144.8762</b> |

Operation - Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.5382  | 3.0000e-005 | 3.6200e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 7.0200e-003 | 7.0200e-003 | 2.0000e-005 | 0.0000 | 7.4800e-003 |
| Unmitigated | 0.5382  | 3.0000e-005 | 3.6200e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 7.0200e-003 | 7.0200e-003 | 2.0000e-005 | 0.0000 | 7.4800e-003 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0617        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.4762        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 3.4000e-004   | 3.0000e-005        | 3.6200e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 7.0200e-003        | 7.0200e-003        | 2.0000e-005        | 0.0000        | 7.4800e-003        |
| <b>Total</b>          | <b>0.5382</b> | <b>3.0000e-005</b> | <b>3.6200e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>7.0200e-003</b> | <b>7.0200e-003</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>7.4800e-003</b> |

Operation - Main - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e   |                    |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |        |                    |
| Architectural Coating | 0.0617        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Consumer Products     | 0.4762        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000 | 0.0000             |
| Landscaping           | 3.4000e-004   | 3.0000e-005        | 3.6200e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 7.0200e-003        | 7.0200e-003        | 2.0000e-005        | 0.0000        |        | 7.4800e-003        |
| <b>Total</b>          | <b>0.5382</b> | <b>3.0000e-005</b> | <b>3.6200e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>7.0200e-003</b> | <b>7.0200e-003</b> | <b>2.0000e-005</b> | <b>0.0000</b> |        | <b>7.4800e-003</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4         | N2O         | CO2e   |
|-------------|-----------|-------------|-------------|--------|
| Category    | MT/yr     |             |             |        |
| Mitigated   | 1.5792    | 4.7000e-004 | 2.5000e-004 | 1.6659 |
| Unmitigated | 1.5792    | 4.7000e-004 | 2.5000e-004 | 1.6659 |

**7.2 Water by Land Use**

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

|                                | Indoor/Out<br>door Use | Total CO2     | CH4                | N2O                | CO2e          |
|--------------------------------|------------------------|---------------|--------------------|--------------------|---------------|
| Land Use                       | Mgal                   | MT/yr         |                    |                    |               |
| Manufacturing                  | 0.155855 /<br>0.103113 | 0.7896        | 2.4000e-004        | 1.3000e-004        | 0.8330        |
| Other Asphalt<br>Surfaces      | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt<br>Surfaces  | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                    | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated<br>Warehouse-No | 0.155855 /<br>0.103113 | 0.7896        | 2.4000e-004        | 1.3000e-004        | 0.8330        |
| <b>Total</b>                   |                        | <b>1.5792</b> | <b>4.8000e-004</b> | <b>2.6000e-004</b> | <b>1.6659</b> |

**Mitigated**

|                                | Indoor/Out<br>door Use | Total CO2     | CH4                | N2O                | CO2e          |
|--------------------------------|------------------------|---------------|--------------------|--------------------|---------------|
| Land Use                       | Mgal                   | MT/yr         |                    |                    |               |
| Manufacturing                  | 0.155855 /<br>0.103113 | 0.7896        | 2.4000e-004        | 1.3000e-004        | 0.8330        |
| Other Asphalt<br>Surfaces      | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Other Non-Asphalt<br>Surfaces  | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Parking Lot                    | 0 / 0                  | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Unrefrigerated<br>Warehouse-No | 0.155855 /<br>0.103113 | 0.7896        | 2.4000e-004        | 1.3000e-004        | 0.8330        |
| <b>Total</b>                   |                        | <b>1.5792</b> | <b>4.8000e-004</b> | <b>2.6000e-004</b> | <b>1.6659</b> |

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|-----------|--------|--------|----------|
|             | MT/yr     |        |        |          |
| Mitigated   | 65.5153   | 3.8719 | 0.0000 | 162.3115 |
| Unmitigated | 65.5153   | 3.8719 | 0.0000 | 162.3115 |

**8.2 Waste by Land Use**

Unmitigated

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e            |
|-----------------------------|----------------|----------------|---------------|---------------|-----------------|
| Land Use                    | tons           | MT/yr          |               |               |                 |
| Manufacturing               | 44.06          | 8.9438         | 0.5286        | 0.0000        | 22.1578         |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Unrefrigerated Warehouse-No | 278.69         | 56.5716        | 3.3433        | 0.0000        | 140.1536        |
| <b>Total</b>                |                | <b>65.5153</b> | <b>3.8718</b> | <b>0.0000</b> | <b>162.3115</b> |

Operation - Main - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Waste Disposed | Total CO2      | CH4           | N2O           | CO2e            |
|-----------------------------|----------------|----------------|---------------|---------------|-----------------|
| Land Use                    | tons           | MT/yr          |               |               |                 |
| Manufacturing               | 44.06          | 8.9438         | 0.5286        | 0.0000        | 22.1578         |
| Other Asphalt Surfaces      | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Other Non-Asphalt Surfaces  | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Parking Lot                 | 0              | 0.0000         | 0.0000        | 0.0000        | 0.0000          |
| Unrefrigerated Warehouse-No | 278.69         | 56.5716        | 3.3433        | 0.0000        | 140.1536        |
| <b>Total</b>                |                | <b>65.5153</b> | <b>3.8718</b> | <b>0.0000</b> | <b>162.3115</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Main  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - See assumptions file in the AQ/GHG appendix.

Solid Waste - See assumptions file in the AQ/GHG appendix.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Area Coating - .

| Table Name | Column Name | Default Value | New Value |
|------------|-------------|---------------|-----------|
|------------|-------------|---------------|-----------|

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             |                   |             |             |
|-------------|-------------------|-------------|-------------|
| tblFleetMix | HHD               | 8.0320e-003 | 0.00        |
| tblFleetMix | HHD               | 8.0320e-003 | 0.00        |
| tblFleetMix | LDA               | 0.55        | 0.56        |
| tblFleetMix | LDA               | 0.55        | 0.56        |
| tblFleetMix | LDT1              | 0.06        | 0.06        |
| tblFleetMix | LDT1              | 0.06        | 0.06        |
| tblFleetMix | LDT2              | 0.19        | 0.19        |
| tblFleetMix | LDT2              | 0.19        | 0.19        |
| tblFleetMix | LHD1              | 0.02        | 0.02        |
| tblFleetMix | LHD1              | 0.02        | 0.02        |
| tblFleetMix | LHD2              | 5.9120e-003 | 6.0600e-003 |
| tblFleetMix | LHD2              | 5.9120e-003 | 6.0600e-003 |
| tblFleetMix | MCY               | 0.02        | 0.02        |
| tblFleetMix | MCY               | 0.02        | 0.02        |
| tblFleetMix | MDV               | 0.13        | 0.13        |
| tblFleetMix | MDV               | 0.13        | 0.13        |
| tblFleetMix | MH                | 3.3970e-003 | 0.00        |
| tblFleetMix | MH                | 3.3970e-003 | 0.00        |
| tblFleetMix | MHD               | 0.01        | 0.00        |
| tblFleetMix | MHD               | 0.01        | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004 | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004 | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004 | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004 | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004 | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004 | 0.00        |
| tblLandUse  | LandUseSquareFeet | 88,426.80   | 88,559.00   |
| tblLandUse  | LandUseSquareFeet | 27,980.00   | 0.00        |
| tblLandUse  | LandUseSquareFeet | 49,200.00   | 20,193.00   |
| tblLandUse  | LotAcreage        | 2.59        | 2.49        |
| tblLandUse  | LotAcreage        | 1.11        | 0.46        |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                                       |               |            |
|---------------------------|---------------------------------------|---------------|------------|
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate              | 21.08         | 44.06      |
| tblSolidWaste             | SolidWasteGenerationRate              | 106.06        | 278.69     |
| tblVehicleTrips           | ST_TR                                 | 6.42          | 2.93       |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | SU_TR                                 | 5.09          | 2.93       |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | WD_TR                                 | 3.93          | 2.93       |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.31       |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | IndoorWaterUseRate                    | 3,931,250.00  | 155,855.00 |
| tblWater                  | IndoorWaterUseRate                    | 26,091,937.50 | 155,855.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |

Operation - Main - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9499        | 2.6000e-004   | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081        | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.7336        | 0.6006        | 8.2062        | 0.0171        | 1.7848        | 0.0117        | 1.7965        | 0.4737         | 0.0108        | 0.4844        |          | 1,737.0265        | 1,737.0265        | 0.0947        | 0.0536        | 1,755.3608        |
| <b>Total</b> | <b>3.6953</b> | <b>0.7089</b> | <b>8.3259</b> | <b>0.0177</b> | <b>1.7848</b> | <b>0.0200</b> | <b>1.8048</b> | <b>0.4737</b>  | <b>0.0191</b> | <b>0.4928</b> |          | <b>1,866.7753</b> | <b>1,866.7753</b> | <b>0.0974</b> | <b>0.0560</b> | <b>1,885.8845</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9499        | 2.6000e-004   | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081        | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.7336        | 0.6006        | 8.2062        | 0.0171        | 1.7848        | 0.0117        | 1.7965        | 0.4737         | 0.0108        | 0.4844        |          | 1,737.0265        | 1,737.0265        | 0.0947        | 0.0536        | 1,755.3608        |
| <b>Total</b> | <b>3.6953</b> | <b>0.7089</b> | <b>8.3259</b> | <b>0.0177</b> | <b>1.7848</b> | <b>0.0200</b> | <b>1.8048</b> | <b>0.4737</b>  | <b>0.0191</b> | <b>0.4928</b> |          | <b>1,866.7753</b> | <b>1,866.7753</b> | <b>0.0974</b> | <b>0.0560</b> | <b>1,885.8845</b> |

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

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|----------|---------------|----------|-------------------|
| 1            | Demolition | Demolition | 8/8/2021   | 9/3/2021 | 5             | 20       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.13

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

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|------------|--------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1      | 8.00        | 81          | 0.73        |
| Demolition | Excavators               | 3      | 8.00        | 158         | 0.38        |
| Demolition | Rubber Tired Dozers      | 2      | 8.00        | 247         | 0.40        |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 6                       | 15.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

**3.2 Demolition - 2021**

**Unmitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 3.1651        | 31.4407        | 21.5650        | 0.0388        |               | 1.5513        | 1.5513        |                | 1.4411        | 1.4411        |          | 3,747.9449        | 3,747.9449        | 1.0549        |     | 3,774.3174        |
| <b>Total</b> | <b>3.1651</b> | <b>31.4407</b> | <b>21.5650</b> | <b>0.0388</b> |               | <b>1.5513</b> | <b>1.5513</b> |                | <b>1.4411</b> | <b>1.4411</b> |          | <b>3,747.9449</b> | <b>3,747.9449</b> | <b>1.0549</b> |     | <b>3,774.3174</b> |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0563        | 0.0431        | 0.6471        | 1.5800e-003        | 0.1677        | 1.1500e-003        | 0.1688        | 0.0445         | 1.0600e-003        | 0.0455        |          | 160.3931        | 160.3931        | 4.7300e-003        | 4.0900e-003        | 161.7304        |
| <b>Total</b> | <b>0.0563</b> | <b>0.0431</b> | <b>0.6471</b> | <b>1.5800e-003</b> | <b>0.1677</b> | <b>1.1500e-003</b> | <b>0.1688</b> | <b>0.0445</b>  | <b>1.0600e-003</b> | <b>0.0455</b> |          | <b>160.3931</b> | <b>160.3931</b> | <b>4.7300e-003</b> | <b>4.0900e-003</b> | <b>161.7304</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 3.1651        | 31.4407        | 21.5650        | 0.0388        |               | 1.5513        | 1.5513        |                | 1.4411        | 1.4411        | 0.0000        | 3,747.9449        | 3,747.9449        | 1.0549        |     | 3,774.3174        |
| <b>Total</b> | <b>3.1651</b> | <b>31.4407</b> | <b>21.5650</b> | <b>0.0388</b> |               | <b>1.5513</b> | <b>1.5513</b> |                | <b>1.4411</b> | <b>1.4411</b> | <b>0.0000</b> | <b>3,747.9449</b> | <b>3,747.9449</b> | <b>1.0549</b> |     | <b>3,774.3174</b> |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0563        | 0.0431        | 0.6471        | 1.5800e-003        | 0.1677        | 1.1500e-003        | 0.1688        | 0.0445         | 1.0600e-003        | 0.0455        |          | 160.3931        | 160.3931        | 4.7300e-003        | 4.0900e-003        | 161.7304        |
| <b>Total</b> | <b>0.0563</b> | <b>0.0431</b> | <b>0.6471</b> | <b>1.5800e-003</b> | <b>0.1677</b> | <b>1.1500e-003</b> | <b>0.1688</b> | <b>0.0445</b>  | <b>1.0600e-003</b> | <b>0.0455</b> |          | <b>160.3931</b> | <b>160.3931</b> | <b>4.7300e-003</b> | <b>4.0900e-003</b> | <b>161.7304</b> |

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.7336 | 0.6006 | 8.2062 | 0.0171 | 1.7848        | 0.0117       | 1.7965     | 0.4737         | 0.0108        | 0.4844      |          | 1,737.0265 | 1,737.0265 | 0.0947 | 0.0536 | 1,755.3608 |
| Unmitigated | 0.7336 | 0.6006 | 8.2062 | 0.0171 | 1.7848        | 0.0117       | 1.7965     | 0.4737         | 0.0108        | 0.4844      |          | 1,737.0265 | 1,737.0265 | 0.0947 | 0.0536 | 1,755.3608 |

**4.2 Trip Summary Information**

| Land Use                         | Average Daily Trip Rate |               |               | Unmitigated Annual VMT | Mitigated Annual VMT |
|----------------------------------|-------------------------|---------------|---------------|------------------------|----------------------|
|                                  | Weekday                 | Saturday      | Sunday        |                        |                      |
| Manufacturing                    | 49.76                   | 49.76         | 49.76         | 220,362                | 220,362              |
| Other Asphalt Surfaces           | 0.00                    | 0.00          | 0.00          |                        |                      |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00          | 0.00          |                        |                      |
| Parking Lot                      | 0.00                    | 0.00          | 0.00          |                        |                      |
| Unrefrigerated Warehouse-No Rail | 147.77                  | 147.77        | 147.77        | 633,315                | 633,315              |
| <b>Total</b>                     | <b>197.54</b>           | <b>197.54</b> | <b>197.54</b> | <b>853,677</b>         | <b>853,677</b>       |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.3 Trip Type Information**

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing                    | 16.60      | 8.40       | 6.90        | 59.00      | 28.00      | 13.00       | 92             | 5        | 3       |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

| Category                | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4      | N2O         | CO2e        |          |
|-------------------------|--------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|----------|-------------|-------------|----------|
| Natural Gas Mitigated   | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          |           | 129.6870  | 129.6870 | 2.4900e-003 | 2.3800e-003 | 130.4576 |
| Natural Gas Unmitigated | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          |           | 129.6870  | 129.6870 | 2.4900e-003 | 2.3800e-003 | 130.4576 |

Operation - Main - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 836.493         | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 265.846         | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Mitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 0.836493        | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 0.265846        | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 2.9499 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     | 0.0660 |
| Unmitigated | 2.9499 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     | 0.0660 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6092        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9499</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6092        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9499</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Operation - Main - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Main  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,559.00          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - See assumptions file in the AQ/GHG appendix.

Solid Waste - See assumptions file in the AQ/GHG appendix.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Area Coating - .

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name  | Column Name       | Default Value | New Value   |
|-------------|-------------------|---------------|-------------|
| tblFleetMix | HHD               | 8.0320e-003   | 0.00        |
| tblFleetMix | HHD               | 8.0320e-003   | 0.00        |
| tblFleetMix | LDA               | 0.55          | 0.56        |
| tblFleetMix | LDA               | 0.55          | 0.56        |
| tblFleetMix | LDT1              | 0.06          | 0.06        |
| tblFleetMix | LDT1              | 0.06          | 0.06        |
| tblFleetMix | LDT2              | 0.19          | 0.19        |
| tblFleetMix | LDT2              | 0.19          | 0.19        |
| tblFleetMix | LHD1              | 0.02          | 0.02        |
| tblFleetMix | LHD1              | 0.02          | 0.02        |
| tblFleetMix | LHD2              | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix | LHD2              | 5.9120e-003   | 6.0600e-003 |
| tblFleetMix | MCY               | 0.02          | 0.02        |
| tblFleetMix | MCY               | 0.02          | 0.02        |
| tblFleetMix | MDV               | 0.13          | 0.13        |
| tblFleetMix | MDV               | 0.13          | 0.13        |
| tblFleetMix | MH                | 3.3970e-003   | 0.00        |
| tblFleetMix | MH                | 3.3970e-003   | 0.00        |
| tblFleetMix | MHD               | 0.01          | 0.00        |
| tblFleetMix | MHD               | 0.01          | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00        |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00        |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00        |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00        |
| tblLandUse  | LandUseSquareFeet | 88,426.80     | 88,559.00   |
| tblLandUse  | LandUseSquareFeet | 27,980.00     | 0.00        |
| tblLandUse  | LandUseSquareFeet | 49,200.00     | 20,193.00   |
| tblLandUse  | LotAcreage        | 2.59          | 2.49        |

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                                       |               |            |
|---------------------------|---------------------------------------|---------------|------------|
| tblLandUse                | LotAcreage                            | 1.11          | 0.46       |
| tblProjectCharacteristics | CO2IntensityFactor                    | 390.98        | 509.98     |
| tblSolidWaste             | SolidWasteGenerationRate              | 21.08         | 44.06      |
| tblSolidWaste             | SolidWasteGenerationRate              | 106.06        | 278.69     |
| tblVehicleTrips           | ST_TR                                 | 6.42          | 2.93       |
| tblVehicleTrips           | ST_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | SU_TR                                 | 5.09          | 2.93       |
| tblVehicleTrips           | SU_TR                                 | 1.74          | 1.31       |
| tblVehicleTrips           | WD_TR                                 | 3.93          | 2.93       |
| tblVehicleTrips           | WD_TR                                 | 1.74          | 1.31       |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AerobicPercent                        | 87.46         | 100.00     |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | AnaerobicandFacultativeLagoonsPercent | 2.21          | 0.00       |
| tblWater                  | IndoorWaterUseRate                    | 3,931,250.00  | 155,855.00 |
| tblWater                  | IndoorWaterUseRate                    | 26,091,937.50 | 155,855.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | OutdoorWaterUseRate                   | 0.00          | 103,113.00 |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |
| tblWater                  | SepticTankPercent                     | 10.33         | 0.00       |

Operation - Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9499        | 2.6000e-004   | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081        | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.7237        | 0.6586        | 7.9153        | 0.0163        | 1.7848        | 0.0117        | 1.7965        | 0.4737         | 0.0108        | 0.4844        |          | 1,654.5027        | 1,654.5027        | 0.0973        | 0.0569        | 1,673.8874        |
| <b>Total</b> | <b>3.6855</b> | <b>0.7669</b> | <b>8.0350</b> | <b>0.0169</b> | <b>1.7848</b> | <b>0.0200</b> | <b>1.8048</b> | <b>0.4737</b>  | <b>0.0191</b> | <b>0.4928</b> |          | <b>1,784.2516</b> | <b>1,784.2516</b> | <b>0.1000</b> | <b>0.0593</b> | <b>1,804.4110</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9499        | 2.6000e-004   | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081        | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.7237        | 0.6586        | 7.9153        | 0.0163        | 1.7848        | 0.0117        | 1.7965        | 0.4737         | 0.0108        | 0.4844        |          | 1,654.5027        | 1,654.5027        | 0.0973        | 0.0569        | 1,673.8874        |
| <b>Total</b> | <b>3.6855</b> | <b>0.7669</b> | <b>8.0350</b> | <b>0.0169</b> | <b>1.7848</b> | <b>0.0200</b> | <b>1.8048</b> | <b>0.4737</b>  | <b>0.0191</b> | <b>0.4928</b> |          | <b>1,784.2516</b> | <b>1,784.2516</b> | <b>0.1000</b> | <b>0.0593</b> | <b>1,804.4110</b> |

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

Operation - Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.7237 | 0.6586 | 7.9153 | 0.0163 | 1.7848        | 0.0117       | 1.7965     | 0.4737         | 0.0108        | 0.4844      |          | 1,654.5027 | 1,654.5027 | 0.0973 | 0.0569 | 1,673.8874 |
| Unmitigated | 0.7237 | 0.6586 | 7.9153 | 0.0163 | 1.7848        | 0.0117       | 1.7965     | 0.4737         | 0.0108        | 0.4844      |          | 1,654.5027 | 1,654.5027 | 0.0973 | 0.0569 | 1,673.8874 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Manufacturing                    | 49.76                   | 49.76    | 49.76  | 220,362     | 220,362    |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 147.77                  | 147.77   | 147.77 | 633,315     | 633,315    |
| Total                            | 197.54                  | 197.54   | 197.54 | 853,677     | 853,677    |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing                    | 16.60      | 8.40       | 6.90        | 59.00      | 28.00      | 13.00       | 92             | 5        | 3       |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.560437 | 0.063426 | 0.191369 | 0.130691 | 0.023481 | 0.006060 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.024535 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|------------------------|--------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category               | lb/day |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |          |
| NaturalGas Mitigated   | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |
| NaturalGas Unmitigated | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |

Operation - Main - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

**Unmitigated**

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 836.493         | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 265.846         | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

**Mitigated**

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 0.836493        | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 0.265846        | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 2.9499 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     | 0.0660 |
| Unmitigated | 2.9499 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     | 0.0660 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6092        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9499</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6092        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9499</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Operation - Main - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Trucks  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,426.80          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - Modeling mobile emissions only.

Solid Waste - Modeling mobile emissions only.

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name  | Column Name       | Default Value | New Value |
|-------------|-------------------|---------------|-----------|
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblLandUse  | LandUseSquareFeet | 49,200.00     | 20,193.00 |
| tblLandUse  | LandUseSquareFeet | 27,979.00     | 0.00      |
| tblLandUse  | LotAcreage        | 2.59          | 2.49      |
| tblLandUse  | LotAcreage        | 1.11          | 0.46      |

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                          |               |        |
|---------------------------|--------------------------|---------------|--------|
| tblProjectCharacteristics | CO2IntensityFactor       | 390.98        | 509.98 |
| tblSolidWaste             | SolidWasteGenerationRate | 21.08         | 0.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 106.06        | 0.00   |
| tblVehicleTrips           | CC_TTP                   | 28.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 13.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 41.00         | 0.00   |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | ST_TR                    | 6.42          | 1.92   |
| tblVehicleTrips           | ST_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | SU_TR                    | 5.09          | 1.92   |
| tblVehicleTrips           | SU_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | WD_TR                    | 3.93          | 1.92   |
| tblVehicleTrips           | WD_TR                    | 1.74          | 0.29   |
| tblWater                  | IndoorWaterUseRate       | 3,931,250.00  | 0.00   |
| tblWater                  | IndoorWaterUseRate       | 26,091,937.50 | 0.00   |

Operation - Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 0.5382        | 3.0000e-005   | 3.6200e-003   | 0.0000        |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 7.0200e-003       | 7.0200e-003       | 2.0000e-005   | 0.0000        | 7.4800e-003       |
| Energy       | 2.1700e-003   | 0.0197        | 0.0166        | 1.2000e-004   |               | 1.5000e-003   | 1.5000e-003   |                | 1.5000e-003   | 1.5000e-003   | 0.0000        | 165.7766          | 165.7766          | 9.7500e-003   | 1.5300e-003   | 166.4749          |
| Mobile       | 0.0849        | 3.0054        | 0.6689        | 0.0128        | 0.4284        | 0.0311        | 0.4594        | 0.1227         | 0.0297        | 0.1524        | 0.0000        | 1,250.9586        | 1,250.9586        | 0.0457        | 0.1822        | 1,306.3931        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.6253</b> | <b>3.0251</b> | <b>0.6891</b> | <b>0.0129</b> | <b>0.4284</b> | <b>0.0326</b> | <b>0.4609</b> | <b>0.1227</b>  | <b>0.0312</b> | <b>0.1539</b> | <b>0.0000</b> | <b>1,416.7422</b> | <b>1,416.7422</b> | <b>0.0555</b> | <b>0.1837</b> | <b>1,472.8755</b> |

Mitigated Operational

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 0.5382        | 3.0000e-005   | 3.6200e-003   | 0.0000        |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   | 0.0000        | 7.0200e-003       | 7.0200e-003       | 2.0000e-005   | 0.0000        | 7.4800e-003       |
| Energy       | 2.1700e-003   | 0.0197        | 0.0166        | 1.2000e-004   |               | 1.5000e-003   | 1.5000e-003   |                | 1.5000e-003   | 1.5000e-003   | 0.0000        | 165.7766          | 165.7766          | 9.7500e-003   | 1.5300e-003   | 166.4749          |
| Mobile       | 0.0849        | 3.0054        | 0.6689        | 0.0128        | 0.4284        | 0.0311        | 0.4594        | 0.1227         | 0.0297        | 0.1524        | 0.0000        | 1,250.9586        | 1,250.9586        | 0.0457        | 0.1822        | 1,306.3931        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.6253</b> | <b>3.0251</b> | <b>0.6891</b> | <b>0.0129</b> | <b>0.4284</b> | <b>0.0326</b> | <b>0.4609</b> | <b>0.1227</b>  | <b>0.0312</b> | <b>0.1539</b> | <b>0.0000</b> | <b>1,416.7422</b> | <b>1,416.7422</b> | <b>0.0555</b> | <b>0.1837</b> | <b>1,472.8755</b> |

Operation - Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| Category    | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
|             | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Mitigated   | 0.0849  | 3.0054 | 0.6689 | 0.0128 | 0.4284        | 0.0311       | 0.4594     | 0.1227         | 0.0297        | 0.1524      | 0.0000   | 1,250.9586 | 1,250.9586 | 0.0457 | 0.1822 | 1,306.3931 |
| Unmitigated | 0.0849  | 3.0054 | 0.6689 | 0.0128 | 0.4284        | 0.0311       | 0.4594     | 0.1227         | 0.0297        | 0.1524      | 0.0000   | 1,250.9586 | 1,250.9586 | 0.0457 | 0.1822 | 1,306.3931 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Manufacturing                    | 32.59                   | 32.59    | 32.59  | 474,614     | 474,614    |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 32.59                   | 32.59    | 32.59  | 474,561     | 474,561    |
| Total                            | 65.17                   | 65.17    | 65.17  | 949,175     | 949,175    |

Operation - Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

| Land Use                    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing               | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |
| Other Asphalt Surfaces      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces  | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                 | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| Category                | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
|                         | tons/yr     |        |        |             |               |              |             |                |               |             | MT/yr    |           |           |             |             |          |
| Electricity Mitigated   |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 144.3054  | 144.3054  | 9.3400e-003 | 1.1300e-003 | 144.8762 |
| Electricity Unmitigated |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 144.3054  | 144.3054  | 9.3400e-003 | 1.1300e-003 | 144.8762 |
| Natural Gas Mitigated   | 2.1700e-003 | 0.0197 | 0.0166 | 1.2000e-004 | 1.5000e-003   | 1.5000e-003  | 1.5000e-003 | 1.5000e-003    | 1.5000e-003   | 1.5000e-003 | 0.0000   | 21.4711   | 21.4711   | 4.1000e-004 | 3.9000e-004 | 21.5987  |
| Natural Gas Unmitigated | 2.1700e-003 | 0.0197 | 0.0166 | 1.2000e-004 | 1.5000e-003   | 1.5000e-003  | 1.5000e-003 | 1.5000e-003    | 1.5000e-003   | 1.5000e-003 | 0.0000   | 21.4711   | 21.4711   | 4.1000e-004 | 3.9000e-004 | 21.5987  |

Operation - Trucks - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

|                             | NaturalGas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr        | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |                    |                |
| Manufacturing               | 305320         | 1.6500e-003        | 0.0150        | 0.0126        | 9.0000e-005        |               | 1.1400e-003        | 1.1400e-003        |                | 1.1400e-003        | 1.1400e-003        | 0.0000        | 16.2930        | 16.2930        | 3.1000e-004        | 3.0000e-004        | 16.3899        |
| Other Asphalt Surfaces      | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 97033.8        | 5.2000e-004        | 4.7600e-003   | 4.0000e-003   | 3.0000e-005        |               | 3.6000e-004        | 3.6000e-004        |                | 3.6000e-004        | 3.6000e-004        | 0.0000        | 5.1781         | 5.1781         | 1.0000e-004        | 9.0000e-005        | 5.2089         |
| <b>Total</b>                |                | <b>2.1700e-003</b> | <b>0.0197</b> | <b>0.0166</b> | <b>1.2000e-004</b> |               | <b>1.5000e-003</b> | <b>1.5000e-003</b> |                | <b>1.5000e-003</b> | <b>1.5000e-003</b> | <b>0.0000</b> | <b>21.4711</b> | <b>21.4711</b> | <b>4.1000e-004</b> | <b>3.9000e-004</b> | <b>21.5987</b> |

Mitigated

|                             | NaturalGas Use | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|-----------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use                    | kBTU/yr        | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |                    |                |
| Manufacturing               | 305320         | 1.6500e-003        | 0.0150        | 0.0126        | 9.0000e-005        |               | 1.1400e-003        | 1.1400e-003        |                | 1.1400e-003        | 1.1400e-003        | 0.0000        | 16.2930        | 16.2930        | 3.1000e-004        | 3.0000e-004        | 16.3899        |
| Other Asphalt Surfaces      | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Other Non-Asphalt Surfaces  | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot                 | 0              | 0.0000             | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Unrefrigerated Warehouse-No | 97033.8        | 5.2000e-004        | 4.7600e-003   | 4.0000e-003   | 3.0000e-005        |               | 3.6000e-004        | 3.6000e-004        |                | 3.6000e-004        | 3.6000e-004        | 0.0000        | 5.1781         | 5.1781         | 1.0000e-004        | 9.0000e-005        | 5.2089         |
| <b>Total</b>                |                | <b>2.1700e-003</b> | <b>0.0197</b> | <b>0.0166</b> | <b>1.2000e-004</b> |               | <b>1.5000e-003</b> | <b>1.5000e-003</b> |                | <b>1.5000e-003</b> | <b>1.5000e-003</b> | <b>0.0000</b> | <b>21.4711</b> | <b>21.4711</b> | <b>4.1000e-004</b> | <b>3.9000e-004</b> | <b>21.5987</b> |

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                             | Electricity Use | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kWh/yr          | MT/yr           |                    |                    |                 |
| Manufacturing               | 184620          | 42.7069         | 2.7600e-003        | 3.3000e-004        | 42.8758         |
| Other Asphalt Surfaces      | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 7067.55         | 1.6349          | 1.1000e-004        | 1.0000e-005        | 1.6414          |
| Unrefrigerated Warehouse-No | 432139          | 99.9637         | 6.4700e-003        | 7.8000e-004        | 100.3590        |
| <b>Total</b>                |                 | <b>144.3054</b> | <b>9.3400e-003</b> | <b>1.1200e-003</b> | <b>144.8762</b> |

**Mitigated**

|                             | Electricity Use | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kWh/yr          | MT/yr           |                    |                    |                 |
| Manufacturing               | 184620          | 42.7069         | 2.7600e-003        | 3.3000e-004        | 42.8758         |
| Other Asphalt Surfaces      | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 7067.55         | 1.6349          | 1.1000e-004        | 1.0000e-005        | 1.6414          |
| Unrefrigerated Warehouse-No | 432139          | 99.9637         | 6.4700e-003        | 7.8000e-004        | 100.3590        |
| <b>Total</b>                |                 | <b>144.3054</b> | <b>9.3400e-003</b> | <b>1.1200e-003</b> | <b>144.8762</b> |

Operation - Trucks - Los Angeles-South Coast County, Annual  
**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O    | CO2e        |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |             |             |             |        |             |
| Mitigated   | 0.5382  | 3.0000e-005 | 3.6200e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 7.0200e-003 | 7.0200e-003 | 2.0000e-005 | 0.0000 | 7.4800e-003 |
| Unmitigated | 0.5382  | 3.0000e-005 | 3.6200e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 | 0.0000   | 7.0200e-003 | 7.0200e-003 | 2.0000e-005 | 0.0000 | 7.4800e-003 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0617        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.4762        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 3.4000e-004   | 3.0000e-005        | 3.6200e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 7.0200e-003        | 7.0200e-003        | 2.0000e-005        | 0.0000        | 7.4800e-003        |
| <b>Total</b>          | <b>0.5382</b> | <b>3.0000e-005</b> | <b>3.6200e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>7.0200e-003</b> | <b>7.0200e-003</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>7.4800e-003</b> |

**Operation - Trucks - Los Angeles-South Coast County, Annual  
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2          | Total CO2          | CH4                | N2O           | CO2e               |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                    |                    |                    |               |                    |
| Architectural Coating | 0.0617        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Consumer Products     | 0.4762        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             |
| Landscaping           | 3.4000e-004   | 3.0000e-005        | 3.6200e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        | 0.0000        | 7.0200e-003        | 7.0200e-003        | 2.0000e-005        | 0.0000        | 7.4800e-003        |
| <b>Total</b>          | <b>0.5382</b> | <b>3.0000e-005</b> | <b>3.6200e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>7.0200e-003</b> | <b>7.0200e-003</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>7.4800e-003</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

**Unmitigated**

| Indoor/Outdoor Use          | Total CO2 | CH4           | N2O           | CO2e          |
|-----------------------------|-----------|---------------|---------------|---------------|
| Land Use                    | Mgal      | MT/yr         |               |               |
| Manufacturing               | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces      | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

| Indoor/Outdoor Use          | Total CO2 | CH4           | N2O           | CO2e          |
|-----------------------------|-----------|---------------|---------------|---------------|
| Land Use                    | Mgal      | MT/yr         |               |               |
| Manufacturing               | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces      | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0 / 0     | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |           | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**Category/Year**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**8.2 Waste by Land Use**

**Unmitigated**

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Manufacturing               | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

Operation - Trucks - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                             | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|-----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                    | tons           | MT/yr         |               |               |               |
| Manufacturing               | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces      | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot                 | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Unrefrigerated Warehouse-No | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>                |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Trucks  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,426.80          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - Modeling mobile emissions only.

Solid Waste - Modeling mobile emissions only.

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name  | Column Name       | Default Value | New Value |
|-------------|-------------------|---------------|-----------|
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblLandUse  | LandUseSquareFeet | 49,200.00     | 20,193.00 |
| tblLandUse  | LandUseSquareFeet | 27,979.00     | 0.00      |
| tblLandUse  | LotAcreage        | 2.59          | 2.49      |
| tblLandUse  | LotAcreage        | 1.11          | 0.46      |

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                          |               |        |
|---------------------------|--------------------------|---------------|--------|
| tblProjectCharacteristics | CO2IntensityFactor       | 390.98        | 509.98 |
| tblSolidWaste             | SolidWasteGenerationRate | 21.08         | 0.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 106.06        | 0.00   |
| tblVehicleTrips           | CC_TTP                   | 28.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 13.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 41.00         | 0.00   |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | ST_TR                    | 6.42          | 1.92   |
| tblVehicleTrips           | ST_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | SU_TR                    | 5.09          | 1.92   |
| tblVehicleTrips           | SU_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | WD_TR                    | 3.93          | 1.92   |
| tblVehicleTrips           | WD_TR                    | 1.74          | 0.29   |
| tblWater                  | IndoorWaterUseRate       | 3,931,250.00  | 0.00   |
| tblWater                  | IndoorWaterUseRate       | 26,091,937.50 | 0.00   |

Operation - Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9498        | 2.6000e-004    | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081         | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.4684        | 15.6501        | 3.6764        | 0.0704        | 2.3925        | 0.1708        | 2.5633        | 0.6836         | 0.1634        | 0.8470        |          | 7,585.4100        | 7,585.4100        | 0.2773        | 1.1038        | 7,921.2725        |
| <b>Total</b> | <b>3.4301</b> | <b>15.7584</b> | <b>3.7961</b> | <b>0.0710</b> | <b>2.3925</b> | <b>0.1791</b> | <b>2.5716</b> | <b>0.6836</b>  | <b>0.1717</b> | <b>0.8553</b> |          | <b>7,715.1589</b> | <b>7,715.1589</b> | <b>0.2799</b> | <b>1.1062</b> | <b>8,051.7961</b> |

Mitigated Operational

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9498        | 2.6000e-004    | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081         | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.4684        | 15.6501        | 3.6764        | 0.0704        | 2.3925        | 0.1708        | 2.5633        | 0.6836         | 0.1634        | 0.8470        |          | 7,585.4100        | 7,585.4100        | 0.2773        | 1.1038        | 7,921.2725        |
| <b>Total</b> | <b>3.4301</b> | <b>15.7584</b> | <b>3.7961</b> | <b>0.0710</b> | <b>2.3925</b> | <b>0.1791</b> | <b>2.5716</b> | <b>0.6836</b>  | <b>0.1717</b> | <b>0.8553</b> |          | <b>7,715.1589</b> | <b>7,715.1589</b> | <b>0.2799</b> | <b>1.1062</b> | <b>8,051.7961</b> |

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

Operation - Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

|             | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.4684 | 15.6501 | 3.6764 | 0.0704 | 2.3925        | 0.1708       | 2.5633     | 0.6836         | 0.1634        | 0.8470      |          | 7,585.4100 | 7,585.4100 | 0.2773 | 1.1038 | 7,921.2725 |
| Unmitigated | 0.4684 | 15.6501 | 3.6764 | 0.0704 | 2.3925        | 0.1708       | 2.5633     | 0.6836         | 0.1634        | 0.8470      |          | 7,585.4100 | 7,585.4100 | 0.2773 | 1.1038 | 7,921.2725 |

4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|--------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| Manufacturing                    | 32.59                   | 32.59    | 32.59  | 474,614     | 474,614    |
| Other Asphalt Surfaces           | 0.00                    | 0.00     | 0.00   |             |            |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot                      | 0.00                    | 0.00     | 0.00   |             |            |
| Unrefrigerated Warehouse-No Rail | 32.59                   | 32.59    | 32.59  | 474,561     | 474,561    |
| Total                            | 65.17                   | 65.17    | 65.17  | 949,175     | 949,175    |

4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing                    | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|------------------------|--------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category               | lb/day |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |          |
| NaturalGas Mitigated   | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |
| NaturalGas Unmitigated | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |

Operation - Trucks - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 836.493         | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 265.846         | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Mitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 0.836493        | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 0.265846        | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e |        |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|------|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |      |        |
| Mitigated   | 2.9498 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     |      | 0.0660 |
| Unmitigated | 2.9498 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     |      | 0.0660 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e   |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|--------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |        |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Consumer Products     | 2.6091        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     |        | 0.0660        |
| <b>Total</b>          | <b>2.9498</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     |        | <b>0.0660</b> |

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6091        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9498</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Operation - Trucks - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Operation - Trucks  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 112.83 | 1000sqft | 2.49        | 112,830.00         | 0          |
| Manufacturing                    | 17.00  | 1000sqft | 0.39        | 17,000.00          | 0          |
| Parking Lot                      | 123.00 | Space    | 0.46        | 20,193.00          | 0          |
| Other Asphalt Surfaces           | 2.03   | Acre     | 2.03        | 88,426.80          | 0          |
| Other Non-Asphalt Surfaces       | 27.98  | 1000sqft | 0.64        | 0.00               | 0          |

**1.2 Other Project Characteristics**

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 33    |
| <b>Climate Zone</b>             | 9                          |                                 |       | <b>Operational Year</b>          | 2022  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 509.98                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.033 | <b>N2O Intensity (lb/MW hr)</b>  | 0.004 |

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

Project Characteristics - Based on CO2e intensity of 512 lbs/MWh as reported in SCE 2020 Sustainability Report

Land Use - Based on information provided. See assumptions file in the AQ/GHG appendix.

Construction Phase -

Vehicle Trips - Based on information provided by Urban Crossroads. See assumptions file in the AQ/GHG appendix for details.

Fleet Mix - See assumptions file in the AQ/GHG appendix for details.

Water And Wastewater - Modeling mobile emissions only.

Solid Waste - Modeling mobile emissions only.

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Table Name  | Column Name       | Default Value | New Value |
|-------------|-------------------|---------------|-----------|
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | HHD               | 8.0320e-003   | 0.57      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDA               | 0.55          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT1              | 0.06          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LDT2              | 0.19          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD1              | 0.02          | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | LHD2              | 5.9120e-003   | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MCY               | 0.02          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MDV               | 0.13          | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MH                | 3.3970e-003   | 0.00      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | MHD               | 0.01          | 0.43      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | OBUS              | 9.4000e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | SBUS              | 6.9200e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblFleetMix | UBUS              | 6.1700e-004   | 0.00      |
| tblLandUse  | LandUseSquareFeet | 49,200.00     | 20,193.00 |
| tblLandUse  | LandUseSquareFeet | 27,979.00     | 0.00      |
| tblLandUse  | LotAcreage        | 2.59          | 2.49      |
| tblLandUse  | LotAcreage        | 1.11          | 0.46      |

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                          |               |        |
|---------------------------|--------------------------|---------------|--------|
| tblProjectCharacteristics | CO2IntensityFactor       | 390.98        | 509.98 |
| tblSolidWaste             | SolidWasteGenerationRate | 21.08         | 0.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 106.06        | 0.00   |
| tblVehicleTrips           | CC_TTP                   | 28.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 13.00         | 0.00   |
| tblVehicleTrips           | CNW_TTP                  | 41.00         | 0.00   |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TL                    | 16.60         | 40.01  |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | CW_TTP                   | 59.00         | 100.00 |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | DV_TP                    | 5.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PB_TP                    | 3.00          | 0.00   |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | PR_TP                    | 92.00         | 100.00 |
| tblVehicleTrips           | ST_TR                    | 6.42          | 1.92   |
| tblVehicleTrips           | ST_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | SU_TR                    | 5.09          | 1.92   |
| tblVehicleTrips           | SU_TR                    | 1.74          | 0.29   |
| tblVehicleTrips           | WD_TR                    | 3.93          | 1.92   |
| tblVehicleTrips           | WD_TR                    | 1.74          | 0.29   |
| tblWater                  | IndoorWaterUseRate       | 3,931,250.00  | 0.00   |
| tblWater                  | IndoorWaterUseRate       | 26,091,937.50 | 0.00   |

Operation - Trucks - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9498        | 2.6000e-004    | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081         | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.4640        | 16.2784        | 3.6977        | 0.0704        | 2.3925        | 0.1709        | 2.5634        | 0.6836         | 0.1635        | 0.8471        |          | 7,586.0034        | 7,586.0034        | 0.2769        | 1.1047        | 7,922.1113        |
| <b>Total</b> | <b>3.4257</b> | <b>16.3867</b> | <b>3.8174</b> | <b>0.0710</b> | <b>2.3925</b> | <b>0.1792</b> | <b>2.5718</b> | <b>0.6836</b>  | <b>0.1718</b> | <b>0.8554</b> |          | <b>7,715.7522</b> | <b>7,715.7522</b> | <b>0.2796</b> | <b>1.1070</b> | <b>8,052.6349</b> |

Mitigated Operational

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 2.9498        | 2.6000e-004    | 0.0289        | 0.0000        |               | 1.0000e-004   | 1.0000e-004   |                | 1.0000e-004   | 1.0000e-004   |          | 0.0619            | 0.0619            | 1.6000e-004   |               | 0.0660            |
| Energy       | 0.0119        | 0.1081         | 0.0908        | 6.5000e-004   |               | 8.2100e-003   | 8.2100e-003   |                | 8.2100e-003   | 8.2100e-003   |          | 129.6870          | 129.6870          | 2.4900e-003   | 2.3800e-003   | 130.4576          |
| Mobile       | 0.4640        | 16.2784        | 3.6977        | 0.0704        | 2.3925        | 0.1709        | 2.5634        | 0.6836         | 0.1635        | 0.8471        |          | 7,586.0034        | 7,586.0034        | 0.2769        | 1.1047        | 7,922.1113        |
| <b>Total</b> | <b>3.4257</b> | <b>16.3867</b> | <b>3.8174</b> | <b>0.0710</b> | <b>2.3925</b> | <b>0.1792</b> | <b>2.5718</b> | <b>0.6836</b>  | <b>0.1718</b> | <b>0.8554</b> |          | <b>7,715.7522</b> | <b>7,715.7522</b> | <b>0.2796</b> | <b>1.1070</b> | <b>8,052.6349</b> |

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

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.4640 | 16.2784 | 3.6977 | 0.0704 | 2.3925        | 0.1709       | 2.5634     | 0.6836         | 0.1635        | 0.8471      |          | 7,586.0034 | 7,586.0034 | 0.2769 | 1.1047 | 7,922.1113 |
| Unmitigated | 0.4640 | 16.2784 | 3.6977 | 0.0704 | 2.3925        | 0.1709       | 2.5634     | 0.6836         | 0.1635        | 0.8471      |          | 7,586.0034 | 7,586.0034 | 0.2769 | 1.1047 | 7,922.1113 |

**4.2 Trip Summary Information**

| Land Use                         | Average Daily Trip Rate |              |              | Unmitigated    | Mitigated      |
|----------------------------------|-------------------------|--------------|--------------|----------------|----------------|
|                                  | Weekday                 | Saturday     | Sunday       | Annual VMT     | Annual VMT     |
| Manufacturing                    | 32.59                   | 32.59        | 32.59        | 474,614        | 474,614        |
| Other Asphalt Surfaces           | 0.00                    | 0.00         | 0.00         |                |                |
| Other Non-Asphalt Surfaces       | 0.00                    | 0.00         | 0.00         |                |                |
| Parking Lot                      | 0.00                    | 0.00         | 0.00         |                |                |
| Unrefrigerated Warehouse-No Rail | 32.59                   | 32.59        | 32.59        | 474,561        | 474,561        |
| <b>Total</b>                     | <b>65.17</b>            | <b>65.17</b> | <b>65.17</b> | <b>949,175</b> | <b>949,175</b> |

**4.3 Trip Type Information**

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Manufacturing                    | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |
| Other Asphalt Surfaces           | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces       | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Unrefrigerated Warehouse-No Rail | 40.01      | 8.40       | 6.90        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.4 Fleet Mix**

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Manufacturing                    | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces           | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Other Non-Asphalt Surfaces       | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Parking Lot                      | 0.546774 | 0.061880 | 0.186704 | 0.127505 | 0.022909 | 0.005912 | 0.010702 | 0.008032 | 0.000940 | 0.000617 | 0.023937 | 0.000692 | 0.003397 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.430769 | 0.569231 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|------------------------|--------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category               | lb/day |        |        |             |               |              |             |                |               |             | lb/day   |           |           |             |             |          |
| NaturalGas Mitigated   | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |
| NaturalGas Unmitigated | 0.0119 | 0.1081 | 0.0908 | 6.5000e-004 |               | 8.2100e-003  | 8.2100e-003 |                | 8.2100e-003   | 8.2100e-003 |          | 129.6870  | 129.6870  | 2.4900e-003 | 2.3800e-003 | 130.4576 |

Operation - Trucks - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 836.493         | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 265.846         | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Mitigated

|                             | Natural Gas Use | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|-----------------------------|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use                    | kBTU/yr         | lb/day        |               |               |                    |               |                    |                    |                |                    |                    | lb/day   |                 |                 |                    |                    |                 |
| Manufacturing               | 0.836493        | 9.0200e-003   | 0.0820        | 0.0689        | 4.9000e-004        |               | 6.2300e-003        | 6.2300e-003        |                | 6.2300e-003        | 6.2300e-003        |          | 98.4110         | 98.4110         | 1.8900e-003        | 1.8000e-003        | 98.9958         |
| Other Asphalt Surfaces      | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Other Non-Asphalt Surfaces  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Parking Lot                 | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000             |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Unrefrigerated Warehouse-No | 0.265846        | 2.8700e-003   | 0.0261        | 0.0219        | 1.6000e-004        |               | 1.9800e-003        | 1.9800e-003        |                | 1.9800e-003        | 1.9800e-003        |          | 31.2760         | 31.2760         | 6.0000e-004        | 5.7000e-004        | 31.4619         |
| <b>Total</b>                |                 | <b>0.0119</b> | <b>0.1081</b> | <b>0.0908</b> | <b>6.5000e-004</b> |               | <b>8.2100e-003</b> | <b>8.2100e-003</b> |                | <b>8.2100e-003</b> | <b>8.2100e-003</b> |          | <b>129.6870</b> | <b>129.6870</b> | <b>2.4900e-003</b> | <b>2.3700e-003</b> | <b>130.4576</b> |

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e |        |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|------|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |      |        |
| Mitigated   | 2.9498 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     |      | 0.0660 |
| Unmitigated | 2.9498 | 2.6000e-004 | 0.0289 | 0.0000 |               | 1.0000e-004  | 1.0000e-004 |                | 1.0000e-004   | 1.0000e-004 |          | 0.0619    | 0.0619    | 1.6000e-004 |     |      | 0.0660 |

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e   |               |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|--------|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |        |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Consumer Products     | 2.6091        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000 |               |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     |        | 0.0660        |
| <b>Total</b>          | <b>2.9498</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     |        | <b>0.0660</b> |

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.3380        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 2.6091        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 2.6900e-003   | 2.6000e-004        | 0.0289        | 0.0000        |               | 1.0000e-004        | 1.0000e-004        |                | 1.0000e-004        | 1.0000e-004        |          | 0.0619        | 0.0619        | 1.6000e-004        |     | 0.0660        |
| <b>Total</b>          | <b>2.9498</b> | <b>2.6000e-004</b> | <b>0.0289</b> | <b>0.0000</b> |               | <b>1.0000e-004</b> | <b>1.0000e-004</b> |                | <b>1.0000e-004</b> | <b>1.0000e-004</b> |          | <b>0.0619</b> | <b>0.0619</b> | <b>1.6000e-004</b> |     | <b>0.0660</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Operation - Trucks - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

---

## Appendix B Health Risk Assessment

## Appendix

*This page intentionally left blank.*

August 2021 | Health Risk Assessment

# 4416 AZUSA CANYON ROAD

City of Irwindale

*Prepared for:*

**City of Irwindale**

Contact: Brandi Jones, Senior Planner  
5050 Irwindale Avenue  
Irwindale, California 91706  
626.430.2260

*Prepared by:*

**PlaceWorks**

Contact: Steve Bush, PE, Senior Engineer  
Dina El Chammas Gass, PE, Senior Engineer  
3 MacArthur Place, Suite 1100  
Santa Ana, CA 92707  
714.966.9220  
info@placeworks.com  
www.placeworks.com





Table of Contents

| <b>Section</b>   | <b>Page</b> |
|--|-------------|
| <b>1. INTRODUCTION</b> .....                                     | <b>1</b>    |
| <b>2. PROJECT DESCRIPTION</b> .....                              | <b>3</b>    |
| <b>3. EXISTING SETTING</b> .....                                 | <b>7</b>    |
| 3.1 SITE LOCATION.....   | 7           |
| 3.2 SURROUNDING USES.....  | 7           |
| 3.3 DISADVANTAGED COMMUNITIES / ENVIRONMENTAL JUSTICE AREAS..... | 7           |
| <b>4. EMISSIONS INVENTORY</b> .....                              | <b>15</b>   |
| <b>5. AIR DISPERSION MODELING</b> .....                          | <b>17</b>   |
| <b>6. RISK METHODOLOGY</b> .....                                 | <b>19</b>   |
| 6.1 CARCINOGENIC CHEMICAL RISK.....                              | 19          |
| 6.2 NONCARCINOGENIC HAZARDS.....                                 | 21          |
| 6.3 CUMULATIVE THRESHOLDS.....                                   | 21          |
| <b>7. RESULTS AND CONCLUSIONS</b> .....                          | <b>23</b>   |
| 7.1 HEALTH RISK RESULTS.....                                     | 23          |
| 7.2 CUMULATIVE ANALYSIS.....                                     | 23          |
| <b>8. REFERENCES</b> .....                                       | <b>29</b>   |

**APPENDICES**

- Appendix A. Emissions Inventory
- Appendix B. Air Dispersion Model Output
- Appendix C. HARP2 Risk Calculations

## Table of Contents

### *List of Figures*

| <b>Figure</b> |  | <b>Page</b> |
|---------------|--|-------------|
| Figure 1      | Conceptual Site Plan.....                | 5           |
| Figure 2      | Site Location.....                       | 9           |
| Figure 3      | Disadvantaged Communities .....          | 11          |
| Figure 4      | Pollution Burden.....                    | 13          |
| Figure 5      | Project Site and Receptor Locations..... | 27          |

### *List of Tables*

| <b>Table</b> |                   | <b>Page</b> |
|--------------|-------------------|-------------|
| Table 1      | HRA Results ..... | 23          |

# 1. Introduction

---

Rexford Industrial Realty proposes to develop the 5.89-acre project site with a stand-alone concrete tilt-up warehouse, office, and manufacturing facility at 4416 Azusa Canyon Road (proposed project). The site's development would involve demolition of the existing Pepsi Bottling Group building on-site, which ceased operation on December 5, 2020.

There are air quality sensitive receptors within 1,000 feet of the project, including a single-family residence approximately 550 feet north on East Cypress Street and a mobile home park approximately 700 feet to the southwest. Additionally, Manzanita Elementary School is approximately 1,075 feet to the southeast of the project site. Operation of the proposed project would generate diesel particulate matter (DPM, a toxic air contaminant) emissions due to trucking- and warehouse-related activity in proximity to these nearby sensitive receptors. As recommended under the guidelines of "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act" prepared by the Office of the Attorney General of California, an operational health risk assessment (HRA) was conducted to evaluate potential health risk impacts from project-related truck trips and other project-related sources of DPM to the nearby surrounding sensitive receptors (OAG 2021). Guidance from the California Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA), California Air Pollution Control Officers Association (CAPCOA), and the South Coast Air Quality Management District (South Coast AQMD) was used to complete the HRA.

Air dispersion modeling was conducted using the AERMOD atmospheric dispersion model (Lakes AERMOD View, version 10.0.1). The health risk calculations were performed using California Air Resources Board's (CARB) Hot Spots Analysis and Reporting Program, version 2 (HARP2), Risk Assessment Standalone Tool (CARB 2021a). HARP2 includes the current OEHHA toxicity factor database to calculate cancer risks and noncancer health hazards for various receptor types.

This HRA considers the health impact to sensitive receptors from diesel trucks and diesel-fueled off-road equipment (i.e., forklifts and yard trucks). Health impacts were based on conservative (i.e., health protective) assumptions. The United States Environmental Protection Agency (USEPA 2005) and OEHHA (2015) note that conservative assumptions used in a risk assessment are intended to ensure that the estimated risks do not underestimate the actual risks. Therefore, the estimated risks do not necessarily represent actual risks experienced by populations near a site. The use of conservative assumptions tends to produce upper-bound estimates of risk and usually overestimate exposure and thus risk.

For residential-based receptors, the following conservative assumptions were used:

- It was assumed that maximum exposed children and adults stood outside at the site for 24 hours per day, 350 days per year. In reality, California residents typically spend, on average, 2 hours per day outdoors at their residences (USEPA 2011). This would result in lower estimated risk values.

## 1. Introduction

- The calculated risk for infants from third trimester to age 2 years is multiplied by a factor of 10 and for children from 2 to 16 years is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

For school-based receptors, the following conservative assumptions were used:

- It was assumed that elementary school students stood outside for 250 days per year for 7 years—ages 4 to 10 years, in transitional kindergarten to grade 5 at Manzanita Elementary School. In reality, students are exposed to outdoor pollutant concentration levels for part of the day and to reduced indoor pollutant concentrations for the remaining hours.
- The calculated risk for children from ages 2 to 16 years is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

## 2. Project Description

---

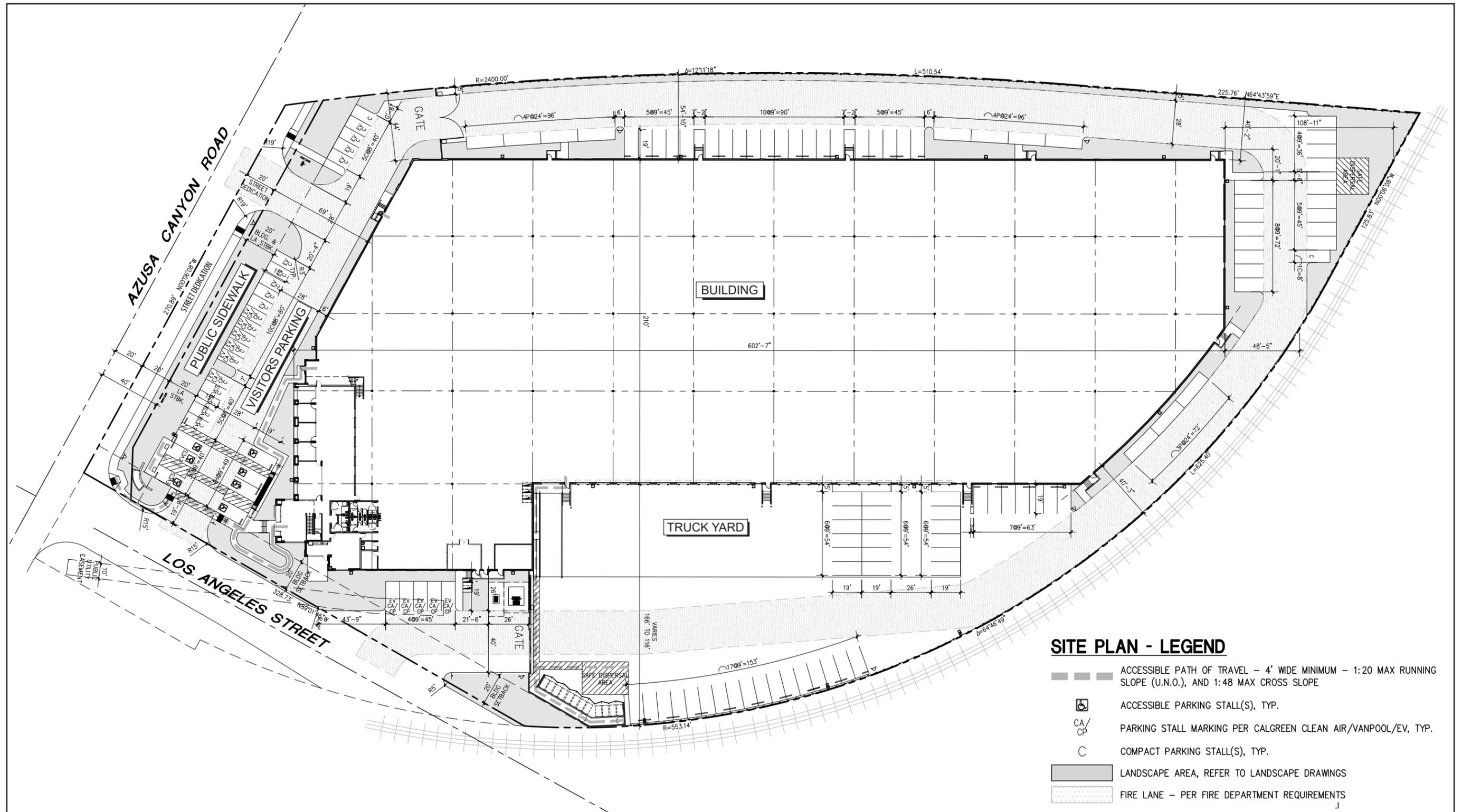
The proposed project involves the operation of a new warehouse and manufacturing facility on a currently developed site. The warehouse and manufacturing businesses (prospective tenants are unknown at this time) would operate out of a proposed 129,830-square-foot building comprising 17,000 square feet of manufacturing space, 103,670 square feet of warehousing space, and 9,160 square feet of ancillary office space to support the industrial and warehousing tenant(s). The proposed project would also include 18 dock-door positions in a secured truck court area on the southeastern side of the site. Other project components include vehicular and pedestrian access and circulation improvements; asphalt parking areas; utility and infrastructure improvements; and various hardscape and landscape improvements. Opening year is projected to be 2022. The proposed operating hours of the potential business(es) that may occupy the building is 24 hours per day, seven days a week. Although specific end users have not been established at this time, the project applicant has specified that cold storage uses would not be allowed at the warehouse. Therefore, no transport refrigeration units were evaluated in this assessment.

The conceptual site plan for the proposed project is shown in Figure 1, *Conceptual Site Plan*.

## 2. Project Description

*This page intentionally left blank.*

Figure 1 - Conceptual Site Plan



## 2. Project Description

*This page intentionally left blank.*

## 3. Existing Setting

---

### 3.1 SITE LOCATION

The project site is in the southeastern portion of the City of Irwindale in Los Angeles County. The city is approximately 20 miles east of downtown Los Angeles, with neighboring cities of West Covina, Baldwin Park, Vincent, Azusa, Duarte, El Monte, North El Monte, and Monrovia. The project site is at the northeastern corner of the Azusa Canyon Road/Los Angeles Street intersection—it is bounded by Big Dalton Wash to the north, Los Angeles County Metro railroad to the south, Los Angeles Street to the south, a railroad spur to the east, and Azusa Canyon Road to the west.

### 3.2 SURROUNDING USES

The project site is immediately surrounded by business and industrial uses to the north, east, and south. The Olive Pit mining quarry and City Public Works yard are west of Azusa Canyon Road. Residential areas are within a 1,000-foot radius to the northeast, southeast, and south of the project site. Additional residences (mobile home park) are approximately 700 feet to the southwest. There is a single-family residence approximately 530 feet to the north on East Cypress Street, and the Manzanita Elementary School is approximately 1,075 feet southeast of the site. The proposed development site and the surrounding area are shown in Figure 2, *Site Location*.

### 3.3 DISADVANTAGED COMMUNITIES / ENVIRONMENTAL JUSTICE AREAS

In 2016, the California Legislature passed Senate Bill 1000 (SB 1000), Planning for Healthy Communities Act, to incorporate environmental justice into the local land use planning process. SB 1000's definition of a disadvantaged community includes areas that:

- Are disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation;
- And have concentrations of people with low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

The California Communities Environmental Health Screening Tool (CalEnviroScreen or CES) was developed by OEHHA on behalf of CalEPA. CES is a method for identifying communities that are disproportionately burdened by pollution and/or have disproportionately vulnerable populations in those communities.

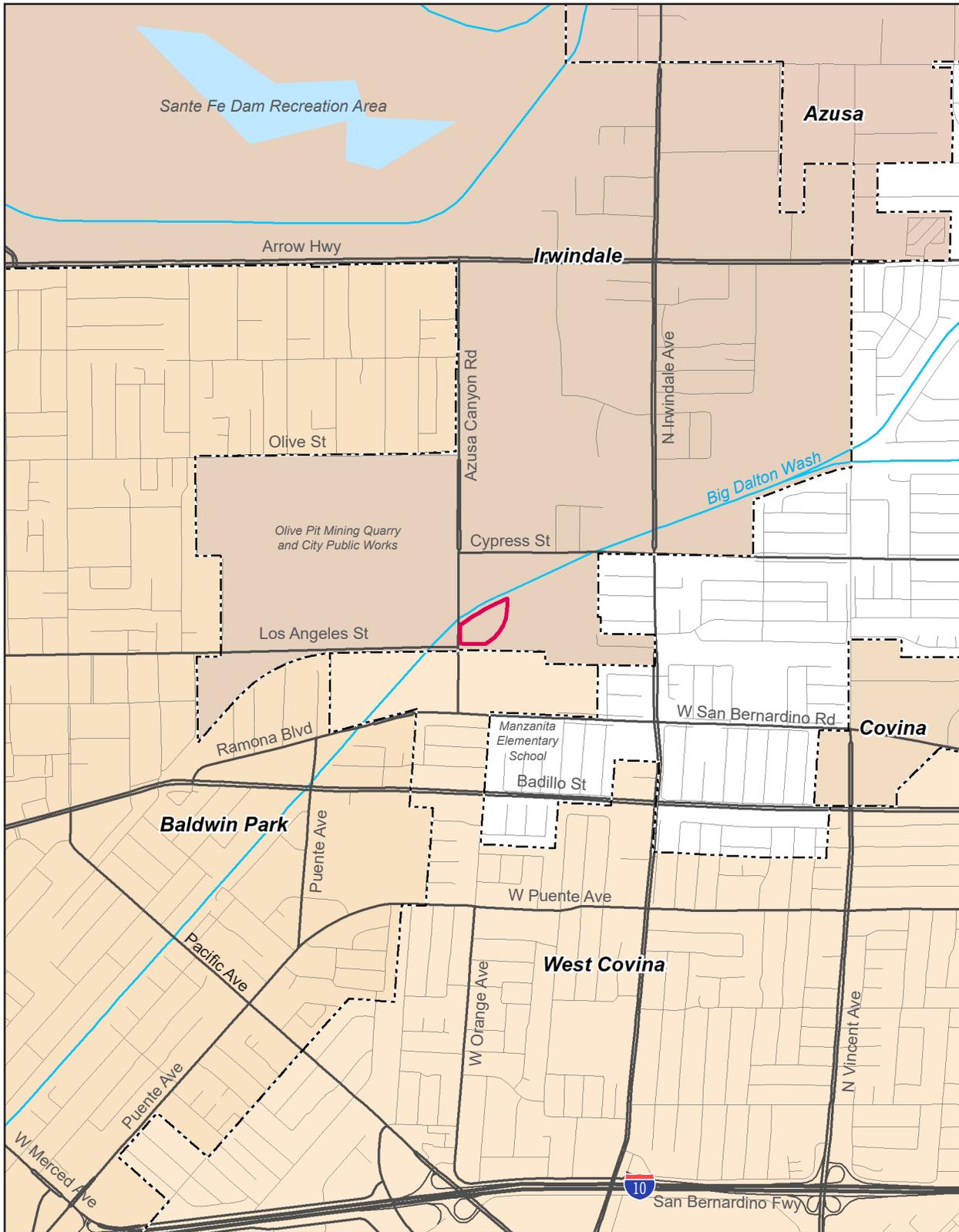
CES generates a composite score that assesses disproportionate impacts on California communities. It uses 21 indicators across four categories—pollution exposure, environmental effects, sensitive populations, and

### 3. Existing Setting

socioeconomic factors. These categories are summed into two primary metrics—pollution burden and population characteristics—which CES multiplies to arrive at the CES composite score. Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. Population characteristics represent biological traits, health status, or community characteristics that can result in increased vulnerability to pollution. The results for each census tract are measured against every other census tract in California. The outcome is a scale that sorts census tracts from the least impacted to the most impacted as a ranked percentile. Disadvantaged communities are defined as those scoring in the top 25 percent using CES (OEHHA 2018). As shown in Figure 3, *Disadvantaged Communities*, the project site is within a disadvantaged community.

Figure 3, *Pollution Burden*, shows the pollution burden for the project site and vicinity relative to California. The pollution burden map identifies communities that are exposed to pollution from human activities, such as air pollution (ozone, PM<sub>2.5</sub>, DPM), water pollution (drinking water contaminants), and hazardous materials (pesticide use, children’s lead exposure, toxic releases), and traffic density. This metric represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. As shown in Figure 4, the project site is in a census tract that ranks in the 80th to 90th percentile (85th percentile) for pollution burden.

Figure 2 - Site Location



— Project Boundary      - - - - - City Boundary

0                      2,000  
Scale (Feet)



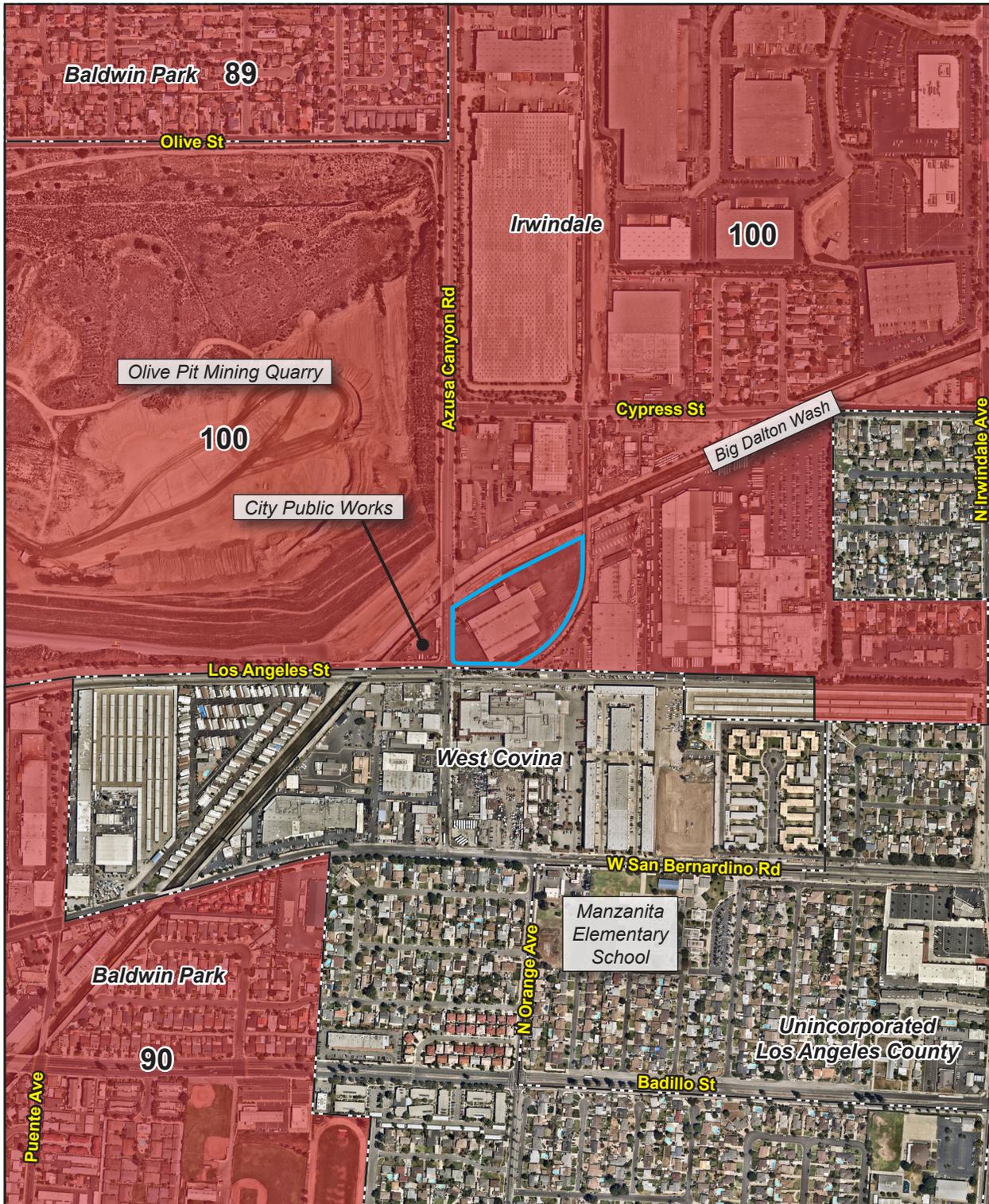
Note: Unincorporated county areas are shown in white.

Source: ESRI, 2021

### 3. Existing Setting

*This page intentionally left blank.*

Figure 3 - Disadvantaged Communities



— Project Boundary  
- - - City Boundary

**Disadvantaged Community Percentile**  
89, 90, 100 Disadvantaged Communities

0 750  
Scale (Feet)



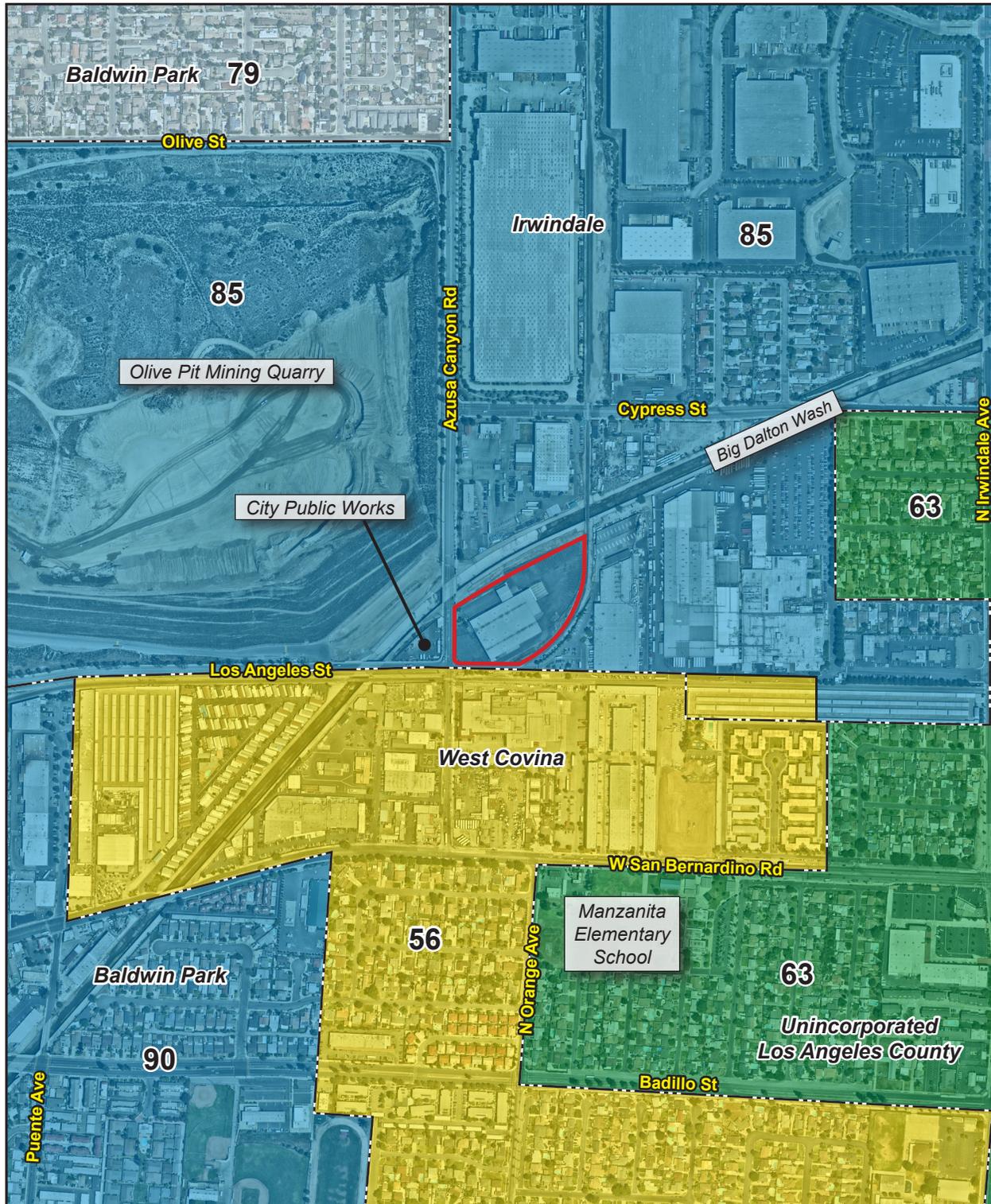
Source: CalEnviroScreen, 2021

PlaceWorks

### 3. Existing Setting

*This page intentionally left blank.*

Figure 4 - Pollution Burden



— Project Boundary

- - - City Boundary

**Pollution Burden Percentile**

|        |           |    |           |
|--------|-----------|----|-----------|
| 85, 90 | > 80 - 90 | 63 | > 60 - 70 |
| 79     | > 70 - 80 | 56 | > 50 - 60 |

0 750  
Scale (Feet)



Source: CalEnviroScreen, 2021

### 3. Existing Setting

*This page intentionally left blank.*

## 4. Emissions Inventory

---

Operational emission sources evaluated in the HRA include the diesel trucks traveling on-site over the ingress and egress driveways and idling at truck loading areas as well as the emissions from diesel trucks traveling to and from the site along surface streets (Azusa Canyon Road and Los Angeles Street). The evaluated truck volumes and truck fleet mix were prepared by Urban Crossroads and incorporated into the air quality and greenhouse gas emissions evaluation of the proposed project (Urban Crossroads 2021). According to the traffic analysis, the project would generate 28 one-way trips per day for 2-axle and 3-axle trucks and 37 one-way trips per day for 4+axle trucks (Urban Crossroads 2021). The emission rate calculations are provided in Appendix A.

Localized (on-site) truck running and idling emissions were calculated for the HRA. CARB has developed the EMFAC2021 emission factor model to account for the emission standards representative of the California fleet (CARB 2021b). Idling emission rates for trucks idling within the building loading areas were determined using an idling time of 30 minutes per truck. The PM<sub>10</sub> emission factor for diesel-fueled vehicles was used as the surrogate for DPM (CARB 2021b).

Emissions from forklifts and yard trucks were determined for the air quality and greenhouse gas emissions evaluation (PlaceWorks 2021). The proposed project modeling accounted for 10 diesel-powered yard trucks and 5 diesel-powered forklifts operating 7 hours per unit per day.<sup>1</sup> Forklift and yard truck emissions were calculated as annual average emissions in tons per year using the latest version of California Emissions Estimation Model, CalEEMod version 2020.4 (CAPCOA 2021).

Emission-rate calculations were based on EMFAC2021 and OFFROAD2017 emissions data for the project buildout year (2022). Using only the emission factors for the year 2022 is conservative because emissions are predicted to decline over time with implementation of CARB's Diesel Risk Reduction Plan and increasing emissions requirements for engines (CARB 2000). For instance, CARB estimates DPM emissions in 2035 will be less than half those in 2010 (CARB 2021c).

---

<sup>1</sup> Based on information provided by the project applicant. It is assumed the proposed uses would be in operation 24 hours per day and 7 days a week. However, while forklifts and yard trucks would be available and on standby for use during operating hours, it is not anticipated that these pieces of equipment would operate continuously throughout the entirety of the 24-hour/7-day operating hours. Thus, the equipment operating hours of 7 hours per day per unit represent the total cumulative hours each piece of off-road equipment would be in use per day.

## 4. Emissions Inventory

*This page intentionally left blank.*

## 5. Air Dispersion Modeling

---

Air dispersion modeling was performed using the AERMOD atmospheric dispersion model (Lakes AERMOD View, version 10.0.1). The model is a steady-state Gaussian plume model and is approved by South Coast AQMD for estimating ground-level impacts from point and fugitive sources in simple and complex terrain. The on-site emissions from truck travel, truck idling, forklifts, and yard trucks were modeled as polyarea sources. The off-site truck travel emissions were modeled as adjacent volume sources. The off-site truck route includes surface streets (Azusa Canyon Road and Los Angeles Street). A 10-meter by 10-meter receptor grid was used for receptors within approximately 1,000 feet of the proposed site. Additional receptors were modeled at the northern boundary of the Manzanita Elementary School site, approximately 1,075 feet from the project site.

The model requires additional input parameters, including local meteorology and terrain. AERMOD-ready meteorological (met) data was obtained from South Coast AQMD for the nearest representative met station with the five latest available years of record (Azusa 2012–2016) to represent local weather conditions and prevailing winds. The prevailing wind direction at the Azusa met station is to the east-northeast, and the wind rose is provided in Appendix B.

The modeling also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. Digital elevation model data for the project site and surrounding area were obtained and included in the model runs to account for complex terrain. An emissions release height of 4.15 meters was used as representative of the stack exhaust height for off-road equipment and diesel truck traffic, and an initial vertical dispersion parameter of 1.93 meters was used, per CARB guidance (CARB 2000). In evaluating yard equipment (i.e., yard trucks and forklifts), the variable emissions module was utilized in AERMOD to account for the evaluated activity hours of 7 hours per day, 7 days per week.

A unit emission rate of 1 gram per second was used for all emission sources to obtain normalized pollutant concentrations per unit emission rate, which are necessary for input into the risk assessment model (HARP2). The AERMOD model output for the emission sources is in Appendix B.

## 5. Air Dispersion Modeling

*This page intentionally left blank.*

## 6. Risk Methodology

---

### 6.1 CARCINOGENIC CHEMICAL RISK

Carcinogenic compounds do not have threshold levels (i.e., dose levels below which there are no risks). Therefore, any exposure will have some associated risk. The South Coast AQMD has established a maximum incremental cancer risk of 10 in a million ( $1 \times 10^{-5}$  or  $10 \times 10^{-6}$ ) for California Environmental Quality Act (CEQA) projects, and the OEHHA also sets a typical risk management level as 10 in a million (OEHHA 2015).

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its cancer potency factor (CPF), a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It is an upper-limit estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) averaged over a lifetime of 70 years.

Recent guidance from OEHHA recommends a refinement to the standard point estimate approach with the use of age-specific breathing rates and age sensitivity factors (ASF) to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day ( $\text{mg}/\text{kg}/\text{day}$ )<sup>-1</sup> to derive the cancer risk estimate. Therefore, the following dose algorithm was used to accommodate the unique exposures associated with each receptor type.

$$\text{Dose}_{\text{AIR,per age group}} = (C_{\text{air}} \times \text{EF} \times \left[\frac{\text{BR}}{\text{BW}}\right] \times A \times \text{CF})$$

where:

|                            |   |  |
|----------------------------|---|--|
| $\text{Dose}_{\text{AIR}}$ | = | dose by inhalation ( $\text{mg}/\text{kg}/\text{day}$ ), per age group                               |
| $C_{\text{air}}$           | = | concentration of contaminant in air ( $\mu\text{g}/\text{m}^3$ )                                     |
| EF                         | = | exposure frequency (number of days/365 days)   |
| BR/BW                      | = | daily breathing rate normalized to body weight ( $\text{L}/\text{kg}/\text{day}$ )                   |
| A                          | = | inhalation absorption factor (default = 1)   |
| CF                         | = | conversion factor ( $1 \times 10^{-6}$ , $\mu\text{g}$ to $\text{mg}$ , $\text{L}$ to $\text{m}^3$ ) |

The inhalation absorption factor (A) is a unitless factor that is only used if the cancer potency factor included a correction for absorption across the lung. The default value of 1 was used for this assessment. For residential receptors, the exposure frequency (EF) of 0.96 is used to represent 350 days per year to allow for a two-week period away from home each year (OEHHA 2015). This timeline is considered appropriate for potential

## 6. Risk Methodology

workplace exposures established by OEHHA. The daily breathing rates (BR/BW), exposure duration (ED), age sensitivity factors (ASF), and fraction of time at home (FAH) for the various age groups follow:

| <u>Age Groups</u> | <u>BR/BW (L/kg-day)</u> | <u>ED</u> | <u>ASF</u> | <u>FAH</u> |
|-------------------|-------------------------|-----------|------------|------------|
| Third trimester   | 361                     | 0.25      | 10         | 1          |
| 0–2 age group     | 1,090                   | 2         | 10         | 1          |
| 2–9 age group     | 861                     | 7         | 3          | 1          |
| 2–16 age group    | 745                     | 14        | 3          | 1          |
| 16–30 age group   | 335                     | 14        | 1          | 0.73       |
| 16–70 age group   | 290                     | 54        | 1          | 0.73       |

To represent the unique characteristics of student populations, the assessment employed the USEPA’s guidance to develop viable dose estimates based on reasonable maximum exposure, defined as the “highest exposure that is reasonably expected to occur” for a given receptor population. Lifetime risk values for the elementary student population were adjusted to account for an exposure of 250 days per year for 7 years (transitional kindergarten through 5th grade). In addition, the calculated risk for students is multiplied by an ASF-weighting factor of 3 (for children ages 2 to 16) to account for early life sensitivity to pollutant exposures (OEHHA 2015).

To calculate the overall cancer risk, the risk for each appropriate age group is calculated per the following equation:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{\text{AT}}$$

where:

- Dose<sub>AIR</sub> = dose by inhalation (mg/kg/day), per age group
- CPF = cancer potency factor, chemical-specific (mg/kg/day)<sup>-1</sup>
- ASF = age sensitivity factor, per age group
- FAH = fraction of time at home, per age group (for residential receptors only)
- ED = exposure duration (years)
- AT = averaging time period over which exposure duration is averaged (always 70 years)

The health risk calculations were performed using CARB’s HARP2 Risk Assessment Standalone Tool (version 21081). HARP2 includes the current OEHHA toxicity factor database to calculate cancer risks and noncancer health hazards for various receptor types. The final step converts the cancer risk in scientific notation to a whole number that expresses the cancer risk in “chances per million” by multiplying the cancer risk by a factor of 1x10<sup>6</sup> (i.e., 1 million).

Incremental cancer risk (expressed in chances per million) was calculated for the maximum exposed individual resident (MEIR) and the maximum exposed student receptor at Manzanita Elementary School. The assessment was based on reasonable maximum exposure, defined as the “highest exposure that is reasonably expected to occur” for a given receptor population. Per default exposure parameters, it was assumed that the MEIR spent

## 6. Risk Methodology

24 hours/day, 7 days/week, 350 days/year outside their residence. Similarly, the evaluated elementary school students were also assumed to spend 8 hours/day, 5 days/week, 250 days/year outside.

The calculated HARP2 output results are provided in Appendix C.

### 6.2 NONCARCINOGENIC HAZARDS

An evaluation was also conducted of the potential noncancer effects of chronic DPM exposure. Adverse health effects are evaluated by comparing the annual ground-level concentration of DPM from project operation with the appropriate reference exposure limit (REL). Examples of noncancer adverse health effects are asthma, chronic obstructive pulmonary disease, and local effects from chemical exposure to specific organs such as the eyes, kidneys, and reproductive system.

The hazard index approach was used to quantify noncarcinogenic impacts. The hazard index assumes that chronic subthreshold exposures adversely affect a specific organ or organ system (toxicological endpoint). For DPM, the target organ determined by OEHHA is the respiratory system. To calculate the hazard index, the DPM concentration is divided by the DPM's chronic REL. A hazard index of 1 or lower means air toxics are unlikely to cause adverse noncancer health effects, such as asthma, over a lifetime of exposure.

The calculated HARP2 output results are provided in Appendix C.

### 6.3 CUMULATIVE THRESHOLDS

The South Coast AQMD 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" (South Coast AQMD 2003), which states:

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

Projects that exceed the project-specific significance thresholds are considered by the South Coast AQMD 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. (p. D-3)

Therefore, the project would not result in cumulative impacts if the operation of the project would not exceed the project-specific significance thresholds.

## 6. Risk Methodology

*This page intentionally left blank.*

# 7. Results and Conclusions

## 7.1 HEALTH RISK RESULTS

Table 1 presents the results summary for the proposed project at the MEIR and Manzanita Elementary School. As shown in Figure 5, *Project Site and Receptor Locations*, the HRA predicted the MEIR location to be the single-family residence on the south side of East Cypress Street, approximately 550 feet north of the project site. The results in Table 1 indicate that the maximum incremental cancer risk at the MEIR is 1.4 per million, which is below the significance threshold of 10 per million. Similarly, the incremental cancer risk for the maximum exposed student receptor is 0.08 per million, which is well below the 10 in a million significance threshold. For noncarcinogenic effects, the chronic hazard indices identified for the respiratory system totaled well below the significance threshold of 1.0 for the MEIR and the maximum exposed student receptor.

**Table 1 HRA Results**

| Receptor                                   | Cancer Risk (per million) | Noncancer Risk Chronic Hazard Index |
|--|---------------------------|-------------------------------------|
| Maximum Exposed Individual Resident (MEIR) | 1.4                       | <0.001                              |
| Manzanita Elementary School – Student      | 0.04                      | <0.001                              |
| South Coast AQMD Threshold                 | 10                        | 1.0                                 |
| <b>Exceeds Threshold?</b>                  | <b>No</b>                 | <b>No</b>                           |

Source: Appendix C.

Note: Cancer risk calculated using 2015 OEHHA Guidance Manual.

MEIR cancer risks are calculated for the 30-yr residential scenario. Manzanita Elementary School cancer risk calculated for 7-year student scenario (ages 4 to 10).

Therefore, the proposed project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions during project operation, and impacts would be *less than significant*.

## 7.2 CUMULATIVE ANALYSIS

As described in Section 6.3, the project-specific and cumulative significance thresholds are the same because the background risk in the South Coast Air Basin (SoCAB) is already high; therefore, the threshold is based on the potential for a project to cumulatively contribute to elevated levels of risk in the SoCAB (South Coast AQMD 2003). Therefore, the project would not result in cumulative impacts since operation of the project would not exceed the project-specific significance thresholds.

### AIR QUALITY TRENDS

The National Association of Industrial and Office Properties (NAIOP) prepared a white paper that describes air quality trends in the SoCAB (NAIOP 2019). To summarize that report, air quality over the period from

## 7. Results and Conclusions

1980 to 2018 has drastically improved and will continue to improve for the air basin, with emerging technologies being unveiled on a yearly basis as well as South Coast AQMD rule development, implementation programs, and air quality management plans. The NAIOP concludes that rigorous individualized review under CEQA on a project-by-project basis is the correct policy to enforce to ensure public health.

Overall cancer risk throughout the SoCAB has been on a declining trend since 1990. In April 2021, the South Coast AQMD “Multiple Air Toxics Exposure Study in the South Coast Air Basin (Basin),” MATES V, showed that the average cancer risk in the air basin of 454 per million had decreased by 54 percent since 2012 (South Coast AQMD 2021). The countywide, population-weighted cancer risk for Los Angeles County was determined as 497 per million (South Coast AQMD 2021). Additionally, CARB estimates DPM emissions in 2035 will be less than half those in 2010 (CARB 2020).

### ENVIRONMENTAL JUSTICE CONCERNS

According to the recommendation of the Office of the Attorney General of California, the operational HRA was conducted to evaluate potential health risk impacts from project-related truck trips and other project-related sources of DPM to the nearby surrounding sensitive receptors. The HRA is an example best practice under the guidelines of the “Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act” (OAG 2021). As discussed above, the project would not result in cumulative impacts to the nearby residents because operation of the project would not exceed the project-specific significance thresholds.

### OTHER WAREHOUSE PROJECTS

For informational purposes, a review was conducted of recent and nearby warehouse projects under the City’s cumulative project list. The following new large warehouse projects in the vicinity of the project site were reviewed to determine if potential impacts would affect the sensitive receptors evaluated for the proposed project.

- Irwindale Industrial Center Project at 5010 Azusa Canyon Road; approximately 234,000 SF of speculative industrial buildings; Initial Study Mitigated Negative Declaration dated September 2019; 0.60 mile north of the project site.
- 5175 Vincent Avenue Project; approximately 545,735 SF of speculative warehouse; Draft EIR dated February 2021; 0.86 mile northeast of the project site.
- 13131 Los Angeles Street Industrial Project; approximately 528,710 SF of speculative industrial/warehouse; Draft EIR dated April 2020; 2.4 miles east of the project site.

Applicants for all three warehouse projects conducted HRAs to determine the localized health risks to nearby residents. For the 5010 Azusa Canyon Road project, the incremental cancer risk at the MEIR west of the project site was determined at 0.3 in a million. For the 5175 Vincent Avenue project, the incremental cancer risk at the MEIR within 75 feet of the project was 3.7 in a million. For the 13131 Los Angeles Street project, the incremental cancer risk at the MEIR 660 feet to the east was 2.7 in a million. When the MEIR risks are

## 7. Results and Conclusions

combined with the proposed project MEIR risk, and not accounting for the spatial distance between the site locations and the locations of the different MEIRs, the total residential cancer risk for the proposed project and the three nearby warehouse projects totals 8.1 in a million. Though this value is still below South Coast AQMD's significance threshold of 10 in a million, it should be noted that the actual combined risk from these projects at any one receptor location would be much less because pollutant concentrations substantially decrease with distance from the pollution source.

## 7. Results and Conclusions

*This page intentionally left blank.*

Figure 5 - Project Site and Receptor Locations



## 7. Results and Conclusions

*This page intentionally left blank.*

## 8. References

---

- CAPCOA (California Air Pollution Control Officers Association). 2021. California Emissions Estimator Model (CalEEMod). Version 2020.4. Prepared by BREEZE Software, a Division of Trinity Consultants, in collaboration with South Coast Air Quality Management District and the California Air Districts.
- CARB (California Air Resources Board). 2021a, March 23. Hotspots Analysis and Report Program (HARP2), Risk Assessment Standalone Tool (RAST). Version 21081.
- . 2021b, April (updated). *EMFAC2021: Calculating Emission Inventories for Vehicles in California*. Accessed August 5, 2021. <https://arb.ca.gov/emfac/>.
- . 2021c. Overview: Diesel Exhaust and Health. CARB website. Accessed August 5, 2021. <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>.
- . 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*.
- NAIOP (National Association of Industrial and Office Properties). 2019, November 19. “Good Neighbor’ Policy for Logistics and Warehouse/Distribution Uses: Agenda Item 3.23; Board Policy F-3. White paper.
- OAG (Office of the Attorney General). 2021, August 11 (accessed). “Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act.” <https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf>.
- OEHHA (Office of Environmental Health Hazard Assessment). 2018, January (updated). SB 535 Disadvantaged Communities. Accessed August 5, 2021. <https://oehha.ca.gov/calenviroscreen/sb535>.
- . 2015, February. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments*.
- PlaceWorks. 2021, August. *Air Quality evaluation for Mitigated Negative Declaration, 4416 Azusa Canyon Road Project*.
- South Coast AQMD (South Coast Air Quality Management District). 2021, April. Multiple Air Toxics Exposure Study V (MATES V). Accessed August 10, 2021. <http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v>.
- . 2012–2016. Meteorological Data Set for Azusa Meteorological Station. Accessed May 30, 2021. <http://www.aqmd.gov/home/air-quality/meteorological-data/data-for-aermod>.
- . 2003. “Potential Control Strategies to Address Cumulative Impacts from Air Pollution.” By Tracy A. Goss and Amy Kroeger. South Coast AQMD white paper. Accessed August 10, 2021.

## 8. References

<http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf>.

Urban Crossroads. 2021, July 24. Azusa Canyon Road Warehouse Transportation Analysis.

USEPA (United States Environmental Protection Agency). 2011. *Exposure Factors Handbook*. 2011 edition (final). EPA/600/R-09/052F, 2011.

———. 2005 (revised). “Guideline on Air Quality Models” EPA-450/2-78-027R.

## Appendix A. Emissions Inventory

## Appendix

*This page intentionally left blank.*

**Health Risk Assessment, Emissions Inventory  
Diesel Trucks, Forklifts, and Yard Trucks  
4416 Azusa Canyon Road, Irwindale**

Operation: Industrial Warehousing

|       |      |          |
|-------|------|----------|
| Year: | 2022 | Buildout |
|-------|------|----------|

|                   |       |      |       |                          |
|-------------------|-------|------|-------|--------------------------|
|                   | hours | days | weeks |                          |
| Temporal Profile: | 24    | 7    | 52    | Site Operation           |
|                   | 7     | 7    | 52    | Yard Equipment Operation |

|                                      |    |               |       |                |
|--------------------------------------|----|---------------|-------|----------------|
| Truck Activity: <sup>(1)</sup>       | 65 | one-way       | 33    | round-trips    |
| 2 and 3-Axle Trucks                  | 28 | trips per day | 14    | trucks per day |
| 4+-Axle Trucks                       | 37 | trips per day | 19    | trucks per day |
| On-site Ingress/Egress Travel Length |    |               | 306   | m              |
| Off-site Travel Length               |    |               | 749.3 | m              |
| Idling Duration                      |    |               | 30    | min            |
| Truck Bays                           |    |               | 18    |                |

| Running Emissions:  | Veh Category | Emission Factor (g/mi) <sup>(2)</sup> | Emission Factor (g/mi) <sup>(3)</sup> | On-site Running g/s | Off-site Running g/s |
|---------------------|--------------|---------------------------------------|---------------------------------------|---------------------|----------------------|
| 2 and 3-axle trucks | MHDT         | 0.05560                               | 0.02867                               | 1.71E-06            | 2.16E-06             |
| 4+-axle trucks      | HHDT         | 0.04619                               | 0.01827                               | 1.93E-06            | 1.87E-06             |
| <b>TOTAL</b>        |              |                                       |                                       | <b>3.64E-06</b>     | <b>4.03E-06</b>      |

| Idling Emissions:   | Veh Category | Emission Factor <sup>(4)</sup> g/hr | Idling Emissions g/s | Idling Emissions g/s/bay |
|---------------------|--------------|-------------------------------------|----------------------|--------------------------|
| 2 and 3-axle trucks | MHDT         | 0.11946                             | 9.68E-06             |                          |
| 4+-axle trucks      | HHDT         | 0.01833                             | 2.02E-06             |                          |
| <b>TOTAL</b>        |              |                                     | <b>1.17E-05</b>      | <b>6.50E-07</b>          |

| Yard DPM Emissions: <sup>(1)</sup> | lbs/day | Yard Emissions g/s |
|------------------------------------|---------|--------------------|
| Yard Truck Emissions               | 0.083   | 4.34E-04           |
| Forklift Emissions                 | 0.276   | 1.45E-03           |
| <b>Total</b>                       |         | <b>1.89E-03</b>    |

(1) Truck activity, forklift and yard truck emissions from IS/MND Air Quality Appendix, PlaceWorks, August 2021. Exhaust PM10 emissions used as surrogate for diesel particulate matter (DPM), per South Coast AQMD guidance.

(2) PM10 running emission factors (g/mi) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022 (5 mph).

(3) PM10 running emission factors (g/mi) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022 (30 mph).

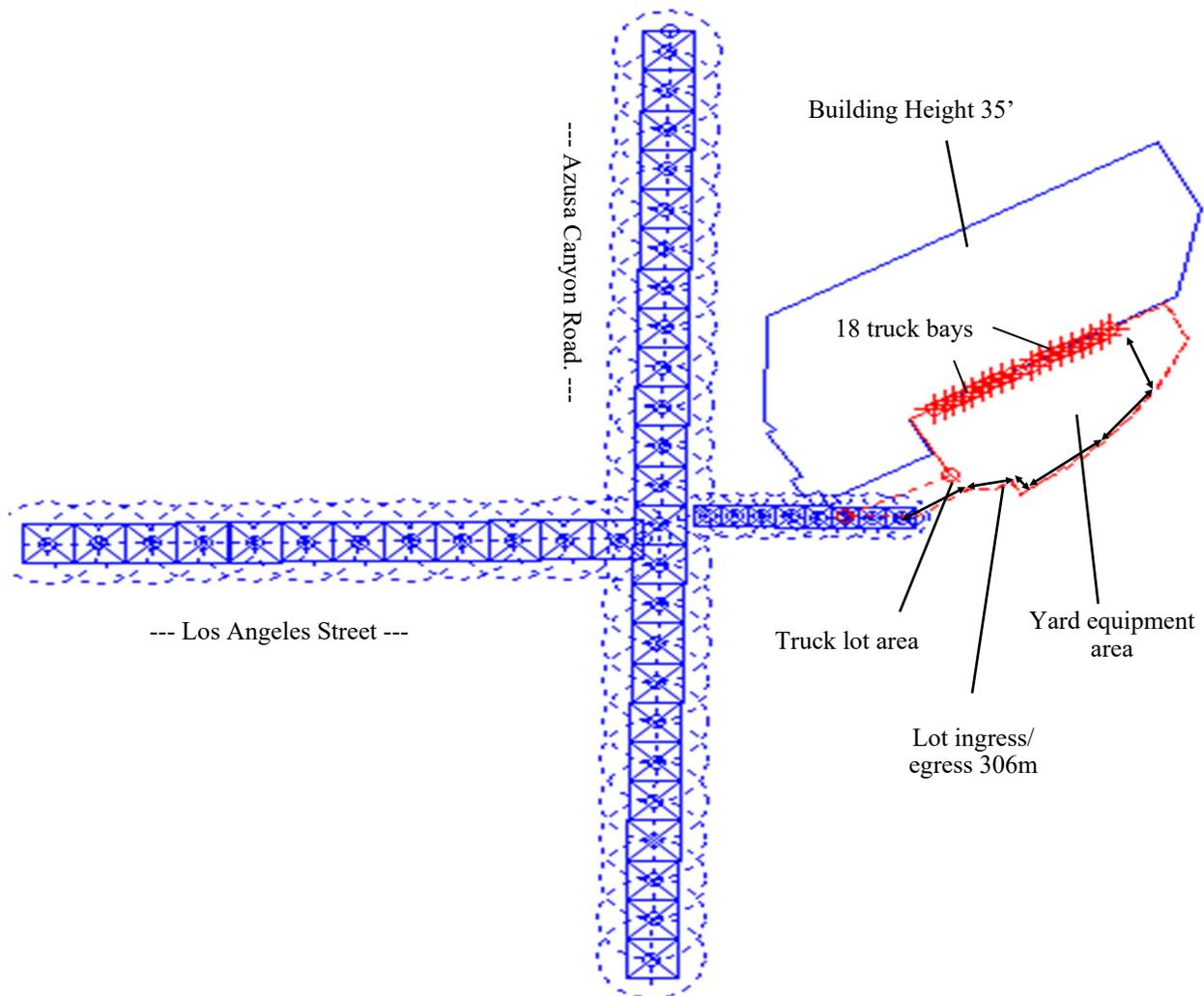
(4) PM10 idling emission factors (g/day) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022.

**4416 Azusa Canyon Road Project**  
 Irwindale, CA 91706  
 Operation 24 hours per day, 7 days per week



**Trucking Operations**

Heavy-Heavy Duty Trucks: 19 trucks per day  
 Medium-Heavy Duty Trucks: 14 trucks per day  
 Additional: 5 forklifts and 10 yard trucks operating 7 hours per day, 7 days per week



- Release height of 4.15 m and initial vertical dimension ( $\delta y$ ) of 1.93 m is based upon California Air Resources Board's "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles" (2000).
- The following point source specifications were used to model truck idling at loading bays: stack temp 366 K, stack velocity 51.7 m/s, stack diameter 4 in, stack height 4.15 m (CARB, Risk Characterization Scenarios, Appendix VII for idling diesel trucks, 2000).

## Appendix B. Air Dispersion Model Output

## Appendix

*This page intentionally left blank.*

# Control Pathway

AERMOD

## Dispersion Options

|  |  |
|--|--|
| <b>Titles</b><br>HRA for 4416 Azusa Canyon Road  |  |
| <b>Dispersion Options</b><br><input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options | <b>Dispersion Coefficient</b><br>Urban      Population:<br>Name (Optional):<br>Roughness Length:   |
|  | <b>Output Type</b><br><input checked="" type="checkbox"/> Concentration<br><input type="checkbox"/> Total Deposition (Dry & Wet)<br><input type="checkbox"/> Dry Deposition<br><input type="checkbox"/> Wet Deposition |
|  | <b>Plume Depletion</b><br><input type="checkbox"/> Dry Removal<br><input type="checkbox"/> Wet Removal   |
|  | <b>Output Warnings</b><br><input type="checkbox"/> No Output Warnings<br><input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data   |

## Pollutant / Averaging Time / Terrain Options

|  |   |
|--|---|
| <b>Pollutant Type</b><br><br><b>Averaging Time Options</b><br>Hours <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24<br><input type="checkbox"/> Month <input checked="" type="checkbox"/> Period <input type="checkbox"/> Annual | <b>Exponential Decay</b><br>Half-life of 4 hrs will be used   |
| <b>Flagpole Receptors</b><br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Default Height = 0.00 m  | <b>Terrain Height Options</b><br><input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated    SO: Meters<br>RE: Meters<br>TG: Meters |

## Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

### Detailed Error Listing File

Filename: 4416 AZUSA CANYON ROAD.err

# Source Pathway - Source Inputs

AERMOD

## Point Sources

| Source Type | Source ID | X Coordinate [m]          | Y Coordinate [m] | Base Elevation (Optional) [m] | Release Height [m] | Emission Rate [g/s] | Gas Exit Temp. [K] | Gas Exit Velocity [m/s] | Stack Inside Diameter [m] |
|-------------|-----------|---------------------------|------------------|-------------------------------|--------------------|---------------------|--------------------|-------------------------|---------------------------|
| POINT       | STCK1     | 413103.15<br>Truck Idling | 3772882.16       | 128.22                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK2     | 413106.50<br>Truck Idling | 3772884.39       | 128.22                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK3     | 413109.64<br>Truck Idling | 3772886.37       | 128.22                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK4     | 413116.49<br>Truck Idling | 3772890.22       | 128.22                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK5     | 413120.10<br>Truck Idling | 3772892.63       | 128.21                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK6     | 413113.08<br>Truck Idling | 3772888.36       | 128.22                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK7     | 413123.46<br>Truck Idling | 3772894.31       | 128.20                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK8     | 413147.50<br>Truck Idling | 3772908.74       | 128.11                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK9     | 413140.37<br>Truck Idling | 3772904.80       | 128.14                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK10    | 413127.03<br>Truck Idling | 3772896.35       | 128.19                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK11    | 413158.08<br>Truck Idling | 3772914.85       | 128.08                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK12    | 413164.52<br>Truck Idling | 3772918.89       | 128.07                        | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |

# Source Pathway - Source Inputs

AERMOD

| Source Type | Source ID | X Coordinate [m]          | Y Coordinate [m] | Base Elevation (Optional) | Release Height [m] | Emission Rate [g/s] | Gas Exit Temp. [K] | Gas Exit Velocity [m/s] | Stack Inside Diameter [m] |
|-------------|-----------|---------------------------|------------------|---------------------------|--------------------|---------------------|--------------------|-------------------------|---------------------------|
| POINT       | STCK13    | 413137.09<br>Truck Idling | 3772902.53       | 128.15                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK14    | 413130.69<br>Truck Idling | 3772898.31       | 128.18                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK15    | 413154.96<br>Truck Idling | 3772912.48       | 128.09                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK16    | 413161.70<br>Truck Idling | 3772916.64       | 128.07                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK17    | 413144.08<br>Truck Idling | 3772906.58       | 128.13                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |
| POINT       | STCK18    | 413151.34<br>Truck Idling | 3772910.65       | 128.10                    | 4.15               | 1.00000             | 366.00             | 51.60                   | 0.10                      |

# Source Pathway - Source Inputs

AERMOD

## Polygon Area Sources

Source Type: AREA POLY

Source: PAREA1 (On-Site Truck Travel)

| Base Elevation (Optional) | Release Height [m] | Emission Rate [g/ (s-m <sup>2</sup> )] | Initial Vertical Dim. [m] | Number of Vertices (or sides) | X Coordinate for Vertices [m] | Y Coordinate for Vertices [m] |
|---------------------------|--------------------|--|---------------------------|-------------------------------|-------------------------------|-------------------------------|
| 127.79                    | 4.15               | 0.00023                                | 1.93                      | 13                            | 413071.38                     | 3772832.96                    |
|                           |                    | 0.00023                                |                           |                               | 413108.59                     | 3772851.71                    |
|                           |                    | 0.00023                                |                           |                               | 413094.68                     | 3772877.56                    |
|                           |                    | 0.00023                                |                           |                               | 413185.29                     | 3772931.24                    |
|                           |                    | 0.00023                                |                           |                               | 413192.96                     | 3772913.91                    |
|                           |                    | 0.00023                                |                           |                               | 413182.45                     | 3772893.75                    |
|                           |                    | 0.00023                                |                           |                               | 413169.95                     | 3772874.43                    |
|                           |                    | 0.00023                                |                           |                               | 413156.03                     | 3772860.80                    |
|                           |                    | 0.00023                                |                           |                               | 413133.88                     | 3772842.62                    |
|                           |                    | 0.00023                                |                           |                               | 413130.18                     | 3772848.58                    |
|                           |                    | 0.00023                                |                           |                               | 413124.79                     | 3772845.46                    |
|                           |                    | 0.00023                                |                           |                               | 413115.13                     | 3772845.46                    |
|                           |                    | 0.00023                                |                           |                               | 413097.23                     | 3772832.67                    |

# Source Pathway - Source Inputs

AERMOD

Source Type: AREA POLY

Source: PAREA2 (Equipment Area)

| Base Elevation (Optional) | Release Height [m] | Emission Rate [g/ (s-m <sup>2</sup> )] | Initial Vertical Dim. [m] | Number of Vertices (or sides) | X Coordinate for Vertices [m] | Y Coordinate for Vertices [m] |
|---------------------------|--------------------|--|---------------------------|-------------------------------|-------------------------------|-------------------------------|
| 128.01                    | 4.15               | 0.00024                                | 1.93                      | 12                            | 413108.31                     | 3772851.99                    |
|                           |                    | 0.00024                                |                           |                               | 413094.68                     | 3772877.56                    |
|                           |                    | 0.00024                                |                           |                               | 413185.29                     | 3772931.53                    |
|                           |                    | 0.00024                                |                           |                               | 413192.96                     | 3772914.20                    |
|                           |                    | 0.00024                                |                           |                               | 413182.73                     | 3772893.46                    |
|                           |                    | 0.00024                                |                           |                               | 413171.37                     | 3772877.56                    |
|                           |                    | 0.00024                                |                           |                               | 413158.02                     | 3772862.78                    |
|                           |                    | 0.00024                                |                           |                               | 413139.27                     | 3772847.16                    |
|                           |                    | 0.00024                                |                           |                               | 413133.31                     | 3772843.18                    |
|                           |                    | 0.00024                                |                           |                               | 413129.33                     | 3772848.58                    |
|                           |                    | 0.00024                                |                           |                               | 413125.07                     | 3772845.17                    |
|                           |                    | 0.00024                                |                           |                               | 413114.84                     | 3772845.46                    |

# Source Pathway - Source Inputs

AERMOD

## Line Volume Sources

Source Type: LINE VOLUME

Source: SLINE2 (Driveway to LA Street)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 9.75               | 0.11000              |                     | 413096.09                   | 3772831.84                  | 127.65             | 4.15               |
|                    |                      |                     | 413014.01                   | 3772832.70                  | 127.48             | 4.15               |

Source Type: LINE VOLUME

Source: SLINE3 (Los Angeles Street)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 18.29              | 0.30000              |                     | 413000.37                   | 3772821.81                  | 127.33             | 4.15               |
|                    |                      |                     | 412778.00                   | 3772819.58                  | 126.35             | 4.15               |

Source Type: LINE VOLUME

Source: SLINE4 (Azusa Canyon Road)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 18.29              | 0.59000              |                     | 413009.34                   | 3773057.15                  | 128.26             | 4.15               |
|                    |                      |                     | 413003.09                   | 3772612.41                  | 124.88             | 4.15               |

# Source Pathway - Source Inputs

AERMOD

## Volume Sources Generated from Line Sources

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| SLINE2         | L0001199         | 413091.21        | 3772831.89       | 127.71             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001200         | 413081.46        | 3772831.99       | 127.74             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001201         | 413071.71        | 3772832.09       | 127.78             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001202         | 413061.95        | 3772832.19       | 127.76             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001203         | 413052.20        | 3772832.30       | 127.70             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001204         | 413042.45        | 3772832.40       | 127.64             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001205         | 413032.70        | 3772832.50       | 127.58             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |
|                | L0001206         | 413022.94        | 3772832.60       | 127.52             | 4.15               | 0.01375             | 9.75               |                     | 4.54                          | 1.93                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| SLINE3         | L0001207         | 412991.23        | 3772821.72       | 127.10             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001208         | 412972.94        | 3772821.53       | 127.08             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001209         | 412954.66        | 3772821.35       | 127.04             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001210         | 412936.37        | 3772821.17       | 126.99             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001211         | 412918.08        | 3772820.98       | 127.00             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001212         | 412899.80        | 3772820.80       | 124.58             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001213         | 412881.51        | 3772820.62       | 123.48             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001214         | 412863.22        | 3772820.44       | 125.22             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001215         | 412844.93        | 3772820.25       | 125.99             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001216         | 412826.65        | 3772820.07       | 126.38             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001217         | 412808.36        | 3772819.89       | 126.45             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001218         | 412790.07        | 3772819.70       | 126.29             | 4.15               | 0.02500             | 18.29              |                     | 8.51                          | 1.93                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| SLINE4         | L0001219         | 413009.21        | 3773048.01       | 128.27             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001220         | 413008.95        | 3773029.72       | 128.29             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001221         | 413008.70        | 3773011.44       | 128.32             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001222         | 413008.44        | 3772993.15       | 128.36             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001223         | 413008.18        | 3772974.86       | 127.45             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001224         | 413007.93        | 3772956.58       | 125.37             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001225         | 413007.67        | 3772938.29       | 125.88             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001226         | 413007.41        | 3772920.00       | 127.11             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001227         | 413007.16        | 3772901.72       | 127.53             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001228         | 413006.90        | 3772883.43       | 127.73             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001229         | 413006.64        | 3772865.15       | 127.57             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001230         | 413006.38        | 3772846.86       | 127.49             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001231         | 413006.13        | 3772828.57       | 127.44             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001232         | 413005.87        | 3772810.29       | 127.04             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001233         | 413005.61        | 3772792.00       | 126.60             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001234         | 413005.36        | 3772773.72       | 126.08             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001235         | 413005.10        | 3772755.43       | 125.78             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001236         | 413004.84        | 3772737.14       | 125.59             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001237         | 413004.59        | 3772718.86       | 125.44             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001238         | 413004.33        | 3772700.57       | 125.31             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001239         | 413004.07        | 3772682.28       | 125.22             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001240         | 413003.81        | 3772664.00       | 125.14             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001241         | 413003.56        | 3772645.71       | 125.06             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |
|                | L0001242         | 413003.30        | 3772627.43       | 124.94             | 4.15               | 0.02458             | 18.29              |                     | 8.51                          | 1.93                           |

# Source Pathway - Source Inputs

AERMOD

# Source Pathway

AERMOD

## Building Downwash Information

| Source ID: <u>STCK1</u>                |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| <b>Heights [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                             | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |         |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -50.65  | -54.95  | -58.57  | -61.06  | -61.70  | -60.66  |
| 70-120 deg                             | -59.25  | -60.03  | -59.63  | -65.93  | -70.55  | -73.02  |
| 130-180 deg                            | -73.28  | -71.31  | -67.61  | -89.23  | -108.15 | -123.77 |
| 190-240 deg                            | -135.63 | -143.38 | -146.76 | -145.69 | -140.19 | -130.43 |
| 250-300 deg                            | -120.65 | -109.25 | -94.54  | -76.95  | -62.92  | -48.38  |
| 310-360 deg                            | -32.38  | -15.38  | -20.59  | -29.29  | -37.63  | -44.82  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | -5.51   | 3.81    | 12.32   | 20.45   | 27.96   | 23.51   |
| 70-120 deg                             | 29.97   | 35.26   | 39.47   | 42.49   | 44.22   | 44.10   |
| 130-180 deg                            | 42.31   | 39.24   | 34.88   | 30.70   | 24.61   | 17.45   |
| 190-240 deg                            | 5.51    | -3.81   | -12.32  | -20.45  | -27.96  | -23.51  |
| 250-300 deg                            | -29.97  | -35.26  | -39.48  | -42.49  | -44.22  | -44.10  |
| 310-360 deg                            | -42.31  | -39.24  | -34.88  | -30.70  | -24.61  | -17.45  |

| Source ID: <u>STCK2</u>            |       |       |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| <b>Heights [m] (10 to 360 deg)</b> |       |       |       |       |       |       |
| 10-60 deg                          | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 70-120 deg                             | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |         |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -53.43  | -58.19  | -62.17  | -64.92  | -65.70  | -64.68  |
| 70-120 deg                             | -63.16  | -63.72  | -62.98  | -68.84  | -72.93  | -74.81  |
| 130-180 deg                            | -74.41  | -71.75  | -67.36  | -88.29  | -106.53 | -121.54 |
| 190-240 deg                            | -132.86 | -140.14 | -143.16 | -141.83 | -136.19 | -126.41 |
| 250-300 deg                            | -116.74 | -105.57 | -91.19  | -74.04  | -60.54  | -46.60  |
| 310-360 deg                            | -31.24  | -14.94  | -20.84  | -30.24  | -39.24  | -47.05  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | -2.60   | 6.20    | 14.11   | 21.58   | 28.41   | 23.26   |
| 70-120 deg                             | 29.02   | 33.65   | 37.24   | 39.71   | 40.97   | 40.49   |
| 130-180 deg                            | 38.45   | 35.24   | 30.87   | 26.79   | 20.92   | 14.10   |
| 190-240 deg                            | 2.60    | -6.20   | -14.11  | -21.58  | -28.41  | -23.26  |
| 250-300 deg                            | -29.02  | -33.65  | -37.25  | -39.71  | -40.97  | -40.49  |
| 310-360 deg                            | -38.45  | -35.24  | -30.87  | -26.79  | -20.92  | -14.10  |

Source ID: STCK3

Heights [m] (10 to 360 deg)

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| 10-60 deg   | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 70-120 deg  | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 130-180 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 190-240 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 250-300 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 310-360 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |

# Source Pathway

AERMOD

| Widths [m] (10 to 360 deg)      |         |         |         |         |         |         |  |
|---------------------------------|---------|---------|---------|---------|---------|---------|--|
| 10-60 deg                       | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |  |
| 70-120 deg                      | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |  |
| 130-180 deg                     | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |  |
| 190-240 deg                     | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |  |
| 250-300 deg                     | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |  |
| 310-360 deg                     | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |  |
| Lengths [m] (10 to 360 deg)     |         |         |         |         |         |         |  |
| 10-60 deg                       | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |  |
| 70-120 deg                      | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |  |
| 130-180 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |  |
| 190-240 deg                     | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |  |
| 250-300 deg                     | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |  |
| 310-360 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |  |
| Along Flow [m] (10 to 360 deg)  |         |         |         |         |         |         |  |
| 10-60 deg                       | -55.93  | -61.12  | -65.46  | -68.46  | -69.38  | -68.39  |  |
| 70-120 deg                      | -66.79  | -67.15  | -66.12  | -71.59  | -75.21  | -76.54  |  |
| 130-180 deg                     | -75.55  | -72.26  | -67.21  | -87.50  | -105.13 | -119.56 |  |
| 190-240 deg                     | -130.36 | -137.20 | -139.87 | -138.29 | -132.51 | -122.71 |  |
| 250-300 deg                     | -113.11 | -102.13 | -88.05  | -71.29  | -58.26  | -44.87  |  |
| 310-360 deg                     | -30.11  | -14.44  | -20.99  | -31.02  | -40.64  | -49.03  |  |
| Across Flow [m] (10 to 360 deg) |         |         |         |         |         |         |  |
| 10-60 deg                       | 0.15    | 8.47    | 15.84   | 22.72   | 28.91   | 23.11   |  |
| 70-120 deg                      | 28.24   | 32.24   | 35.26   | 37.22   | 38.04   | 37.21   |  |
| 130-180 deg                     | 34.92   | 31.57   | 27.16   | 23.16   | 17.49   | 10.96   |  |
| 190-240 deg                     | -0.15   | -8.47   | -15.84  | -22.72  | -28.91  | -23.11  |  |
| 250-300 deg                     | -28.24  | -32.24  | -35.27  | -37.22  | -38.04  | -37.21  |  |
| 310-360 deg                     | -34.92  | -31.57  | -27.16  | -23.16  | -17.49  | -10.96  |  |

| <b>Source ID: STCK4</b>     |        |        |        |        |        |        |       |
|-----------------------------|--------|--------|--------|--------|--------|--------|-------|
| Heights [m] (10 to 360 deg) |        |        |        |        |        |        |       |
| 10-60 deg                   | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| 70-120 deg                  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| 130-180 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| 190-240 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| 250-300 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| 310-360 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 |
| Widths [m] (10 to 360 deg)  |        |        |        |        |        |        |       |
| 10-60 deg                   | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |       |
| 70-120 deg                  | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |       |
| 130-180 deg                 | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |       |
| 190-240 deg                 | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |       |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -60.91  | -67.08  | -72.22  | -75.81  | -77.10  | -76.25  |
| 70-120 deg                             | -74.54  | -74.57  | -72.97  | -77.67  | -80.33  | -80.55  |
| 130-180 deg                            | -78.32  | -73.71  | -67.30  | -86.22  | -102.52 | -115.71 |
| 190-240 deg                            | -125.38 | -131.24 | -133.11 | -130.94 | -124.79 | -114.85 |
| 250-300 deg                            | -105.35 | -94.72  | -81.20  | -65.22  | -53.14  | -40.86  |
| 310-360 deg                            | -27.34  | -12.98  | -20.90  | -32.30  | -43.25  | -52.88  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 6.23    | 13.59   | 19.84   | 25.49   | 30.36   | 23.20   |
| 70-120 deg                             | 26.96   | 29.64   | 31.41   | 32.24   | 32.08   | 30.45   |
| 130-180 deg                            | 27.56   | 23.84   | 19.30   | 15.41   | 10.07   | 4.11    |
| 190-240 deg                            | -6.23   | -13.59  | -19.84  | -25.49  | -30.36  | -23.20  |
| 250-300 deg                            | -26.96  | -29.64  | -31.42  | -32.24  | -32.08  | -30.45  |
| 310-360 deg                            | -27.56  | -23.84  | -19.30  | -15.41  | -10.07  | -4.11   |

|                                    |              |        |        |        |        |        |
|------------------------------------|--------------|--------|--------|--------|--------|--------|
| <b>Source ID:</b>                  | <b>STCK5</b> |        |        |        |        |        |
| <b>Heights [m] (10 to 360 deg)</b> |              |        |        |        |        |        |
| 10-60 deg                          | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 70-120 deg                         | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 130-180 deg                        | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 190-240 deg                        | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 250-300 deg                        | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 310-360 deg                        | 10.67        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| <b>Widths [m] (10 to 360 deg)</b>  |              |        |        |        |        |        |
| 10-60 deg                          | 142.89       | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 70-120 deg                         | 118.52       | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 130-180 deg                        | 206.75       | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| 190-240 deg                        | 142.89       | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 250-300 deg                        | 118.52       | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 310-360 deg                        | 206.75       | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| <b>Lengths [m] (10 to 360 deg)</b> |              |        |        |        |        |        |
| 10-60 deg                          | 186.29       | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 70-120 deg                         | 179.90       | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -63.91  | -70.58  | -76.11  | -79.98  | -81.42  | -80.58  |
| 70-120 deg                             | -78.76  | -78.54  | -76.58  | -80.81  | -82.90  | -82.47  |
| 130-180 deg                            | -79.53  | -74.18  | -67.02  | -85.19  | -100.78 | -113.30 |
| 190-240 deg                            | -122.38 | -127.74 | -129.22 | -126.77 | -120.48 | -110.52 |
| 250-300 deg                            | -101.14 | -90.74  | -77.59  | -62.08  | -50.58  | -38.94  |
| 310-360 deg                            | -26.12  | -12.51  | -21.18  | -33.33  | -44.99  | -55.29  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 9.36    | 16.16   | 21.76   | 26.71   | 30.84   | 22.92   |
| 70-120 deg                             | 25.93   | 27.89   | 29.00   | 29.24   | 28.58   | 26.56   |
| 130-180 deg                            | 23.40   | 19.53   | 14.97   | 11.19   | 6.10    | 0.50    |
| 190-240 deg                            | -9.36   | -16.16  | -21.76  | -26.71  | -30.84  | -22.92  |
| 250-300 deg                            | -25.93  | -27.89  | -29.00  | -29.24  | -28.58  | -26.56  |
| 310-360 deg                            | -23.40  | -19.53  | -14.97  | -11.19  | -6.10   | -0.50   |

|                                    |        |        |        |        |        |        |
|------------------------------------|--------|--------|--------|--------|--------|--------|
| <b>Source ID: STCK6</b>            |        |        |        |        |        |        |
| <b>Heights [m] (10 to 360 deg)</b> |        |        |        |        |        |        |
| 10-60 deg                          | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 70-120 deg                         | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 130-180 deg                        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 190-240 deg                        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 250-300 deg                        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 310-360 deg                        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| <b>Widths [m] (10 to 360 deg)</b>  |        |        |        |        |        |        |
| 10-60 deg                          | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 70-120 deg                         | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 130-180 deg                        | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| 190-240 deg                        | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 250-300 deg                        | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 310-360 deg                        | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| <b>Lengths [m] (10 to 360 deg)</b> |        |        |        |        |        |        |
| 10-60 deg                          | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 70-120 deg                         | 179.90 | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |
| 130-180 deg                        | 105.66 | 86.69  | 88.20  | 118.52 | 145.77 | 168.59 |
| 190-240 deg                        | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 250-300 deg                        | 179.90 | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |
| 310-360 deg                        | 105.66 | 86.69  | 88.20  | 118.52 | 145.77 | 168.59 |

# Source Pathway

AERMOD

| Along Flow [m] (10 to 360 deg)  |         |         |         |         |         |         |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| 10-60 deg                       | -58.48  | -64.17  | -68.90  | -72.19  | -73.30  | -72.36  |
| 70-120 deg                      | -70.70  | -70.89  | -69.56  | -74.63  | -77.76  | -78.52  |
| 130-180 deg                     | -76.90  | -72.94  | -67.21  | -86.81  | -103.76 | -117.57 |
| 190-240 deg                     | -127.80 | -134.15 | -136.43 | -134.56 | -128.60 | -118.73 |
| 250-300 deg                     | -109.19 | -98.40  | -84.61  | -68.25  | -55.71  | -42.88  |
| 310-360 deg                     | -28.75  | -13.75  | -20.99  | -31.72  | -42.01  | -51.02  |
| Across Flow [m] (10 to 360 deg) |         |         |         |         |         |         |
| 10-60 deg                       | 3.19    | 11.02   | 17.82   | 24.07   | 29.60   | 23.11   |
| 70-120 deg                      | 27.54   | 30.88   | 33.27   | 34.66   | 34.99   | 33.76   |
| 130-180 deg                     | 31.18   | 27.65   | 23.18   | 19.25   | 13.75   | 7.52    |
| 190-240 deg                     | -3.19   | -11.02  | -17.82  | -24.07  | -29.60  | -23.11  |
| 250-300 deg                     | -27.54  | -30.88  | -33.28  | -34.66  | -34.99  | -33.76  |
| 310-360 deg                     | -31.18  | -27.65  | -23.18  | -19.25  | -13.75  | -7.52   |

| Source ID: <u>STCK7</u>        |         |         |         |         |         |         |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| Heights [m] (10 to 360 deg)    |         |         |         |         |         |         |
| 10-60 deg                      | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                     | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                    | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                    | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                    | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                    | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| Widths [m] (10 to 360 deg)     |         |         |         |         |         |         |
| 10-60 deg                      | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                     | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                    | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                    | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                    | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                    | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| Lengths [m] (10 to 360 deg)    |         |         |         |         |         |         |
| 10-60 deg                      | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                     | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                    | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                    | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                    | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                    | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| Along Flow [m] (10 to 360 deg) |         |         |         |         |         |         |
| 10-60 deg                      | -66.14  | -73.31  | -79.24  | -83.42  | -85.07  | -84.33  |
| 70-120 deg                     | -82.49  | -82.14  | -79.94  | -83.82  | -85.48  | -84.54  |
| 130-180 deg                    | -81.03  | -75.06  | -67.25  | -84.76  | -99.71  | -111.62 |
| 190-240 deg                    | -120.14 | -125.01 | -126.09 | -123.33 | -116.82 | -106.77 |

# Source Pathway

AERMOD

|  |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|
| 250-300 deg                            | -97.41 | -87.14 | -74.23 | -59.06 | -47.99 | -36.87 |
| 310-360 deg                            | -24.63 | -11.64 | -20.95 | -33.76 | -46.06 | -56.97 |
| <b>Across Flow [m] (10 to 360 deg)</b> |        |        |        |        |        |        |
| 10-60 deg                              | 12.38  | 18.74  | 23.83  | 28.20  | 31.71  | 23.15  |
| 70-120 deg                             | 25.50  | 26.82  | 27.32  | 27.00  | 25.85  | 23.42  |
| 130-180 deg                            | 19.95  | 15.88  | 11.22  | 7.46   | 2.50   | -2.86  |
| 190-240 deg                            | -12.38 | -18.74 | -23.83 | -28.20 | -31.71 | -23.15 |
| 250-300 deg                            | -25.50 | -26.82 | -27.32 | -27.00 | -25.85 | -23.42 |
| 310-360 deg                            | -19.95 | -15.88 | -11.22 | -7.46  | -2.50  | 2.86   |

|  |         |              |         |         |         |         |
|--|---------|--------------|---------|---------|---------|---------|
| <b>Source ID:</b>                      |         | <b>STCK8</b> |         |         |         |         |
| <b>Heights [m] (10 to 360 deg)</b>     |         |              |         |         |         |         |
| 10-60 deg                              | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                             | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                            | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                            | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67        | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |              |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47       | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77       | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89       | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47       | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77       | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89       | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |              |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32       | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28       | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69        | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32       | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28       | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69        | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |              |         |         |         |         |
| 10-60 deg                              | -84.53  | -95.09       | -103.76 | -109.93 | -112.76 | -112.36 |
| 70-120 deg                             | -110.02 | -108.32      | -103.98 | -104.99 | -103.13 | -98.14  |
| 130-180 deg                            | -90.17  | -79.45       | -66.77  | -79.43  | -89.67  | -97.19  |
| 190-240 deg                            | -101.76 | -103.23      | -101.57 | -96.82  | -89.13  | -78.73  |
| 250-300 deg                            | -69.88  | -60.96       | -50.19  | -37.89  | -30.34  | -23.27  |
| 310-360 deg                            | -15.49  | -7.24        | -21.43  | -39.10  | -56.10  | -71.40  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |              |         |         |         |         |
| 10-60 deg                              | 33.55   | 36.40        | 37.44   | 37.34   | 36.11   | 22.67   |
| 70-120 deg                             | 20.17   | 16.79        | 12.89   | 8.61    | 4.07    | -1.10   |

# Source Pathway

AERMOD

|             |        |        |        |        |        |        |
|-------------|--------|--------|--------|--------|--------|--------|
| 130-180 deg | -6.56  | -11.82 | -16.81 | -20.07 | -23.68 | -26.90 |
| 190-240 deg | -33.55 | -36.40 | -37.44 | -37.34 | -36.11 | -22.67 |
| 250-300 deg | -20.17 | -16.79 | -12.89 | -8.61  | -4.07  | 1.10   |
| 310-360 deg | 6.56   | 11.82  | 16.81  | 20.07  | 23.68  | 26.90  |

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| <b>Source ID: STCK9</b>                |         |         |         |         |         |         |
| <b>Heights [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                             | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |         |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -79.41  | -88.95  | -96.78  | -102.33 | -104.77 | -104.22 |
| 70-120 deg                             | -101.97 | -100.62 | -96.85  | -98.65  | -97.78  | -93.94  |
| 130-180 deg                            | -87.24  | -77.89  | -66.62  | -80.69  | -92.31  | -101.13 |
| 190-240 deg                            | -106.87 | -109.37 | -108.55 | -104.42 | -97.13  | -86.88  |
| 250-300 deg                            | -77.93  | -68.67  | -57.32  | -44.23  | -35.69  | -27.47  |
| 310-360 deg                            | -18.42  | -8.80   | -21.58  | -37.83  | -53.46  | -67.46  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 27.21   | 31.05   | 33.23   | 34.41   | 34.54   | 22.52   |
| 70-120 deg                             | 21.43   | 19.43   | 16.83   | 13.73   | 10.21   | 5.88    |
| 130-180 deg                            | 1.05    | -3.82   | -8.67   | -12.02  | -15.98  | -19.76  |
| 190-240 deg                            | -27.21  | -31.05  | -33.23  | -34.41  | -34.54  | -22.52  |
| 250-300 deg                            | -21.43  | -19.43  | -16.83  | -13.73  | -10.21  | -5.88   |
| 310-360 deg                            | -1.05   | 3.82    | 8.67    | 12.02   | 15.98   | 19.77   |

# Source Pathway

AERMOD

| Source ID: <u>STCK10</u>               |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| <b>Heights [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                             | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |         |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -68.77  | -76.45  | -82.79  | -87.28  | -89.12  | -88.44  |
| 70-120 deg                             | -86.54  | -86.01  | -83.51  | -86.98  | -88.14  | -86.61  |
| 130-180 deg                            | -82.45  | -75.79  | -67.26  | -84.07  | -98.32  | -109.58 |
| 190-240 deg                            | -117.51 | -121.87 | -122.53 | -119.47 | -112.78 | -102.66 |
| 250-300 deg                            | -93.35  | -83.27  | -70.66  | -55.90  | -45.34  | -34.80  |
| 310-360 deg                            | -23.20  | -10.90  | -20.93  | -34.45  | -47.45  | -59.01  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 15.54   | 21.40   | 25.91   | 29.62   | 32.44   | 23.16   |
| 70-120 deg                             | 24.81   | 25.43   | 25.28   | 24.37   | 22.71   | 19.87   |
| 130-180 deg                            | 16.09   | 11.83   | 7.11    | 3.41    | -1.37   | -6.43   |
| 190-240 deg                            | -15.54  | -21.40  | -25.91  | -29.62  | -32.44  | -23.16  |
| 250-300 deg                            | -24.81  | -25.43  | -25.28  | -24.37  | -22.71  | -19.87  |
| 310-360 deg                            | -16.09  | -11.83  | -7.11   | -3.41   | 1.37    | 6.43    |

| Source ID: <u>STCK11</u>           |       |       |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| <b>Heights [m] (10 to 360 deg)</b> |       |       |       |       |       |       |
| 10-60 deg                          | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 70-120 deg                         | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 130-180 deg                        | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 190-240 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>      |         |         |         |         |         |         |
| 10-60 deg                              | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -92.38  | -104.45 | -114.34 | -121.41 | -124.79 | -124.58 |
| 70-120 deg                             | -122.05 | -119.80 | -114.56 | -114.35 | -110.99 | -104.25 |
| 130-180 deg                            | -94.35  | -81.58  | -66.77  | -77.30  | -85.49  | -91.08  |
| 190-240 deg                            | -93.90  | -93.87  | -90.99  | -85.34  | -77.10  | -66.52  |
| 250-300 deg                            | -57.85  | -49.48  | -39.61  | -28.54  | -22.49  | -17.16  |
| 310-360 deg                            | -11.31  | -5.12   | -21.43  | -41.22  | -60.28  | -77.51  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 42.91   | 44.25   | 43.55   | 41.52   | 38.23   | 22.67   |
| 70-120 deg                             | 18.04   | 12.61   | 6.78    | 0.76    | -5.29   | -11.68  |
| 130-180 deg                            | -18.04  | -23.85  | -29.03  | -32.10  | -35.16  | -37.47  |
| 190-240 deg                            | -42.91  | -44.25  | -43.55  | -41.52  | -38.23  | -22.67  |
| 250-300 deg                            | -18.04  | -12.61  | -6.78   | -0.76   | 5.29    | 11.68   |
| 310-360 deg                            | 18.04   | 23.85   | 29.03   | 32.10   | 35.16   | 37.48   |

Source ID: STCK12

Heights [m] (10 to 360 deg)

|                                   |        |        |        |        |       |       |
|-----------------------------------|--------|--------|--------|--------|-------|-------|
| 10-60 deg                         | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| 70-120 deg                        | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| 130-180 deg                       | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| 190-240 deg                       | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| 250-300 deg                       | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| 310-360 deg                       | 10.67  | 10.67  | 10.67  | 10.67  | 10.67 | 10.67 |
| <b>Widths [m] (10 to 360 deg)</b> |        |        |        |        |       |       |
| 10-60 deg                         | 142.89 | 133.47 | 121.41 | 105.66 | 86.69 | 88.20 |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 70-120 deg                             | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                            | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                            | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                              | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                             | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                            | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -97.48  | -110.45 | -121.06 | -128.65 | -132.33 | -132.18 |
| 70-120 deg                             | -129.48 | -126.85 | -121.00 | -119.99 | -115.66 | -107.81 |
| 130-180 deg                            | -96.68  | -82.62  | -66.49  | -75.71  | -82.63  | -87.04  |
| 190-240 deg                            | -88.81  | -87.87  | -84.27  | -78.11  | -69.57  | -58.92  |
| 250-300 deg                            | -50.42  | -42.44  | -33.17  | -22.89  | -17.82  | -13.60  |
| 310-360 deg                            | -8.97   | -4.07   | -21.71  | -42.81  | -63.14  | -81.55  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 48.55   | 48.92   | 47.10   | 43.85   | 39.27   | 22.39   |
| 70-120 deg                             | 16.45   | 9.74    | 2.74    | -4.34   | -11.29  | -18.40  |
| 130-180 deg                            | -25.27  | -31.38  | -36.63  | -39.53  | -42.21  | -43.91  |
| 190-240 deg                            | -48.55  | -48.92  | -47.10  | -43.85  | -39.27  | -22.39  |
| 250-300 deg                            | -16.45  | -9.74   | -2.74   | 4.34    | 11.29   | 18.40   |
| 310-360 deg                            | 25.27   | 31.38   | 36.63   | 39.53   | 42.21   | 43.92   |

**Source ID:** STCK13

**Heights [m] (10 to 360 deg)**

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| 10-60 deg   | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 70-120 deg  | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 130-180 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 190-240 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 250-300 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 310-360 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |

**Widths [m] (10 to 360 deg)**

|             |        |        |        |        |        |        |
|-------------|--------|--------|--------|--------|--------|--------|
| 10-60 deg   | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 70-120 deg  | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 130-180 deg | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| 190-240 deg | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 250-300 deg | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 310-360 deg | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |

# Source Pathway

AERMOD

| Lengths [m] (10 to 360 deg)     |         |         |         |         |         |         |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| 10-60 deg                       | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                      | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                     | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                     | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| Along Flow [m] (10 to 360 deg)  |         |         |         |         |         |         |
| 10-60 deg                       | -76.61  | -85.70  | -93.18  | -98.48  | -100.80 | -100.24 |
| 70-120 deg                      | -98.11  | -96.99  | -93.57  | -95.82  | -95.48  | -92.23  |
| 130-180 deg                     | -86.19  | -77.52  | -66.94  | -81.70  | -93.98  | -103.40 |
| 190-240 deg                     | -109.68 | -112.63 | -112.15 | -108.27 | -101.10 | -90.85  |
| 250-300 deg                     | -81.79  | -72.29  | -60.60  | -47.07  | -38.00  | -29.18  |
| 310-360 deg                     | -19.47  | -9.17   | -21.26  | -36.82  | -51.79  | -65.19  |
| Across Flow [m] (10 to 360 deg) |         |         |         |         |         |         |
| 10-60 deg                       | 24.38   | 28.74   | 31.53   | 33.36   | 34.17   | 22.84   |
| 70-120 deg                      | 22.44   | 21.09   | 19.10   | 16.54   | 13.47   | 9.49    |
| 130-180 deg                     | 4.89    | 0.15    | -4.69   | -8.16   | -12.35  | -16.49  |
| 190-240 deg                     | -24.38  | -28.74  | -31.53  | -33.36  | -34.17  | -22.84  |
| 250-300 deg                     | -22.44  | -21.09  | -19.10  | -16.54  | -13.47  | -9.49   |
| 310-360 deg                     | -4.89   | -0.15   | 4.69    | 8.16    | 12.35   | 16.49   |

| Source ID: <u>STCK14</u>    |        |        |        |        |        |        |
|-----------------------------|--------|--------|--------|--------|--------|--------|
| Heights [m] (10 to 360 deg) |        |        |        |        |        |        |
| 10-60 deg                   | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 70-120 deg                  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 130-180 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 190-240 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 250-300 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| 310-360 deg                 | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  | 10.67  |
| Widths [m] (10 to 360 deg)  |        |        |        |        |        |        |
| 10-60 deg                   | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 70-120 deg                  | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 130-180 deg                 | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| 190-240 deg                 | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 250-300 deg                 | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 310-360 deg                 | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| Lengths [m] (10 to 360 deg) |        |        |        |        |        |        |
| 10-60 deg                   | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 70-120 deg                  | 179.90 | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |
| 130-180 deg                 | 105.66 | 86.69  | 88.20  | 118.52 | 145.77 | 168.59 |
| 190-240 deg                 | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |

# Source Pathway

AERMOD

|  |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|
| 250-300 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                            | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b>  |         |         |         |         |         |         |
| 10-60 deg                              | -71.34  | -79.54  | -86.32  | -91.14  | -93.18  | -92.59  |
| 70-120 deg                             | -90.65  | -89.96  | -87.17  | -90.25  | -90.90  | -88.80  |
| 130-180 deg                            | -84.00  | -76.64  | -67.40  | -83.48  | -97.02  | -107.62 |
| 190-240 deg                            | -114.95 | -118.78 | -119.01 | -115.62 | -108.71 | -98.51  |
| 250-300 deg                            | -89.24  | -79.33  | -67.00  | -52.64  | -42.57  | -32.61  |
| 310-360 deg                            | -21.66  | -10.05  | -20.80  | -35.04  | -48.75  | -60.97  |
| <b>Across Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                              | 18.81   | 24.17   | 28.10   | 31.17   | 33.29   | 23.30   |
| 70-120 deg                             | 24.22   | 24.14   | 23.32   | 21.80   | 19.62   | 16.34   |
| 130-180 deg                            | 12.24   | 7.77    | 2.96    | -0.70   | -5.32   | -10.08  |
| 190-240 deg                            | -18.81  | -24.17  | -28.10  | -31.17  | -33.29  | -23.30  |
| 250-300 deg                            | -24.22  | -24.14  | -23.32  | -21.80  | -19.62  | -16.34  |
| 310-360 deg                            | -12.24  | -7.77   | -2.96   | 0.70    | 5.32    | 10.09   |

|                                       |               |         |         |         |         |         |
|---------------------------------------|---------------|---------|---------|---------|---------|---------|
| <b>Source ID:</b>                     | <b>STCK15</b> |         |         |         |         |         |
| <b>Heights [m] (10 to 360 deg)</b>    |               |         |         |         |         |         |
| 10-60 deg                             | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                            | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                           | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                           | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                           | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                           | 10.67         | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>     |               |         |         |         |         |         |
| 10-60 deg                             | 142.89        | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                            | 118.52        | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                           | 206.75        | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                           | 142.89        | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                           | 118.52        | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                           | 206.75        | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>    |               |         |         |         |         |         |
| 10-60 deg                             | 186.29        | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                            | 179.90        | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                           | 105.66        | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                           | 186.29        | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                           | 179.90        | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                           | 105.66        | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b> |               |         |         |         |         |         |
| 10-60 deg                             | -89.51        | -101.16 | -110.73 | -117.59 | -120.88 | -120.69 |
| 70-120 deg                            | -118.30       | -116.32 | -111.44 | -111.69 | -108.86 | -102.73 |

# Source Pathway

AERMOD

|  |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|
| 130-180 deg                            | -93.48 | -81.39 | -67.26 | -78.46 | -87.28 | -93.45 |
| 190-240 deg                            | -96.78 | -97.17 | -94.60 | -89.16 | -81.01 | -70.40 |
| 250-300 deg                            | -61.59 | -52.97 | -42.73 | -31.20 | -24.61 | -18.68 |
| 310-360 deg                            | -12.18 | -5.31  | -20.94 | -40.06 | -58.49 | -75.14 |
| <b>Across Flow [m] (10 to 360 deg)</b> |        |        |        |        |        |        |
| 10-60 deg                              | 40.25  | 42.13  | 42.03  | 40.65  | 38.04  | 23.16  |
| 70-120 deg                             | 19.20  | 14.40  | 9.15   | 3.63   | -2.00  | -8.06  |
| 130-180 deg                            | -14.22 | -19.93 | -25.15 | -28.36 | -31.68 | -34.36 |
| 190-240 deg                            | -40.25 | -42.13 | -42.03 | -40.65 | -38.04 | -23.16 |
| 250-300 deg                            | -19.20 | -14.40 | -9.15  | -3.63  | 2.00   | 8.06   |
| 310-360 deg                            | 14.22  | 19.93  | 25.15  | 28.36  | 31.68  | 34.36  |

|                                       |         |         |         |         |         |         |
|---------------------------------------|---------|---------|---------|---------|---------|---------|
| <b>Source ID: STCK16</b>              |         |         |         |         |         |         |
| <b>Heights [m] (10 to 360 deg)</b>    |         |         |         |         |         |         |
| 10-60 deg                             | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                            | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                           | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                           | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                           | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                           | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| <b>Widths [m] (10 to 360 deg)</b>     |         |         |         |         |         |         |
| 10-60 deg                             | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                            | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                           | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                           | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                           | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                           | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| <b>Lengths [m] (10 to 360 deg)</b>    |         |         |         |         |         |         |
| 10-60 deg                             | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                            | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                           | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                           | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                           | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                           | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| <b>Along Flow [m] (10 to 360 deg)</b> |         |         |         |         |         |         |
| 10-60 deg                             | -94.78  | -107.37 | -117.70 | -125.11 | -128.72 | -128.61 |
| 70-120 deg                            | -126.06 | -123.68 | -118.18 | -117.60 | -113.78 | -106.49 |
| 130-180 deg                           | -95.97  | -82.53  | -67.03  | -76.86  | -84.36  | -89.29  |
| 190-240 deg                           | -91.51  | -90.95  | -87.63  | -81.64  | -73.17  | -62.49  |
| 250-300 deg                           | -53.83  | -45.61  | -35.99  | -25.28  | -19.70  | -14.92  |
| 310-360 deg                           | -9.69   | -4.16   | -21.17  | -41.66  | -61.41  | -79.30  |

# Source Pathway

AERMOD

| Across Flow [m] (10 to 360 deg) |        |        |        |        |        |        |
|---------------------------------|--------|--------|--------|--------|--------|--------|
| 10-60 deg                       | 46.16  | 47.04  | 45.79  | 43.14  | 39.18  | 22.93  |
| 70-120 deg                      | 17.60  | 11.47  | 4.99   | -1.63  | -8.21  | -15.04 |
| 130-180 deg                     | -21.73 | -27.77 | -33.06 | -36.11 | -39.04 | -41.09 |
| 190-240 deg                     | -46.16 | -47.04 | -45.79 | -43.14 | -39.18 | -22.93 |
| 250-300 deg                     | -17.60 | -11.47 | -4.99  | 1.63   | 8.21   | 15.04  |
| 310-360 deg                     | 21.73  | 27.77  | 33.06  | 36.11  | 39.04  | 41.10  |

| Source ID: STCK17               |         |         |         |         |         |         |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| Heights [m] (10 to 360 deg)     |         |         |         |         |         |         |
| 10-60 deg                       | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 70-120 deg                      | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 130-180 deg                     | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 190-240 deg                     | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 250-300 deg                     | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| 310-360 deg                     | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   | 10.67   |
| Widths [m] (10 to 360 deg)      |         |         |         |         |         |         |
| 10-60 deg                       | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 70-120 deg                      | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 130-180 deg                     | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| 190-240 deg                     | 142.89  | 133.47  | 121.41  | 105.66  | 86.69   | 88.20   |
| 250-300 deg                     | 118.52  | 145.77  | 168.59  | 186.29  | 198.32  | 205.33  |
| 310-360 deg                     | 206.75  | 201.89  | 191.10  | 179.90  | 169.28  | 154.17  |
| Lengths [m] (10 to 360 deg)     |         |         |         |         |         |         |
| 10-60 deg                       | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 70-120 deg                      | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 130-180 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| 190-240 deg                     | 186.29  | 198.32  | 205.33  | 206.75  | 201.89  | 191.10  |
| 250-300 deg                     | 179.90  | 169.28  | 154.17  | 142.89  | 133.47  | 121.41  |
| 310-360 deg                     | 105.66  | 86.69   | 88.20   | 118.52  | 145.77  | 168.59  |
| Along Flow [m] (10 to 360 deg)  |         |         |         |         |         |         |
| 10-60 deg                       | -81.81  | -91.89  | -100.18 | -106.08 | -108.75 | -108.32 |
| 70-120 deg                      | -106.06 | -104.58 | -100.56 | -102.00 | -100.66 | -96.26  |
| 130-180 deg                     | -88.94  | -78.91  | -66.93  | -80.29  | -91.20  | -99.35  |
| 190-240 deg                     | -104.48 | -106.43 | -105.15 | -100.67 | -93.14  | -82.77  |
| 250-300 deg                     | -73.83  | -64.70  | -53.61  | -40.89  | -32.81  | -25.15  |
| 310-360 deg                     | -16.72  | -7.78   | -21.27  | -38.24  | -54.57  | -69.24  |
| Across Flow [m] (10 to 360 deg) |         |         |         |         |         |         |
| 10-60 deg                       | 30.56   | 33.92   | 35.56   | 36.11   | 35.57   | 22.83   |
| 70-120 deg                      | 21.03   | 18.32   | 15.05   | 11.33   | 7.27    | 2.49    |
| 130-180 deg                     | -2.70   | -7.81   | -12.77  | -16.12  | -19.94  | -23.47  |
| 190-240 deg                     | -30.56  | -33.92  | -35.56  | -36.11  | -35.57  | -22.83  |

# Source Pathway

AERMOD

|             |        |        |        |        |       |       |
|-------------|--------|--------|--------|--------|-------|-------|
| 250-300 deg | -21.03 | -18.32 | -15.05 | -11.33 | -7.27 | -2.49 |
| 310-360 deg | 2.70   | 7.81   | 12.77  | 16.12  | 19.94 | 23.48 |

Source ID: STCK18

**Heights [m] (10 to 360 deg)**

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| 10-60 deg   | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 70-120 deg  | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 130-180 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 190-240 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 250-300 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |
| 310-360 deg | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 | 10.67 |

**Widths [m] (10 to 360 deg)**

|             |        |        |        |        |        |        |
|-------------|--------|--------|--------|--------|--------|--------|
| 10-60 deg   | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 70-120 deg  | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 130-180 deg | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |
| 190-240 deg | 142.89 | 133.47 | 121.41 | 105.66 | 86.69  | 88.20  |
| 250-300 deg | 118.52 | 145.77 | 168.59 | 186.29 | 198.32 | 205.33 |
| 310-360 deg | 206.75 | 201.89 | 191.10 | 179.90 | 169.28 | 154.17 |

**Lengths [m] (10 to 360 deg)**

|             |        |        |        |        |        |        |
|-------------|--------|--------|--------|--------|--------|--------|
| 10-60 deg   | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 70-120 deg  | 179.90 | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |
| 130-180 deg | 105.66 | 86.69  | 88.20  | 118.52 | 145.77 | 168.59 |
| 190-240 deg | 186.29 | 198.32 | 205.33 | 206.75 | 201.89 | 191.10 |
| 250-300 deg | 179.90 | 169.28 | 154.17 | 142.89 | 133.47 | 121.41 |
| 310-360 deg | 105.66 | 86.69  | 88.20  | 118.52 | 145.77 | 168.59 |

**Along Flow [m] (10 to 360 deg)**

|             |         |         |         |         |         |         |
|-------------|---------|---------|---------|---------|---------|---------|
| 10-60 deg   | -87.08  | -98.20  | -107.33 | -113.86 | -116.93 | -116.64 |
| 70-120 deg  | -114.28 | -112.44 | -107.82 | -108.44 | -106.09 | -100.51 |
| 130-180 deg | -91.88  | -80.46  | -67.03  | -78.94  | -88.46  | -95.28  |
| 190-240 deg | -99.21  | -100.12 | -97.99  | -92.89  | -84.96  | -74.45  |
| 250-300 deg | -65.62  | -56.85  | -46.35  | -34.44  | -27.38  | -20.90  |
| 310-360 deg | -13.77  | -6.23   | -21.16  | -39.58  | -57.31  | -73.31  |

**Across Flow [m] (10 to 360 deg)**

|             |        |        |        |        |        |        |
|-------------|--------|--------|--------|--------|--------|--------|
| 10-60 deg   | 37.00  | 39.35  | 39.81  | 39.05  | 37.11  | 22.94  |
| 70-120 deg  | 19.68  | 15.57  | 10.98  | 6.07   | 0.96   | -4.67  |
| 130-180 deg | -10.49 | -15.99 | -21.10 | -24.33 | -27.79 | -30.74 |
| 190-240 deg | -37.00 | -39.35 | -39.81 | -39.05 | -37.11 | -22.94 |
| 250-300 deg | -19.68 | -15.57 | -10.98 | -6.07  | -0.96  | 4.67   |
| 310-360 deg | 10.49  | 15.99  | 21.10  | 24.33  | 27.79  | 30.74  |

# Source Pathway

AERMOD

## Emission Rate Units for Output

### For Concentration

Unit Factor: 1E6  
Emission Unit Label: GRAMS/SEC  
Concentration Unit Label: MICROGRAMS/M\*\*3

## Source Groups

|                           |   |
|---------------------------|---|
| Source Group ID: YardEqu  | List of Sources in Group (Source Range or Single Sources)   |
|                           | PAREA2  |
| Source Group ID: On-SiteT | List of Sources in Group (Source Range or Single Sources)   |
|                           | PAREA1  |
| Source Group ID: Off-Site | List of Sources in Group (Source Range or Single Sources)   |
|                           | SLINE2<br>SLINE3<br>SLINE4  |
| Source Group ID: Idling   | List of Sources in Group (Source Range or Single Sources)   |
|                           | STCK1<br>STCK2<br>STCK3<br>STCK4<br>STCK5<br>STCK6<br>STCK7<br>STCK8<br>STCK9<br>STCK10<br>STCK11<br>STCK12<br>STCK13<br>STCK14<br>STCK15<br>STCK16<br>STCK17<br>STCK18 |
| Source Group ID: ALL      | List of Sources in Group (Source Range or Single Sources)   |
|                           | All Sources Included  |

# Source Pathway

AERMOD

## Variable Emissions

### Hourly Emission Rate Variation

Scenario: YardOperation

| Source ID: | PAREA2 |      |      |      |      |      |      |
|------------|--------|------|------|------|------|------|------|
| 1 to 6     |        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 to 12    |        | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 13 to 18   |        | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| 19 to 24   |        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Meteorology Pathway

AERMOD

## Met Input Data

### Surface Met Data

Filename: AZUS\_V9\_ADJUVAZUS\_v9.SFC  
 Format Type: Default AERMET format

### Profile Met Data

Filename: AZUS\_V9\_ADJUVAZUS\_v9.PFL  
 Format Type: Default AERMET format

### Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

### Wind Direction

Rotation Adjustment [deg]:

### Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 182.00 [m]

### Meteorological Station Data

| Stations  | Station No. | Year | X Coordinate [m] | Y Coordinate [m] | Station Name |
|-----------|-------------|------|------------------|------------------|--------------|
| Surface   |             | 2012 |                  |                  | Azusa        |
| Upper Air |             | 2012 |                  |                  |              |
| On-Site   |             | 2012 |                  |                  |              |

## Data Period

### Data Period to Process

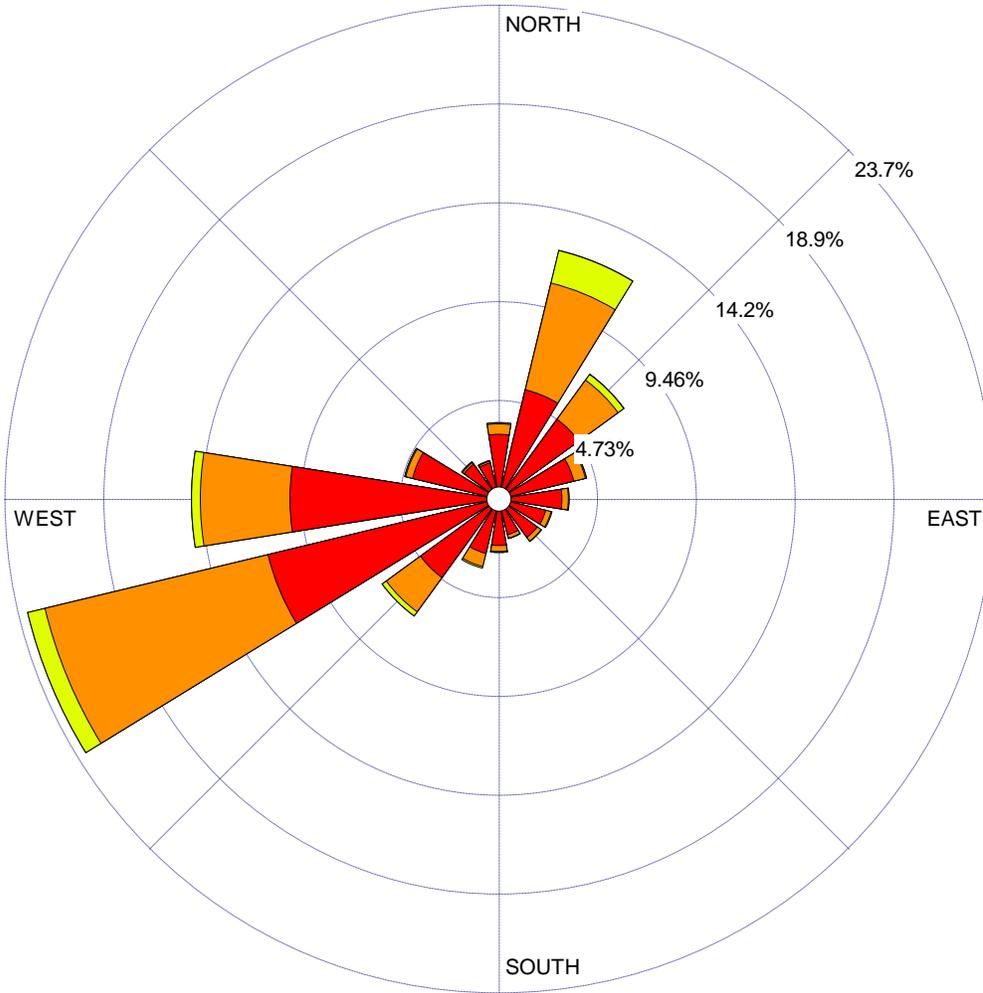
Start Date: 1/1/2012      Start Hour: 1      End Date: 12/31/2016      End Hour: 24

## Wind Speed Categories

| Stability Category | Wind Speed [m/s] | Stability Category | Wind Speed [m/s] |
|--------------------|------------------|--------------------|------------------|
| A                  | 1.54             | D                  | 8.23             |
| B                  | 3.09             | E                  | 10.8             |
| C                  | 5.14             | F                  | No Upper Bound   |

WIND ROSE PLOT:  
**Station #3179**

DISPLAY:  
**Wind Speed**  
**Direction (blowing from)**



WIND SPEED (m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.40 - 2.10

Calms: 0.17%

|                  |  |  |   |
|------------------|--|--|---|
| COMMENTS:        | DATA PERIOD:   | COMPANY NAME:                                      |   |
|                  | <b>Start Date: 1/1/2012 - 00:00</b><br><b>End Date: 12/31/2016 - 23:59</b> | <b>South Coast Air Quality Management District</b> |   |
|                  | CALM WINDS:  | MODELER:   |  |
|                  | <b>0.17%</b>   | <b>Melissa Sheffer</b>                             |   |
| AVG. WIND SPEED: | TOTAL COUNT:   | DATE:  | PROJECT NO.:  |
| <b>1.70 m/s</b>  | <b>42845 hrs.</b>  | <b>5/25/2017</b>                                   |   |



|           |            |          |           |            |          |
|-----------|------------|----------|-----------|------------|----------|
| 413385.84 | 3773361.42 | 73.96495 | 413397.29 | 3773361.42 | 73.28098 |
| 413408.74 | 3773361.42 | 72.69794 | 413420.19 | 3773361.42 | 72.21399 |
| 413431.64 | 3773361.42 | 71.72898 | 413385.84 | 3773371.49 | 71.00858 |
| 413397.29 | 3773371.49 | 70.36684 | 413408.74 | 3773371.49 | 69.76588 |
| 413420.19 | 3773371.49 | 69.41825 | 413431.64 | 3773371.49 | 68.97805 |

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* HRA for 4416 Azusa Canyon Road \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*

08/09/21  
 09:06:47  
 PAGE 22

\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION      VALUES FOR SOURCE GROUP: IDLING      \*\*\*  
 INCLUDING SOURCE(S):      STCK1      ,      STCK2      ,      STCK3      ,      STCK4      ,      STCK5      ,  
 STCK6      ,      STCK7      ,      STCK8      ,      STCK9      ,      STCK10      ,      STCK11      ,      STCK12      ,      STCK13      ,  
 STCK14      ,      STCK15      ,      STCK16      ,      STCK17      ,      STCK18      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER      IN MICROGRAMS/M\*\*3      \*\*

| X-COORD (M) | Y-COORD (M) | CONC      | X-COORD (M) | Y-COORD (M) | CONC      |
|-------------|-------------|-----------|-------------|-------------|-----------|
| 413385.84   | 3773381.56  | 68.09703  | 413397.29   | 3773381.56  | 67.42719  |
| 413408.74   | 3773381.56  | 66.77191  | 413420.19   | 3773381.56  | 66.43557  |
| 413431.64   | 3773381.56  | 66.04207  | 413385.84   | 3773391.63  | 64.64487  |
| 413397.29   | 3773391.63  | 64.13845  | 413408.74   | 3773391.63  | 63.59636  |
| 413420.19   | 3773391.63  | 63.11132  | 413431.64   | 3773391.63  | 62.57587  |
| 413385.84   | 3773401.70  | 61.25159  | 413397.29   | 3773401.70  | 60.84755  |
| 413408.74   | 3773401.70  | 60.39615  | 413420.19   | 3773401.70  | 59.84668  |
| 413431.64   | 3773401.70  | 59.34490  | 413416.45   | 3772548.02  | 108.96495 |
| 413435.76   | 3772548.02  | 104.56445 | 413416.45   | 3772557.84  | 112.28909 |
| 413435.76   | 3772557.84  | 107.92577 | 413416.45   | 3772567.66  | 115.76755 |
| 413435.76   | 3772567.66  | 111.43558 | 413416.45   | 3772577.48  | 119.44278 |
| 413435.76   | 3772577.48  | 115.15940 | 413416.45   | 3772587.30  | 123.34436 |
| 413435.76   | 3772587.30  | 118.93413 | 413416.45   | 3772597.12  | 127.51076 |
| 413435.76   | 3772597.12  | 122.88363 | 413416.45   | 3772606.94  | 131.87840 |
| 413435.76   | 3772606.94  | 127.06766 | 413416.45   | 3772616.76  | 136.53459 |
| 413435.76   | 3772616.76  | 131.73201 | 413416.45   | 3772626.58  | 141.51362 |
| 413435.76   | 3772626.58  | 136.60248 | 413416.45   | 3772636.40  | 146.81779 |
| 413435.76   | 3772636.40  | 141.82937 | 413416.45   | 3772646.22  | 152.51064 |
| 413435.76   | 3772646.22  | 147.36684 | 413416.45   | 3772656.04  | 158.68267 |
| 413435.76   | 3772656.04  | 153.33212 | 413416.45   | 3772665.86  | 165.29823 |
| 413435.76   | 3772665.86  | 159.61891 | 413416.45   | 3772675.68  | 172.34913 |
| 413435.76   | 3772675.68  | 166.56776 | 413416.45   | 3772685.50  | 179.72987 |
| 413435.76   | 3772685.50  | 173.68541 | 413416.45   | 3772695.32  | 187.53390 |
| 413435.76   | 3772695.32  | 181.28575 | 413416.45   | 3772705.14  | 196.17341 |
| 413435.76   | 3772705.14  | 189.48502 | 413416.45   | 3772714.96  | 205.33067 |
| 413435.76   | 3772714.96  | 197.75810 | 413416.45   | 3772724.78  | 214.76868 |
| 413435.76   | 3772724.78  | 206.60759 | 413416.45   | 3772734.60  | 225.60968 |
| 413435.76   | 3772734.60  | 216.53327 | 413416.45   | 3772744.42  | 237.37301 |
| 413435.76   | 3772744.42  | 227.72583 | 412985.25   | 3772512.70  | 250.42826 |
| 413000.04   | 3772512.70  | 250.61236 | 413014.83   | 3772512.70  | 250.64174 |



|           |            |           |           |            |           |
|-----------|------------|-----------|-----------|------------|-----------|
| 412743.75 | 3772773.89 | 191.87139 | 412753.75 | 3772773.89 | 199.73938 |
| 412763.75 | 3772773.89 | 208.22198 | 412773.75 | 3772773.89 | 217.56332 |
| 412783.75 | 3772773.89 | 227.02250 | 412793.75 | 3772773.89 | 237.09399 |
| 412803.75 | 3772773.89 | 247.20286 | 412813.75 | 3772773.89 | 256.40264 |
| 412723.75 | 3772783.89 | 177.27403 | 412733.75 | 3772783.89 | 185.36045 |
| 412743.75 | 3772783.89 | 193.29256 | 412753.75 | 3772783.89 | 201.17471 |
| 412763.75 | 3772783.89 | 209.97563 | 412773.75 | 3772783.89 | 219.20109 |
| 412783.75 | 3772783.89 | 228.69100 | 412793.75 | 3772783.89 | 238.67720 |
| 412803.75 | 3772783.89 | 249.49416 | 412813.75 | 3772783.89 | 260.12156 |
| 412723.75 | 3772793.89 | 179.02282 | 412733.75 | 3772793.89 | 186.93328 |
| 412743.75 | 3772793.89 | 194.70844 | 412753.75 | 3772793.89 | 203.23707 |
| 412763.75 | 3772793.89 | 212.11733 | 412773.75 | 3772793.89 | 220.67432 |
| 412783.75 | 3772793.89 | 230.42445 | 412793.75 | 3772793.89 | 240.72875 |
| 412803.75 | 3772793.89 | 251.40642 | 412813.75 | 3772793.89 | 262.55952 |
| 412713.75 | 3772803.89 | 172.50831 | 412723.75 | 3772803.89 | 180.13047 |

\*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* HRA for 4416 Azusa Canyon Road  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

\*\*\* 08/09/21  
 \*\*\* 09:06:47  
 PAGE 24

\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: IDLING    \*\*\*  
 INCLUDING SOURCE(S):    STCK1    ,    STCK2    ,    STCK3    ,    STCK4    ,    STCK5    ,  
 STCK6    ,    STCK7    ,    STCK8    ,    STCK9    ,    STCK10    ,    STCK11    ,    STCK12    ,    STCK13    ,  
 STCK14    ,    STCK15    ,    STCK16    ,    STCK17    ,    STCK18    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER    IN MICROGRAMS/M\*\*3    \*\*

| X-COORD (M) | Y-COORD (M) | CONC                  | X-COORD (M) | Y-COORD (M) | CONC      |
|-------------|-------------|-----------------------|-------------|-------------|-----------|
| 412733.75   | 3772803.89  | 187.92561             | 412743.75   | 3772803.89  | 196.19203 |
| 412753.75   | 3772803.89  | 204.68553             | 412763.75   | 3772803.89  | 213.31804 |
| 412773.75   | 3772803.89  | 222.96989             | 412783.75   | 3772803.89  | 232.89718 |
| 412793.75   | 3772803.89  | 243.68232             | 412803.75   | 3772803.89  | 253.97242 |
| 412813.75   | 3772803.89  | 265.35571             | 412713.75   | 3772813.89  | 172.88715 |
| 412723.75   | 3772813.89  | 180.28458             | 412733.75   | 3772813.89  | 187.96528 |
| 412743.75   | 3772813.89  | 196.28399             | 412753.75   | 3772813.89  | 204.88942 |
| 412763.75   | 3772813.89  | 214.19261             | 412773.75   | 3772813.89  | 223.74523 |
| 412783.75   | 3772813.89  | 233.52382             | 412793.75   | 3772813.89  | 244.27597 |
| 412803.75   | 3772813.89  | 255.45773             | 412813.75   | 3772813.89  | 267.24134 |
| 413337.74   | 3772505.92  | 115.27331             | 413366.05   | 3772505.76  | 107.82136 |
| 413390.43   | 3772506.36  | 102.26067             | 413426.03   | 3772501.18  | 93.30421  |
| 413255.11   | 3773190.00  | 177.62946 MEIR        | 412845.65   | 3772517.02  | 174.97515 |
| 412860.44   | 3772517.02  | 185.03040             | 412875.23   | 3772517.02  | 196.28430 |
| 412890.02   | 3772517.02  | 206.70593             | 412904.81   | 3772517.02  | 217.15447 |
| 412919.60   | 3772517.02  | 227.67992             | 412934.39   | 3772517.02  | 237.01469 |
| 412949.18   | 3772517.02  | 243.95195             | 412963.97   | 3772517.02  | 249.86251 |
| 412978.76   | 3772517.02  | 254.56358             | 412845.65   | 3772525.34  | 178.92567 |
| 412860.44   | 3772525.34  | 189.91181             | 412875.23   | 3772525.34  | 200.20744 |
| 412890.02   | 3772525.34  | 212.21650             | 412904.81   | 3772525.34  | 222.95444 |
| 412919.60   | 3772525.34  | 234.10821             | 412934.39   | 3772525.34  | 245.15105 |
| 412949.18   | 3772525.34  | 253.34005             | 412963.97   | 3772525.34  | 259.33304 |
| 412978.76   | 3772525.34  | 263.58924             | 412845.65   | 3772533.66  | 182.92959 |
| 412860.44   | 3772533.66  | 193.67402             | 412875.23   | 3772533.66  | 205.54084 |
| 412890.02   | 3772533.66  | 217.69950             | 412904.81   | 3772533.66  | 229.55727 |
| 412919.60   | 3772533.66  | 240.64042             | 412934.39   | 3772533.66  | 253.06762 |
| 412949.18   | 3772533.66  | 262.06652             | 412963.97   | 3772533.66  | 269.65247 |
| 412978.76   | 3772533.66  | 274.59134             | 413242.12   | 3772517.03  | 150.22902 |
| 413259.93   | 3772516.53  | 144.26174             | 413279.23   | 3772515.44  | 137.21295 |
| 413310.78   | 3772511.61  | 125.44517             | 413297.64   | 3772512.87  | 130.16063 |
| 413227.57   | 3772517.61  | 155.90987 Student MER |             |             |           |

\*\*\* AERMOD - VERSION 21112 \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*

\*\*\* HRA for 4416 Azusa Canyon Road  
 \*\*\*

\*\*\* 08/09/21  
 \*\*\* 09:06:47  
 \*\*\* PAGE 25

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ON-SITET \*\*\*  
 INCLUDING SOURCE(S): PAREAL ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER IN MICROGRAMS/M\*\*3 \*\*

| X-COORD (M) | Y-COORD (M) | CONC    | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|---------|
| 413385.84   | 3773220.44  | 5.32848 | 413397.29   | 3773220.44  | 5.41978 |
| 413408.74   | 3773220.44  | 5.49866 | 413420.19   | 3773220.44  | 5.56494 |
| 413431.64   | 3773220.44  | 5.61930 | 413385.84   | 3773230.51  | 4.97015 |
| 413397.29   | 3773230.51  | 5.06305 | 413408.74   | 3773230.51  | 5.14517 |
| 413420.19   | 3773230.51  | 5.21571 | 413431.64   | 3773230.51  | 5.27565 |
| 413385.84   | 3773240.58  | 4.64098 | 413397.29   | 3773240.58  | 4.73429 |
| 413408.74   | 3773240.58  | 4.81767 | 413420.19   | 3773240.58  | 4.89117 |
| 413431.64   | 3773240.58  | 4.95475 | 413385.84   | 3773250.65  | 4.33793 |
| 413397.29   | 3773250.65  | 4.43023 | 413408.74   | 3773250.65  | 4.51431 |
| 413420.19   | 3773250.65  | 4.58906 | 413431.64   | 3773250.65  | 4.65544 |
| 413385.84   | 3773260.72  | 4.05864 | 413397.29   | 3773260.72  | 4.14947 |
| 413408.74   | 3773260.72  | 4.23284 | 413420.19   | 3773260.72  | 4.30835 |
| 413431.64   | 3773260.72  | 4.37617 | 413385.84   | 3773270.79  | 3.80122 |
| 413397.29   | 3773270.79  | 3.88986 | 413408.74   | 3773270.79  | 3.97215 |
| 413420.19   | 3773270.79  | 4.04725 | 413431.64   | 3773270.79  | 4.11575 |
| 413385.84   | 3773280.86  | 3.56407 | 413397.29   | 3773280.86  | 3.65004 |
| 413408.74   | 3773280.86  | 3.73061 | 413420.19   | 3773280.86  | 3.80475 |
| 413431.64   | 3773280.86  | 3.87311 | 413385.84   | 3773290.93  | 3.34560 |
| 413397.29   | 3773290.93  | 3.42854 | 413408.74   | 3773290.93  | 3.50684 |
| 413420.19   | 3773290.93  | 3.57967 | 413431.64   | 3773290.93  | 3.64735 |
| 413385.84   | 3773301.00  | 3.14423 | 413397.29   | 3773301.00  | 3.22375 |
| 413408.74   | 3773301.00  | 3.29940 | 413420.19   | 3773301.00  | 3.37057 |
| 413431.64   | 3773301.00  | 3.43742 | 413385.84   | 3773311.07  | 2.95827 |
| 413397.29   | 3773311.07  | 3.03426 | 413408.74   | 3773311.07  | 3.10725 |
| 413420.19   | 3773311.07  | 3.17642 | 413431.64   | 3773311.07  | 3.24193 |
| 413385.84   | 3773321.14  | 2.78653 | 413397.29   | 3773321.14  | 2.85903 |
| 413408.74   | 3773321.14  | 2.92905 | 413420.19   | 3773321.14  | 2.99612 |
| 413431.64   | 3773321.14  | 3.06001 | 413385.84   | 3773331.21  | 2.62747 |
| 413397.29   | 3773331.21  | 2.69646 | 413408.74   | 3773331.21  | 2.76360 |
| 413420.19   | 3773331.21  | 2.82851 | 413431.64   | 3773331.21  | 2.89060 |
| 413385.84   | 3773341.28  | 2.48027 | 413397.29   | 3773341.28  | 2.54595 |
| 413408.74   | 3773341.28  | 2.61010 | 413420.19   | 3773341.28  | 2.67264 |
| 413431.64   | 3773341.28  | 2.73302 | 413385.84   | 3773351.35  | 2.34428 |
| 413397.29   | 3773351.35  | 2.40661 | 413408.74   | 3773351.35  | 2.46789 |
| 413420.19   | 3773351.35  | 2.52793 | 413431.64   | 3773351.35  | 2.58619 |
| 413385.84   | 3773361.42  | 2.21868 | 413397.29   | 3773361.42  | 2.27761 |
| 413408.74   | 3773361.42  | 2.33586 | 413420.19   | 3773361.42  | 2.39321 |



|           |            |          |           |            |          |
|-----------|------------|----------|-----------|------------|----------|
| 413000.04 | 3772521.02 | 10.85474 | 413014.83 | 3772521.02 | 10.90507 |
| 413029.62 | 3772521.02 | 10.90799 | 413044.41 | 3772521.02 | 10.85135 |
| 413059.20 | 3772521.02 | 10.73257 | 413073.99 | 3772521.02 | 10.55529 |
| 413088.78 | 3772521.02 | 10.32083 | 413103.57 | 3772521.02 | 10.03404 |
| 413118.36 | 3772521.02 | 9.69823  | 412985.25 | 3772529.34 | 11.13321 |
| 413000.04 | 3772529.34 | 11.25374 | 413014.83 | 3772529.34 | 11.31996 |

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* HRA for 4416 Azusa Canyon Road      \*\*\*      08/09/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*      \*\*\*      09:06:47  
 PAGE 27

\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: ON-SITET \*\*\*  
 INCLUDING SOURCE(S):      PAREA1      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER      IN MICROGRAMS/M\*\*3      \*\*

| X-COORD (M) | Y-COORD (M) | CONC     | X-COORD (M) | Y-COORD (M) | CONC     |
|-------------|-------------|----------|-------------|-------------|----------|
| 413029.62   | 3772529.34  | 11.33350 | 413044.41   | 3772529.34  | 11.28407 |
| 413059.20   | 3772529.34  | 11.16850 | 413073.99   | 3772529.34  | 10.98951 |
| 413088.78   | 3772529.34  | 10.74799 | 413103.57   | 3772529.34  | 10.44867 |
| 413118.36   | 3772529.34  | 10.09635 | 412723.75   | 3772703.89  | 6.07046  |
| 412733.75   | 3772703.89  | 6.34976  | 412743.75   | 3772703.89  | 6.62799  |
| 412723.75   | 3772713.89  | 6.02690  | 412733.75   | 3772713.89  | 6.30771  |
| 412743.75   | 3772713.89  | 6.59299  | 412753.75   | 3772713.89  | 6.89317  |
| 412723.75   | 3772723.89  | 5.97544  | 412733.75   | 3772723.89  | 6.25576  |
| 412743.75   | 3772723.89  | 6.54703  | 412753.75   | 3772723.89  | 6.85743  |
| 412763.75   | 3772723.89  | 7.18806  | 412723.75   | 3772733.89  | 5.91757  |
| 412733.75   | 3772733.89  | 6.19645  | 412743.75   | 3772733.89  | 6.49235  |
| 412753.75   | 3772733.89  | 6.80994  | 412763.75   | 3772733.89  | 7.14867  |
| 412773.75   | 3772733.89  | 7.50842  | 412723.75   | 3772743.89  | 5.85422  |
| 412733.75   | 3772743.89  | 6.13127  | 412743.75   | 3772743.89  | 6.42777  |
| 412753.75   | 3772743.89  | 6.74683  | 412763.75   | 3772743.89  | 7.08782  |
| 412773.75   | 3772743.89  | 7.45123  | 412783.75   | 3772743.89  | 7.84257  |
| 412723.75   | 3772753.89  | 5.78620  | 412733.75   | 3772753.89  | 6.06039  |
| 412743.75   | 3772753.89  | 6.35418  | 412753.75   | 3772753.89  | 6.67019  |
| 412763.75   | 3772753.89  | 7.00901  | 412773.75   | 3772753.89  | 7.37357  |
| 412783.75   | 3772753.89  | 7.76680  | 412793.75   | 3772753.89  | 8.17662  |
| 412723.75   | 3772763.89  | 5.71248  | 412733.75   | 3772763.89  | 5.98323  |
| 412743.75   | 3772763.89  | 6.27325  | 412753.75   | 3772763.89  | 6.58517  |
| 412763.75   | 3772763.89  | 6.92133  | 412773.75   | 3772763.89  | 7.28493  |
| 412783.75   | 3772763.89  | 7.67761  | 412793.75   | 3772763.89  | 8.09629  |
| 412723.75   | 3772773.89  | 5.63232  | 412733.75   | 3772773.89  | 5.89914  |
| 412743.75   | 3772773.89  | 6.18493  | 412753.75   | 3772773.89  | 6.49243  |
| 412763.75   | 3772773.89  | 6.82442  | 412773.75   | 3772773.89  | 7.18438  |
| 412783.75   | 3772773.89  | 7.57396  | 412793.75   | 3772773.89  | 7.99410  |
| 412803.75   | 3772773.89  | 8.44913  | 412813.75   | 3772773.89  | 8.93549  |
| 412723.75   | 3772783.89  | 5.54610  | 412733.75   | 3772783.89  | 5.80844  |
| 412743.75   | 3772783.89  | 6.08963  | 412753.75   | 3772783.89  | 6.39197  |

|           |            |         |           |            |         |
|-----------|------------|---------|-----------|------------|---------|
| 412763.75 | 3772783.89 | 6.71883 | 412773.75 | 3772783.89 | 7.07295 |
| 412783.75 | 3772783.89 | 7.45675 | 412793.75 | 3772783.89 | 7.87242 |
| 412803.75 | 3772783.89 | 8.32413 | 412813.75 | 3772783.89 | 8.81062 |
| 412723.75 | 3772793.89 | 5.45588 | 412733.75 | 3772793.89 | 5.71302 |
| 412743.75 | 3772793.89 | 5.98871 | 412753.75 | 3772793.89 | 6.28554 |
| 412763.75 | 3772793.89 | 6.60630 | 412773.75 | 3772793.89 | 6.95354 |
| 412783.75 | 3772793.89 | 7.33013 | 412793.75 | 3772793.89 | 7.73960 |
| 412803.75 | 3772793.89 | 8.18580 | 412813.75 | 3772793.89 | 8.66925 |
| 412713.75 | 3772803.89 | 5.12647 | 412723.75 | 3772803.89 | 5.36067 |



\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* HRA for 4416 Azusa Canyon Road  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*

\*\*\* 08/09/21  
 \*\*\* 09:06:47  
 PAGE 29

\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: YARDEQU \*\*\*  
 INCLUDING SOURCE(S):    PAREA2    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER    IN MICROGRAMS/M\*\*3    \*\*

| X-COORD (M) | Y-COORD (M) | CONC    | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|---------|
| 413385.84   | 3773220.44  | 0.60369 | 413397.29   | 3773220.44  | 0.59862 |
| 413408.74   | 3773220.44  | 0.59247 | 413420.19   | 3773220.44  | 0.58529 |
| 413431.64   | 3773220.44  | 0.57730 | 413385.84   | 3773230.51  | 0.56485 |
| 413397.29   | 3773230.51  | 0.56092 | 413408.74   | 3773230.51  | 0.55615 |
| 413420.19   | 3773230.51  | 0.55033 | 413431.64   | 3773230.51  | 0.54374 |
| 413385.84   | 3773240.58  | 0.52940 | 413397.29   | 3773240.58  | 0.52649 |
| 413408.74   | 3773240.58  | 0.52266 | 413420.19   | 3773240.58  | 0.51788 |
| 413431.64   | 3773240.58  | 0.51245 | 413385.84   | 3773250.65  | 0.49675 |
| 413397.29   | 3773250.65  | 0.49456 | 413408.74   | 3773250.65  | 0.49159 |
| 413420.19   | 3773250.65  | 0.48770 | 413431.64   | 3773250.65  | 0.48318 |
| 413385.84   | 3773260.72  | 0.46659 | 413397.29   | 3773260.72  | 0.46502 |
| 413408.74   | 3773260.72  | 0.46272 | 413420.19   | 3773260.72  | 0.45955 |
| 413431.64   | 3773260.72  | 0.45583 | 413385.84   | 3773270.79  | 0.43870 |
| 413397.29   | 3773270.79  | 0.43765 | 413408.74   | 3773270.79  | 0.43592 |
| 413420.19   | 3773270.79  | 0.43330 | 413431.64   | 3773270.79  | 0.43019 |
| 413385.84   | 3773280.86  | 0.41294 | 413397.29   | 3773280.86  | 0.41231 |
| 413408.74   | 3773280.86  | 0.41103 | 413420.19   | 3773280.86  | 0.40887 |
| 413431.64   | 3773280.86  | 0.40627 | 413385.84   | 3773290.93  | 0.38918 |
| 413397.29   | 3773290.93  | 0.38885 | 413408.74   | 3773290.93  | 0.38793 |
| 413420.19   | 3773290.93  | 0.38620 | 413431.64   | 3773290.93  | 0.38407 |
| 413385.84   | 3773301.00  | 0.36725 | 413397.29   | 3773301.00  | 0.36711 |
| 413408.74   | 3773301.00  | 0.36645 | 413420.19   | 3773301.00  | 0.36513 |
| 413431.64   | 3773301.00  | 0.36346 | 413385.84   | 3773311.07  | 0.34692 |
| 413397.29   | 3773311.07  | 0.34693 | 413408.74   | 3773311.07  | 0.34650 |
| 413420.19   | 3773311.07  | 0.34555 | 413431.64   | 3773311.07  | 0.34424 |
| 413385.84   | 3773321.14  | 0.32803 | 413397.29   | 3773321.14  | 0.32814 |
| 413408.74   | 3773321.14  | 0.32791 | 413420.19   | 3773321.14  | 0.32730 |
| 413431.64   | 3773321.14  | 0.32636 | 413385.84   | 3773331.21  | 0.31027 |
| 413397.29   | 3773331.21  | 0.31054 | 413408.74   | 3773331.21  | 0.31055 |
| 413420.19   | 3773331.21  | 0.31026 | 413431.64   | 3773331.21  | 0.30968 |
| 413385.84   | 3773341.28  | 0.29381 | 413397.29   | 3773341.28  | 0.29423 |
| 413408.74   | 3773341.28  | 0.29437 | 413420.19   | 3773341.28  | 0.29438 |
| 413431.64   | 3773341.28  | 0.29412 | 413385.84   | 3773351.35  | 0.27859 |
| 413397.29   | 3773351.35  | 0.27908 | 413408.74   | 3773351.35  | 0.27940 |
| 413420.19   | 3773351.35  | 0.27960 | 413431.64   | 3773351.35  | 0.27957 |
| 413385.84   | 3773361.42  | 0.26461 | 413397.29   | 3773361.42  | 0.26513 |
| 413408.74   | 3773361.42  | 0.26550 | 413420.19   | 3773361.42  | 0.26582 |



|           |            |         |           |            |         |
|-----------|------------|---------|-----------|------------|---------|
| 413000.04 | 3772521.02 | 0.11258 | 413014.83 | 3772521.02 | 0.11295 |
| 413029.62 | 3772521.02 | 0.11267 | 413044.41 | 3772521.02 | 0.11175 |
| 413059.20 | 3772521.02 | 0.11023 | 413073.99 | 3772521.02 | 0.10814 |
| 413088.78 | 3772521.02 | 0.10556 | 413103.57 | 3772521.02 | 0.10258 |
| 413118.36 | 3772521.02 | 0.09932 | 412985.25 | 3772529.34 | 0.11717 |
| 413000.04 | 3772529.34 | 0.11838 | 413014.83 | 3772529.34 | 0.11895 |

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* HRA for 4416 Azusa Canyon Road      \*\*\*      08/09/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*      \*\*\*      09:06:47  
 PAGE 31

\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: YARDEQU    \*\*\*  
 INCLUDING SOURCE(S):      PAREA2      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER      IN MICROGRAMS/M\*\*3      \*\*

| X-COORD (M) | Y-COORD (M) | CONC    | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|---------|
| 413029.62   | 3772529.34  | 0.11883 | 413044.41   | 3772529.34  | 0.11800 |
| 413059.20   | 3772529.34  | 0.11651 | 413073.99   | 3772529.34  | 0.11438 |
| 413088.78   | 3772529.34  | 0.11171 | 413103.57   | 3772529.34  | 0.10860 |
| 413118.36   | 3772529.34  | 0.10516 | 412723.75   | 3772703.89  | 0.09442 |
| 412733.75   | 3772703.89  | 0.09875 | 412743.75   | 3772703.89  | 0.10343 |
| 412723.75   | 3772713.89  | 0.09700 | 412733.75   | 3772713.89  | 0.10151 |
| 412743.75   | 3772713.89  | 0.10640 | 412753.75   | 3772713.89  | 0.11163 |
| 412723.75   | 3772723.89  | 0.09964 | 412733.75   | 3772723.89  | 0.10436 |
| 412743.75   | 3772723.89  | 0.10945 | 412753.75   | 3772723.89  | 0.11490 |
| 412763.75   | 3772723.89  | 0.12076 | 412723.75   | 3772733.89  | 0.10236 |
| 412733.75   | 3772733.89  | 0.10729 | 412743.75   | 3772733.89  | 0.11259 |
| 412753.75   | 3772733.89  | 0.11827 | 412763.75   | 3772733.89  | 0.12438 |
| 412773.75   | 3772733.89  | 0.13098 | 412723.75   | 3772743.89  | 0.10514 |
| 412733.75   | 3772743.89  | 0.11028 | 412743.75   | 3772743.89  | 0.11580 |
| 412753.75   | 3772743.89  | 0.12173 | 412763.75   | 3772743.89  | 0.12813 |
| 412773.75   | 3772743.89  | 0.13504 | 412783.75   | 3772743.89  | 0.14249 |
| 412723.75   | 3772753.89  | 0.10797 | 412733.75   | 3772753.89  | 0.11333 |
| 412743.75   | 3772753.89  | 0.11910 | 412753.75   | 3772753.89  | 0.12531 |
| 412763.75   | 3772753.89  | 0.13201 | 412773.75   | 3772753.89  | 0.13925 |
| 412783.75   | 3772753.89  | 0.14707 | 412793.75   | 3772753.89  | 0.15559 |
| 412723.75   | 3772763.89  | 0.11084 | 412733.75   | 3772763.89  | 0.11644 |
| 412743.75   | 3772763.89  | 0.12246 | 412753.75   | 3772763.89  | 0.12896 |
| 412763.75   | 3772763.89  | 0.13598 | 412773.75   | 3772763.89  | 0.14355 |
| 412783.75   | 3772763.89  | 0.15174 | 412793.75   | 3772763.89  | 0.16068 |
| 412723.75   | 3772773.89  | 0.11377 | 412733.75   | 3772773.89  | 0.11960 |
| 412743.75   | 3772773.89  | 0.12589 | 412753.75   | 3772773.89  | 0.13268 |
| 412763.75   | 3772773.89  | 0.14001 | 412773.75   | 3772773.89  | 0.14793 |
| 412783.75   | 3772773.89  | 0.15654 | 412793.75   | 3772773.89  | 0.16588 |
| 412803.75   | 3772773.89  | 0.17607 | 412813.75   | 3772773.89  | 0.18722 |
| 412723.75   | 3772783.89  | 0.11673 | 412733.75   | 3772783.89  | 0.12280 |
| 412743.75   | 3772783.89  | 0.12937 | 412753.75   | 3772783.89  | 0.13645 |

|           |            |         |           |            |         |
|-----------|------------|---------|-----------|------------|---------|
| 412763.75 | 3772783.89 | 0.14411 | 412773.75 | 3772783.89 | 0.15242 |
| 412783.75 | 3772783.89 | 0.16142 | 412793.75 | 3772783.89 | 0.17122 |
| 412803.75 | 3772783.89 | 0.18192 | 412813.75 | 3772783.89 | 0.19364 |
| 412723.75 | 3772793.89 | 0.11971 | 412733.75 | 3772793.89 | 0.12603 |
| 412743.75 | 3772793.89 | 0.13286 | 412753.75 | 3772793.89 | 0.14025 |
| 412763.75 | 3772793.89 | 0.14825 | 412773.75 | 3772793.89 | 0.15692 |
| 412783.75 | 3772793.89 | 0.16635 | 412793.75 | 3772793.89 | 0.17663 |
| 412803.75 | 3772793.89 | 0.18784 | 412813.75 | 3772793.89 | 0.20015 |
| 412713.75 | 3772803.89 | 0.11663 | 412723.75 | 3772803.89 | 0.12271 |

\*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* HRA for 4416 Azusa Canyon Road  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

\*\*\* 08/09/21  
 \*\*\* 09:06:47  
 \*\*\* PAGE 32

\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: YARDEQU    \*\*\*  
 INCLUDING SOURCE(S):    PAREA2    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER    IN MICROGRAMS/M\*\*3    \*\*

| X-COORD (M) | Y-COORD (M) | CONC    |             | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|-------------|---------|
| 412733.75   | 3772803.89  | 0.12927 |             | 412743.75   | 3772803.89  | 0.13637 |
| 412753.75   | 3772803.89  | 0.14407 |             | 412763.75   | 3772803.89  | 0.15241 |
| 412773.75   | 3772803.89  | 0.16147 |             | 412783.75   | 3772803.89  | 0.17133 |
| 412793.75   | 3772803.89  | 0.18207 |             | 412803.75   | 3772803.89  | 0.19383 |
| 412813.75   | 3772803.89  | 0.20673 |             | 412713.75   | 3772813.89  | 0.11940 |
| 412723.75   | 3772813.89  | 0.12571 |             | 412733.75   | 3772813.89  | 0.13252 |
| 412743.75   | 3772813.89  | 0.13990 |             | 412753.75   | 3772813.89  | 0.14790 |
| 412763.75   | 3772813.89  | 0.15658 |             | 412773.75   | 3772813.89  | 0.16602 |
| 412783.75   | 3772813.89  | 0.17631 |             | 412793.75   | 3772813.89  | 0.18755 |
| 412803.75   | 3772813.89  | 0.19986 |             | 412813.75   | 3772813.89  | 0.21338 |
| 413337.74   | 3772505.92  | 0.06746 |             | 413366.05   | 3772505.76  | 0.06811 |
| 413390.43   | 3772506.36  | 0.06919 |             | 413426.03   | 3772501.18  | 0.06773 |
| 413255.11   | 3773190.00  | 0.75467 | MEIR        | 412845.65   | 3772517.02  | 0.08319 |
| 412860.44   | 3772517.02  | 0.08662 |             | 412875.23   | 3772517.02  | 0.09002 |
| 412890.02   | 3772517.02  | 0.09336 |             | 412904.81   | 3772517.02  | 0.09657 |
| 412919.60   | 3772517.02  | 0.09960 |             | 412934.39   | 3772517.02  | 0.10237 |
| 412949.18   | 3772517.02  | 0.10482 |             | 412963.97   | 3772517.02  | 0.10689 |
| 412978.76   | 3772517.02  | 0.10851 |             | 412845.65   | 3772525.34  | 0.08586 |
| 412860.44   | 3772525.34  | 0.08955 |             | 412875.23   | 3772525.34  | 0.09322 |
| 412890.02   | 3772525.34  | 0.09684 |             | 412904.81   | 3772525.34  | 0.10035 |
| 412919.60   | 3772525.34  | 0.10369 |             | 412934.39   | 3772525.34  | 0.10677 |
| 412949.18   | 3772525.34  | 0.10953 |             | 412963.97   | 3772525.34  | 0.11190 |
| 412978.76   | 3772525.34  | 0.11379 |             | 412845.65   | 3772533.66  | 0.08864 |
| 412860.44   | 3772533.66  | 0.09260 |             | 412875.23   | 3772533.66  | 0.09656 |
| 412890.02   | 3772533.66  | 0.10048 |             | 412904.81   | 3772533.66  | 0.10432 |
| 412919.60   | 3772533.66  | 0.10798 |             | 412934.39   | 3772533.66  | 0.11141 |
| 412949.18   | 3772533.66  | 0.11452 |             | 412963.97   | 3772533.66  | 0.11720 |
| 412978.76   | 3772533.66  | 0.11941 |             | 413242.12   | 3772517.03  | 0.07471 |
| 413259.93   | 3772516.53  | 0.07327 |             | 413279.23   | 3772515.44  | 0.07199 |
| 413310.78   | 3772511.61  | 0.06985 |             | 413297.64   | 3772512.87  | 0.07045 |
| 413227.57   | 3772517.61  | 0.07640 | Student MER |             |             |         |

\*\*\* AERMOD - VERSION 21112 \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*

\*\*\* HRA for 4416 Azusa Canyon Road \*\*\*

\*\*\* 08/09/21  
 \*\*\* 09:06:47  
 PAGE 33

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: OFF-SITE \*\*\*  
 INCLUDING SOURCE(S): L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,  
 L0001204 , L0001205 , L0001206 , L0001207 , L0001208 , L0001209 , L0001210 , L0001211 ,  
 L0001212 , L0001213 , L0001214 , L0001215 , L0001216 , L0001217 , L0001218 , L0001219 ,  
 L0001220 , L0001221 , L0001222 , L0001223 , L0001224 , L0001225 , L0001226 , . . .

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER IN MICROGRAMS/M\*\*3 \*\*

| X-COORD (M) | Y-COORD (M) | CONC    | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|---------|
| 413385.84   | 3773220.44  | 3.86038 | 413397.29   | 3773220.44  | 3.76406 |
| 413408.74   | 3773220.44  | 3.67266 | 413420.19   | 3773220.44  | 3.58393 |
| 413431.64   | 3773220.44  | 3.49790 | 413385.84   | 3773230.51  | 3.76370 |
| 413397.29   | 3773230.51  | 3.67494 | 413408.74   | 3773230.51  | 3.59092 |
| 413420.19   | 3773230.51  | 3.50664 | 413431.64   | 3773230.51  | 3.42227 |
| 413385.84   | 3773240.58  | 3.67221 | 413397.29   | 3773240.58  | 3.58808 |
| 413408.74   | 3773240.58  | 3.50849 | 413420.19   | 3773240.58  | 3.42823 |
| 413431.64   | 3773240.58  | 3.35022 | 413385.84   | 3773250.65  | 3.58300 |
| 413397.29   | 3773250.65  | 3.50312 | 413408.74   | 3773250.65  | 3.42519 |
| 413420.19   | 3773250.65  | 3.34903 | 413431.64   | 3773250.65  | 3.27492 |
| 413385.84   | 3773260.72  | 3.49596 | 413397.29   | 3773260.72  | 3.42019 |
| 413408.74   | 3773260.72  | 3.34609 | 413420.19   | 3773260.72  | 3.27354 |
| 413431.64   | 3773260.72  | 3.20289 | 413385.84   | 3773270.79  | 3.41110 |
| 413397.29   | 3773270.79  | 3.33922 | 413408.74   | 3773270.79  | 3.26882 |
| 413420.19   | 3773270.79  | 3.19958 | 413431.64   | 3773270.79  | 3.13215 |
| 413385.84   | 3773280.86  | 3.32988 | 413397.29   | 3773280.86  | 3.26031 |
| 413408.74   | 3773280.86  | 3.19334 | 413420.19   | 3773280.86  | 3.12726 |
| 413431.64   | 3773280.86  | 3.06475 | 413385.84   | 3773290.93  | 3.24945 |
| 413397.29   | 3773290.93  | 3.18347 | 413408.74   | 3773290.93  | 3.11973 |
| 413420.19   | 3773290.93  | 3.05829 | 413431.64   | 3773290.93  | 2.99821 |
| 413385.84   | 3773301.00  | 3.17141 | 413397.29   | 3773301.00  | 3.10980 |
| 413408.74   | 3773301.00  | 3.04916 | 413420.19   | 3773301.00  | 2.99018 |
| 413431.64   | 3773301.00  | 2.93317 | 413385.84   | 3773311.07  | 3.09574 |
| 413397.29   | 3773311.07  | 3.03682 | 413408.74   | 3773311.07  | 2.97959 |
| 413420.19   | 3773311.07  | 2.92276 | 413431.64   | 3773311.07  | 2.86825 |
| 413385.84   | 3773321.14  | 3.02169 | 413397.29   | 3773321.14  | 2.96588 |
| 413408.74   | 3773321.14  | 2.91160 | 413420.19   | 3773321.14  | 2.85777 |
| 413431.64   | 3773321.14  | 2.80501 | 413385.84   | 3773331.21  | 2.94911 |
| 413397.29   | 3773331.21  | 2.89626 | 413408.74   | 3773331.21  | 2.84442 |
| 413420.19   | 3773331.21  | 2.79348 | 413431.64   | 3773331.21  | 2.74338 |
| 413385.84   | 3773341.28  | 2.87473 | 413397.29   | 3773341.28  | 2.82483 |
| 413408.74   | 3773341.28  | 2.77572 | 413420.19   | 3773341.28  | 2.72781 |
| 413431.64   | 3773341.28  | 2.68065 | 413385.84   | 3773351.35  | 2.80606 |
| 413397.29   | 3773351.35  | 2.75864 | 413408.74   | 3773351.35  | 2.71214 |

|           |            |         |           |            |         |
|-----------|------------|---------|-----------|------------|---------|
| 413420.19 | 3773351.35 | 2.66682 | 413431.64 | 3773351.35 | 2.62215 |
| 413385.84 | 3773361.42 | 2.74031 | 413397.29 | 3773361.42 | 2.69506 |
| 413408.74 | 3773361.42 | 2.65056 | 413420.19 | 3773361.42 | 2.60752 |
| 413431.64 | 3773361.42 | 2.56504 | 413385.84 | 3773371.49 | 2.67660 |
| 413397.29 | 3773371.49 | 2.63327 | 413408.74 | 3773371.49 | 2.59087 |
| 413420.19 | 3773371.49 | 2.54987 | 413431.64 | 3773371.49 | 2.50948 |

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* HRA for 4416 Azusa Canyon Road      \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
 \*\*\*  
 \*\*\*  
 \*\*\*  
 08/09/21  
 09:06:47  
 PAGE 34

\*\*\* MODELOPTs:      RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION    VALUES FOR SOURCE GROUP: OFF-SITE \*\*\*  
 INCLUDING SOURCE(S):    L0001199    ,    L0001200    ,    L0001201    ,    L0001202    ,    L0001203    ,  
 L0001204    ,    L0001205    ,    L0001206    ,    L0001207    ,    L0001208    ,    L0001209    ,    L0001210    ,    L0001211    ,  
 L0001212    ,    L0001213    ,    L0001214    ,    L0001215    ,    L0001216    ,    L0001217    ,    L0001218    ,    L0001219    ,  
 L0001220    ,    L0001221    ,    L0001222    ,    L0001223    ,    L0001224    ,    L0001225    ,    L0001226    ,    . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS \*\*\*

\*\* CONC OF OTHER      IN MICROGRAMS/M\*\*3      \*\*

| X-COORD (M) | Y-COORD (M) | CONC    | X-COORD (M) | Y-COORD (M) | CONC    |
|-------------|-------------|---------|-------------|-------------|---------|
| 413385.84   | 3773381.56  | 2.60937 | 413397.29   | 3773381.56  | 2.56227 |
| 413408.74   | 3773381.56  | 2.51947 | 413420.19   | 3773381.56  | 2.49115 |
| 413431.64   | 3773381.56  | 2.45456 | 413385.84   | 3773391.63  | 2.52054 |
| 413397.29   | 3773391.63  | 2.47986 | 413408.74   | 3773391.63  | 2.44145 |
| 413420.19   | 3773391.63  | 2.41120 | 413431.64   | 3773391.63  | 2.37608 |
| 413385.84   | 3773401.70  | 2.41847 | 413397.29   | 3773401.70  | 2.38524 |
| 413408.74   | 3773401.70  | 2.35218 | 413420.19   | 3773401.70  | 2.31934 |
| 413431.64   | 3773401.70  | 2.28701 | 413416.45   | 3772548.02  | 4.05636 |
| 413435.76   | 3772548.02  | 3.84284 | 413416.45   | 3772557.84  | 4.13043 |
| 413435.76   | 3772557.84  | 3.90916 | 413416.45   | 3772567.66  | 4.20498 |
| 413435.76   | 3772567.66  | 3.97578 | 413416.45   | 3772577.48  | 4.27993 |
| 413435.76   | 3772577.48  | 4.04260 | 413416.45   | 3772587.30  | 4.35516 |
| 413435.76   | 3772587.30  | 4.10957 | 413416.45   | 3772597.12  | 4.43053 |
| 413435.76   | 3772597.12  | 4.17658 | 413416.45   | 3772606.94  | 4.50594 |
| 413435.76   | 3772606.94  | 4.24353 | 413416.45   | 3772616.76  | 4.58123 |
| 413435.76   | 3772616.76  | 4.31028 | 413416.45   | 3772626.58  | 4.65625 |
| 413435.76   | 3772626.58  | 4.37669 | 413416.45   | 3772636.40  | 4.73083 |
| 413435.76   | 3772636.40  | 4.44259 | 413416.45   | 3772646.22  | 4.80479 |
| 413435.76   | 3772646.22  | 4.50788 | 413416.45   | 3772656.04  | 4.87791 |
| 413435.76   | 3772656.04  | 4.57243 | 413416.45   | 3772665.86  | 4.95008 |
| 413435.76   | 3772665.86  | 4.63603 | 413416.45   | 3772675.68  | 5.02109 |
| 413435.76   | 3772675.68  | 4.69851 | 413416.45   | 3772685.50  | 5.09075 |
| 413435.76   | 3772685.50  | 4.75972 | 413416.45   | 3772695.32  | 5.15879 |
| 413435.76   | 3772695.32  | 4.81948 | 413416.45   | 3772705.14  | 5.22497 |
| 413435.76   | 3772705.14  | 4.87767 | 413416.45   | 3772714.96  | 5.28906 |
| 413435.76   | 3772714.96  | 4.93415 | 413416.45   | 3772724.78  | 5.35083 |
| 413435.76   | 3772724.78  | 4.98851 | 413416.45   | 3772734.60  | 5.41001 |
| 413435.76   | 3772734.60  | 5.04051 | 413416.45   | 3772744.42  | 5.46619 |



|           |            |          |           |            |          |
|-----------|------------|----------|-----------|------------|----------|
| 412763.75 | 3772763.89 | 25.73743 | 412773.75 | 3772763.89 | 28.61343 |
| 412783.75 | 3772763.89 | 31.61586 | 412793.75 | 3772763.89 | 34.52547 |
| 412723.75 | 3772773.89 | 17.77897 | 412733.75 | 3772773.89 | 19.80247 |
| 412743.75 | 3772773.89 | 22.24348 | 412753.75 | 3772773.89 | 25.16808 |
| 412763.75 | 3772773.89 | 28.61546 | 412773.75 | 3772773.89 | 32.51994 |
| 412783.75 | 3772773.89 | 36.66733 | 412793.75 | 3772773.89 | 40.71142 |
| 412803.75 | 3772773.89 | 44.36975 | 412813.75 | 3772773.89 | 47.40258 |
| 412723.75 | 3772783.89 | 18.52600 | 412733.75 | 3772783.89 | 20.87049 |
| 412743.75 | 3772783.89 | 23.82044 | 412753.75 | 3772783.89 | 27.55275 |
| 412763.75 | 3772783.89 | 32.23862 | 412773.75 | 3772783.89 | 37.88394 |
| 412783.75 | 3772783.89 | 44.08545 | 412793.75 | 3772783.89 | 50.06086 |
| 412803.75 | 3772783.89 | 55.17658 | 412813.75 | 3772783.89 | 59.16059 |
| 412723.75 | 3772793.89 | 19.18999 | 412733.75 | 3772793.89 | 21.86679 |
| 412743.75 | 3772793.89 | 25.39580 | 412753.75 | 3772793.89 | 30.17664 |
| 412763.75 | 3772793.89 | 36.76299 | 412773.75 | 3772793.89 | 45.63416 |
| 412783.75 | 3772793.89 | 56.16573 | 412793.75 | 3772793.89 | 65.92014 |
| 412803.75 | 3772793.89 | 73.39755 | 412813.75 | 3772793.89 | 78.90240 |
| 412713.75 | 3772803.89 | 17.44805 | 412723.75 | 3772803.89 | 19.71453 |







## Appendix C. HARP2 Risk Calculations

## Appendix

*This page intentionally left blank.*

**Table C1**  
**MER Concentration Worksheet**  
**Input into HARP2**

| Source No.  | Source                    | Contaminant | Weight Fraction | Emission Rates <sup>1</sup><br>Annual Avg | AERMOD Output <sup>2</sup><br>Annual Avg | Annual Average MER Concentration      |
|---|---------------------------|-------------|-----------------|---|--|---------------------------------------|
| ( a )   | ( b )                     | ( c )       | ( d )           | (g/s)<br>( e )                            | ( $\mu\text{g}/\text{m}^3$ )<br>( f )    | ( $\mu\text{g}/\text{m}^3$ )<br>( g ) |
| <b>Residential MER</b>  |                           |             |                 |   |  |                                       |
| 1   | Trucks (on-site running)  | DPM         | 1.0E+00         | 3.64E-06                                  | 4.650                                    | 1.69E-05                              |
| 2   | Trucks (off-site running) | DPM         | 1.0E+00         | 4.03E-06                                  | 5.780                                    | 2.33E-05                              |
| 3   | Truck Idling              | DPM         | 1.0E+00         | 6.50E-07                                  | 177.6                                    | 1.15E-04                              |
| 4   | Yard Emissions            | DPM         | 1.0E+00         | 1.89E-03                                  | 0.755                                    | 1.42E-03                              |
| Note: Maximum Exposed Receptor (MER)<br>UTM: 413255.11, 3773190.0 |                           |             |                 |   |  | For Cancer/Chronic Calculation        |

<sup>1</sup> Emission Rates, per source, from Source Emissions Inventories (Appendix A).

<sup>2</sup> AERMOD Output (Appendix B) at the maximum exposed receptor (MER) are based on unit emission rates for emission sources (1 g/s per source).

\*HARP - HRACalc v21081 8/10/2021 9:31:14 AM - Cancer Risk - Input File: C:\!HarpOutput\IRW03\30yrResHRAIn

| INDEX | POLID | POLABBREV   | CONC     | RISK_SUM | SCENARIO                                     |
|-------|-------|-------------|----------|----------|--|
| 1     | 9901  | DieselExhPM | 1.69E-05 | 1.46E-08 | 30YrCancerDerived_InhSoilDermMMilk_FAH16to70 |
| 2     | 9901  | DieselExhPM | 2.33E-05 | 2.02E-08 | 30YrCancerDerived_InhSoilDermMMilk_FAH16to70 |
| 3     | 9901  | DieselExhPM | 0.000115 | 9.95E-08 | 30YrCancerDerived_InhSoilDermMMilk_FAH16to70 |
| 4     | 9901  | DieselExhPM | 0.00142  | 1.23E-06 | 30YrCancerDerived_InhSoilDermMMilk_FAH16to70 |
|       |       | SUM         |          | 1.36E-06 |  |

\*HARP - HRACalc v21081 8/10/2021 9:31:14 AM - Chronic Risk - Input File: C:\HarpOutput\IRW03\30yrResHRAInput.hra

| INDEX | POLID | POLABBREV   | CONC     | SCENARIO                  | CV       | CNS      | IMMUN    | KIDNEY   | GILV     | REPRO/DE | RESP     | SKIN     | EYE      | BONE/TEE | ENDO     | BLOOD    |
|-------|-------|-------------|----------|---------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1     | 9901  | DieselExhPM | 1.69E-05 | NonCancerChronicDerived_I | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.38E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 2     | 9901  | DieselExhPM | 2.33E-05 | NonCancerChronicDerived_I | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.66E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 3     | 9901  | DieselExhPM | 0.000115 | NonCancerChronicDerived_I | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.30E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 4     | 9901  | DieselExhPM | 0.00142  | NonCancerChronicDerived_I | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.84E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| SUM   |       |             |          |                           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.15E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

**Table C2**  
**MER Concentration Worksheet**  
**Input into HARP2**

| Source No.   | Source                    | Contaminant | Weight Fraction | Emission Rates <sup>1</sup><br>Annual Avg | AERMOD Output <sup>2</sup><br>Annual Avg | Annual Average MER Concentration      |
|--|---------------------------|-------------|-----------------|---|--|---------------------------------------|
| ( a )  | ( b )                     | ( c )       | ( d )           | (g/s)<br>( e )                            | ( $\mu\text{g}/\text{m}^3$ )<br>( f )    | ( $\mu\text{g}/\text{m}^3$ )<br>( g ) |
| <b>Student MER</b>   |                           |             |                 |   |  |                                       |
| 1  | Trucks (on-site running)  | DPM         | 1.0E+00         | 3.64E-06                                  | 6.400                                    | 2.33E-05                              |
| 2  | Trucks (off-site running) | DPM         | 1.0E+00         | 4.03E-06                                  | 6.690                                    | 2.70E-05                              |
| 3  | Truck Idling              | DPM         | 1.0E+00         | 6.50E-07                                  | 155.9                                    | 1.01E-04                              |
| 4  | Yard Emissions            | DPM         | 1.0E+00         | 1.89E-03                                  | 0.080                                    | 1.51E-04                              |
| Note: Maximum Exposed Receptor (MER)<br>UTM: 413227.57, 3772517.61 |                           |             |                 |   |  | For Cancer/Chronic Calculation        |

<sup>1</sup> Emission Rates, per source, from Source Emissions Inventories (Appendix A).

<sup>2</sup> AERMOD Output (Appendix B) at the maximum exposed receptor (MER) are based on unit emission rates for emission sources (1 g/s per source).

\*HARP - HRACalc v21081 8/10/2021 10:22:05 AM - Cancer Risk - Input File: C:\!HarpOutput\IRW03\Stu

| INDEX | POLID | POLABBREV   | CONC     | RISK_SUM | SCENARIO                     | DETAILS |
|-------|-------|-------------|----------|----------|------------------------------|---------|
| 1     | 9901  | DieselExhPM | 2.33E-05 | 3.19E-09 | 7YrCancerDerived_InhSoilDerm | *       |
| 2     | 9901  | DieselExhPM | 2.70E-05 | 3.70E-09 | 7YrCancerDerived_InhSoilDerm | *       |
| 3     | 9901  | DieselExhPM | 0.000101 | 1.38E-08 | 7YrCancerDerived_InhSoilDerm | *       |
| 4     | 9901  | DieselExhPM | 0.000151 | 2.07E-08 | 7YrCancerDerived_InhSoilDerm | *       |
|       |       | SUM         |          | 4.14E-08 |                              |         |

\*HARP - HRACalc v21081 8/10/2021 10:22:05 AM - Chronic Risk - Input File: C:\HarpOutput\IRW03\StudentHRAInput.hra

| INDEX | POLID | POLABBREV   | CONC     | SCENARIO                 | CV       | CNS      | IMMUN    | KIDNEY   | GILV     | REPRO/DE | RESP     | SKIN     | EYE      | BONE/TEE | ENDO     | BLOOD    |
|-------|-------|-------------|----------|--------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1     | 9901  | DieselExhPM | 2.33E-05 | NonCancerChronicDerived_ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.66E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 2     | 9901  | DieselExhPM | 2.70E-05 | NonCancerChronicDerived_ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.40E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 3     | 9901  | DieselExhPM | 0.000101 | NonCancerChronicDerived_ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.02E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| 4     | 9901  | DieselExhPM | 0.000151 | NonCancerChronicDerived_ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
|       |       |             |          | SUM                      | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.05E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

# Appendix C Cultural and Paleontological Resources Assessment Report

## Appendix

*This page intentionally left blank.*



**CULTURAL AND PALEONTOLOGICAL RESOURCES  
ASSESSMENT REPORT FOR THE 4416 AZUSA  
CANYON ROAD PROJECT, CITY OF IRWINDALE, LOS  
ANGELES COUNTY, CALIFORNIA**

**Prepared for:**

*Dina El Chammas Gass, PE  
PlaceWorks  
3 MacArthur Place, Suite 1100  
Santa Ana, California 92707*

**Authors:**

Sandy Duarte, B.A., Kelly Vreeland, M.S., and Shannon Lopez, M.A.

**Principal Investigators:**

John Gust, Ph.D, RPA  
Kim Scott, M.S.

**July 2021**

**Cogstone Project Number:** 5186

**Type of Study:** Cultural and Paleontological Resources Assessment

**Archaeological Sites:** none

**USGS 7.5' Quadrangle:** Baldwin Park (1981)

**Area:** 5.82 acres

**Key Words:** Gabrielino/Gabrieleño/Tongva Territory, Pepsi-Cola, Negative archaeological survey,  
Negative paleontological survey, Positive built environment survey

**TABLE OF CONTENTS**

**SUMMARY OF FINDINGS ..... 5**

**CULTURAL RESOURCES ..... 1**

**INTRODUCTION ..... 1**

**PURPOSE OF STUDY ..... 1**

**PROJECT LOCATION AND DESCRIPTION ..... 2**

**PROJECT PERSONNEL ..... 2**

**REGULATORY ENVIRONMENT ..... 5**

**STATE LAWS AND REGULATIONS ..... 5**

*CALIFORNIA ENVIRONMENTAL QUALITY ACT ..... 5*

*TRIBAL CULTURAL RESOURCES ..... 5*

*PUBLIC RESOURCES CODE ..... 6*

*CALIFORNIA REGISTER OF HISTORICAL RESOURCES ..... 6*

*NATIVE AMERICAN HUMAN REMAINS ..... 7*

*CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307 ..... 8*

**DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES ..... 8**

**CITY OF IRWINDALE GENERAL PLAN RESOURCE MANAGEMENT ELEMENT ..... 8**

*ISSUE AREA – RESOURCE PRESERVATION ..... 8*

**BACKGROUND ..... 9**

**GEOLOGICAL SETTING ..... 9**

*YOUNG ALLUVIAL FAN DEPOSITS, UNIT 3 ..... 10*

*ARTIFICIAL FILL ..... 10*

**PALEONTOLOGICAL SETTING ..... 10**

**PREHISTORIC SETTING ..... 10**

**PREHISTORIC CHRONOLOGY ..... 11**

**ETHNOGRAPHY ..... 14**

**HISTORIC SETTING ..... 15**

*IRWINDALE ..... 15*

*THE PEPSI BOTTLING GROUP INC. .... 16*

*PEPSI-COLA BOTTLERS OF CALIFORNIA IN THE 1950S ..... 17*

*PROJECT AREA HISTORY ..... 17*

**RECORDS SEARCHES ..... 19**

**PALEONTOLOGICAL RECORD SEARCH ..... 19**

**CALIFORNIA HISTORIC RESOURCES INFORMATION SYSTEM ..... 21**

**OTHER SOURCES ..... 22**

**NATIVE AMERICAN CONSULTATION ..... 24**

**SURVEY ..... 24**

**METHODS ..... 24**

**RESULTS ..... 25**

*BUILT ENVIRONMENT RESULTS ..... 27*

**IMPACT ANALYSIS ..... 27**

**PALEONTOLOGICAL SENSITIVITY ..... 27**

**ARCHAEOLOGICAL SENSITIVITY ..... 28**

**CALIFORNIA REGISTER OF HISTORICAL RESOURCES (CRHR) ELIGIBILITY EVALUATION ..... 29**

*PEPSI-COLA BOTTLING PLANT (4416 AZUSA CANYON ROAD) ..... 29*

**CONCLUSIONS AND RECOMMENDATIONS.....31**

**PALEONTOLOGICAL RESOURCES .....31**

**ARCHAEOLOGICAL RESOURCES .....32**

**BUILT ENVIRONMENT RESOURCES .....33**

**REFERENCES CITED.....35**

**APPENDIX A. QUALIFICATIONS.....39**

**APPENDIX B. PALEONTOLOGICAL RECORD SEARCH .....48**

**APPENDIX C. NATIVE AMERICAN CONSULTATION.....51**

**APPENDIX D. BUILT ENVIRONMENT SURVEY PHOTOS.....68**

**APPENDIX E. PALEONTOLOGICAL SENSITIVITY RANKING CRITERIA .....72**

**APPENDIX F. DPR FORMS.....74**

**LIST OF FIGURES**

**FIGURE 1. PROJECT VICINITY MAP .....1**

**FIGURE 2. PROJECT LOCATION .....3**

**FIGURE 3. AERIAL MAP.....4**

**FIGURE 4. TRIBAL BOUNDARIES MAP .....15**

**FIGURE 5. LAND GRANT MAP.....18**

**FIGURE 6. OVERVIEW OF SOUTHERN PORTION OF PROJECT AREA, VIEW NORTHEAST.....25**

**FIGURE 7. OVERVIEW ALONG SOUTHERN EDGE OF PROJECT AREA. VIEW EAST-NORTHEAST.....26**

**FIGURE 8. OVERVIEW OF NORTH PORTION OF PROJECT AREA WITH BIG DALTON CHANNEL AT LEFT, VIEW NORTHEAST .....26**

**FIGURE 9. TYPICAL SEDIMENTS IN NON-HARDSCAPED PORTIONS OF PROJECT AREA .....26**

**FIGURE D-1. PHOTO KEY .....69**

**FIGURE D-2. PHOTO LOG.....70**

**FIGURE D-3. PHOTO LOG.....71**

**LIST OF TABLES**

**TABLE 1. CULTURAL PATTERNS AND PHASES .....12**

**TABLE 2. KNOWN PLEISTOCENE FOSSILS IN THE VICINITY OF THE PROJECT AREA .....19**

**TABLE 3. PREVIOUS CULTURAL RESOURCE STUDIES .....21**

**TABLE 4. ADDITIONAL SOURCES CONSULTED.....22**

**TABLE 5. BLM LAND PATENTS .....23**

**TABLE 6. PALEONTOLOGICAL SENSITIVITY RANKINGS OF PROJECT UNITS .....28**

## **SUMMARY OF FINDINGS**

This study was conducted to determine the potential impacts to cultural and paleontological resources during the 4416 Azusa Canyon Road Project (Project), City of Irwindale, Los Angeles County, California. This Project will comply with California Environmental Quality Act (CEQA) regulations. The City of Irwindale (City) is the lead CEQA Agency.

The Project is located at 4416 Azusa Canyon Road, Irwindale, Los Angeles County, California within Assessor's Parcel Number (APN) 8417-004-006. Specifically, the Project is located in Section 9 of Township 1 South, Range 10 West, San Bernardino Baseline and Meridian, on the Baldwin Park (1:24,000) USGS 7.5-minute topographic quadrangle map. The Project involves the demolition of an existing building constructed in 1956 in order to construct a new, approximately 129,830 square foot, stand-alone, speculative concrete tilt-up warehouse building with an office mezzanine. Sediment disturbance is expected to reach a maximum of 12 feet for grading and utilities.

### **CULTURAL RESOURCES**

Cogstone principal investigator for archaeology John Gust requested a search of the California Historic Resources Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) located on the campus of California State University, Fullerton that included the entire proposed Project Area as well as a one-half mile radius on April 9, 2021. SCCIC staff completed the request on May 13, 2021. Results of the record search indicate that five previous studies have been completed within one-half mile of the proposed Project Area, but none within the Project Area. The records search also determined one previously recorded resource is found within the search radius located 0.25 to 0.5 miles from the Project Area but none are located within the Project Area.

Cogstone requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on April 13, 2021. On April 27, 2021 the NAHC responded that the Project Area was negative for any known sacred sites or resources. The NAHC provided a list of seven tribes affiliated with the Project Area and recommended that they be consulted for information on sacred sites in the vicinity of the Project Area. Cogstone assisted the City with Assembly Bill 52 (AB 52) consultations by contacting each of the identified Tribes up to three times.

Based on pedestrian survey, the cultural records search results from the SCCIC, and the negative SLF search results the Project Area is assessed to have low sensitivity for prehistoric resources. Based on these data sources and the review of USGS topographic quadrangle maps and historic USDA aerial photographs, the Project Area is assessed to have low to moderate sensitivity for buried historic archaeological resources as the building type and related information is not known for the two buildings that are seen on the 1953 Baldwin Park USGS topographic quadrangle map but are no longer present in the 1956 USDA aerial photograph

One built environment resource, a Pepsi-Cola bottling plant constructed in the late 1950s, was identified, photographed, and fully documented on California Department of Park and Recreation (DPR) 523 series forms. Due to a lack of significance, this building is recommended not eligible for listing in the California Register of Historical Resources. Demolition and renovations of the existing structure does not require any mitigation due to lack of significance.

No further cultural resources work is necessary. Cogstone recommends for the proposed Project to proceed as planned. Should cultural resources be identified during construction the following mitigation measures are recommended.

**CUL-1:** If an inadvertent cultural material is discovered during ground-disturbing activities, all work must halt within 50 feet of the find until the qualified archaeologist can determine the significance. No soil shall be exported from within the 50-foot buffer around the find until a determination of significance is made. The qualified archaeologist will then also determine if continued archaeological monitoring is warranted.

If the qualified archaeologist determines that the find qualifies as a significant cultural resource, the archeologist shall make recommendations on the treatment and disposition of the deposits, which shall be developed in accordance with all applicable provisions of California Public Resource Code Section 21083.2 and State CEQA Guidelines Sections 15064.5 and 15126.4. For example, if significant cultural resources are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan. The archaeologist shall prepare a final report describing monitoring methods that includes a catalog of all ~~and curated~~ cultural resources identified during the Project for submission to the City. The City will determine disposition of collected cultural resources which may include return to landowner/applicant, transfer to a consulting Native American group, donation to school or museum, or long term curation at an approved curation facility. The applicant shall be financially responsible for costs associated with cultural resources monitoring, including artifact curation, up to the limits imposed by Public Resources Code Section 21083.2.

**CUL-2:** The City of Irwindale will notify The Gabrielino Tongva Indians of California Tribal Council (Tribe) if prehistoric materials, including Native American burial remains, are found. Any notification by the City of Irwindale to the Tribe of the discovery of burial remains will be separate from the Native American Heritage Commission (NAHC) process and will occur regardless of whether the NAHC designates the Tribe as Most Likely Descendent. If Native American burial remains are found the Tribe will engage the City of Irwindale in formal Native American consultation.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then can recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate

dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

## **PALEONTOLOGICAL RESOURCES**

The Project Area is mapped entirely as late Pleistocene to Holocene young alluvial fan deposits, which were deposited from 129,000 years ago through into historic times. The paleontological record search revealed no fossil localities from within the Project Area or within a 5-mile radius. However, fossil localities are known from terrestrial deposits near the Project. Extinct late Pleistocene animal fossils of mammoth, Pacific mastodon, Harlan's ground sloth, sabre-toothed cat, California turkey, horse, camel, and bison have been recovered from within 15 miles of the study area.

The paleontological records search revealed that all of the fossils previously recovered within an 18-mile radius were a minimum of two feet deep in deposits mapped as Pleistocene at the surface. Sediments with a Holocene component such as those within the study area produced fossils starting at 24 feet deep near the Project Area. For this reason, sediments less than 20 feet below the modern surface within the boundaries of the Project are assigned a low potential for fossils (PFYC 2), while deeper deposits are assigned a moderate potential for fossils (PFYC 3) due to similar deposits producing fossils at that depth near to the study area.

Based upon the records of fossils derived from similar sediments near the Project, and given the proposed depth of cut, no paleontological monitoring is currently recommended for the mass excavations. Drilling or pile driving activities, regardless of depth, have a low potential to produce fossils meeting significance criteria because any fossils brought up by the auger during drilling will not have information about formation, depth or context.

In the unlikely event that fossils are found the following mitigation measures will apply:

**PAL-1:** If unanticipated fossil discoveries are made, all work must halt within 50 feet until a qualified paleontologist can evaluate the find. Work may resume immediately outside of the 50-foot radius. Mitigation Measures PAL-2 and PAL-3 shall be implemented.

**PAL-2:** If the discoveries are determined to be significant, full-time paleontological monitoring will be recommended for the remainder of ground disturbance for the project. Paleontological monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Monitoring efforts can be reduced or eliminated at the discretion of the project paleontologist.

**PAL-3:** Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing

specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the most specific taxonomic level possible, cataloged, analyzed, and delivered to the Natural History Museum of Los Angeles County for permanent curation and storage. The cost of curation is assessed by the repository and shall be the responsibility of the land owner. At the conclusion of laboratory work and museum curation, a final Paleontological Monitoring Report (PMR) shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered, an analysis of fossils recovered and their scientific significance, and recommendations. A copy of the report shall also be submitted to the Natural History Museum of Los Angeles County.

## INTRODUCTION

### PURPOSE OF STUDY

This study was conducted to determine the potential impacts to cultural and paleontological resources during the 4416 Azusa Canyon Road Project (Project), City of Irwindale, Los Angeles County, California (Figure 1). This Project will comply with California Environmental Quality Act (CEQA) regulations. The City of Irwindale (City) is the lead CEQA Agency.

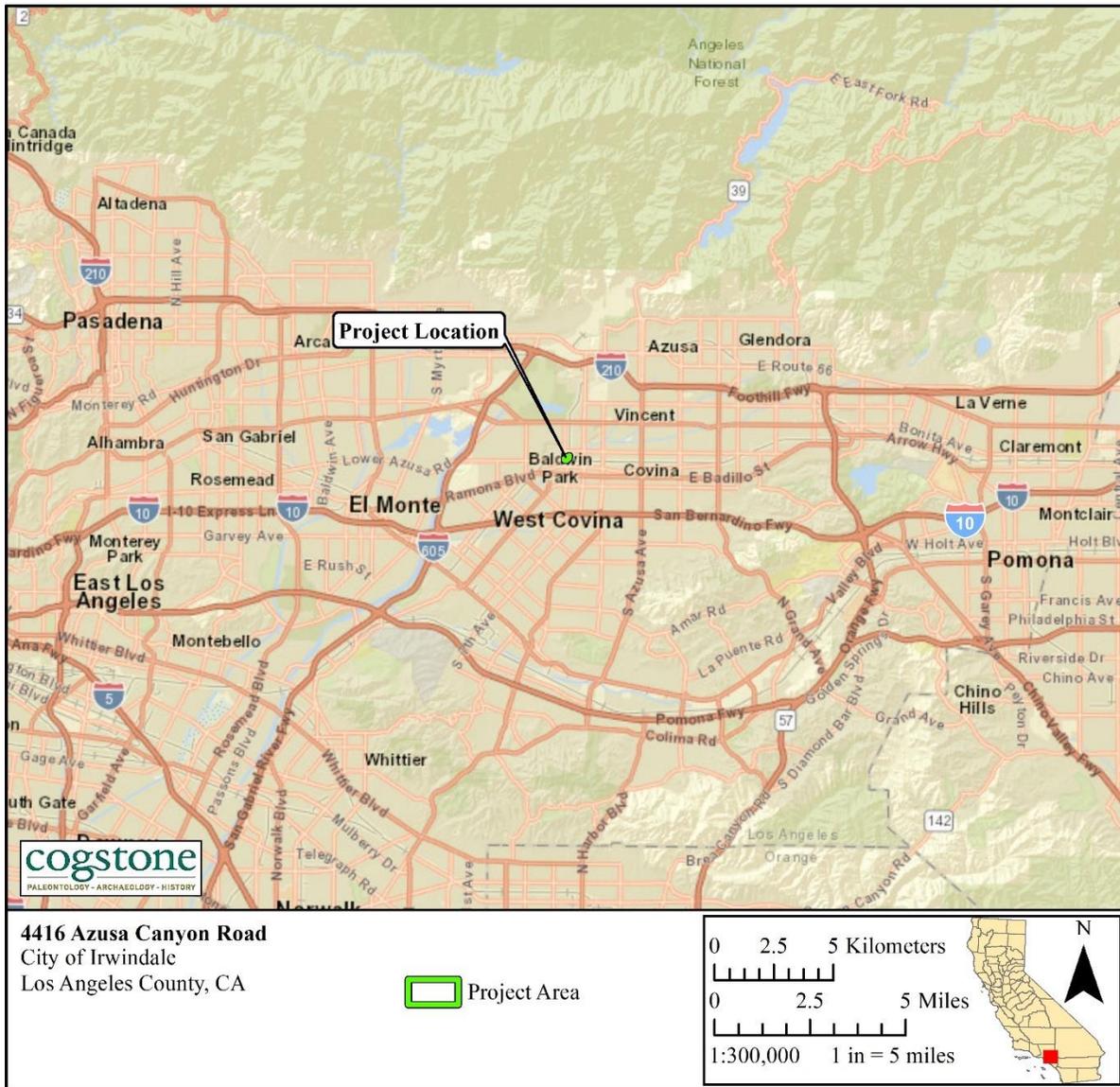


Figure 1. Project vicinity map

## **PROJECT LOCATION AND DESCRIPTION**

The Project is located at 4416 Azusa Canyon Road, Irwindale, Los Angeles County, California within Assessor's Parcel Number (APN) 8417-004-006 (Figures 2, 3). Specifically, the Project is located in Section 9 of Township 1 South, Range 10 West, San Bernardino Baseline and Meridian, on the Baldwin Park (1:24,000) USGS 7.5-minute topographic quadrangle map. The Project involves the demolition of an existing building constructed in 1956 in order to construct a new, approximately 129,830 square foot, stand-alone, speculative concrete tilt-up warehouse building with an office mezzanine. Sediment disturbance is expected to reach a maximum of 12 feet for grading and utilities.

## **PROJECT PERSONNEL**

Cogstone Resource Management, Inc. (Cogstone) carried out this assessment and drafted this report. Brief resumes of key Project personnel are in Appendix A.

- Desiree Martinez provided QA/QC. Ms. Martinez is a Registered Professional Archaeologist (RPA) and holds an M.A. in Anthropology from Harvard University and more than 24 years of experience in California archaeology.
- Eric Scott provided QA/QC of the paleontology and geology sections of this report. Mr. Scott has an M.A. in Anthropology, with an emphasis in biological paleoanthropology, from the University of California, Los Angeles (UCLA), and more than 37 years of experience in California paleontology.
- John Gust, RPA, served as the Task Manager and Principal Investigator for Archaeology for the Project, and reviewed this report. Dr. Gust has a Ph.D. in Anthropology from the University of California (UC), Riverside, and over 9 years of experience in archaeology.
- Kim Scott served as the Principal Investigator for Paleontology for the Project and reviewed the geological and paleontological portions of this report. Ms. Scott has an M.S. in Biology with paleontology emphasis from California State University (CSU), San Bernardino and over 25 years of experience in California paleontology and geology.
- Sandy Duarte co-authored this report. Mrs. Duarte holds a B.A. in Anthropology from UC Santa Barbara, and has more than 18 years of experience in California archaeology.
- Kelly Vreeland co-authored this report. Ms. Vreeland has an M.S. in Geology, with an emphasis in paleontology, from CSU Fullerton, as well as 10 years of experience in California paleontology and geology.

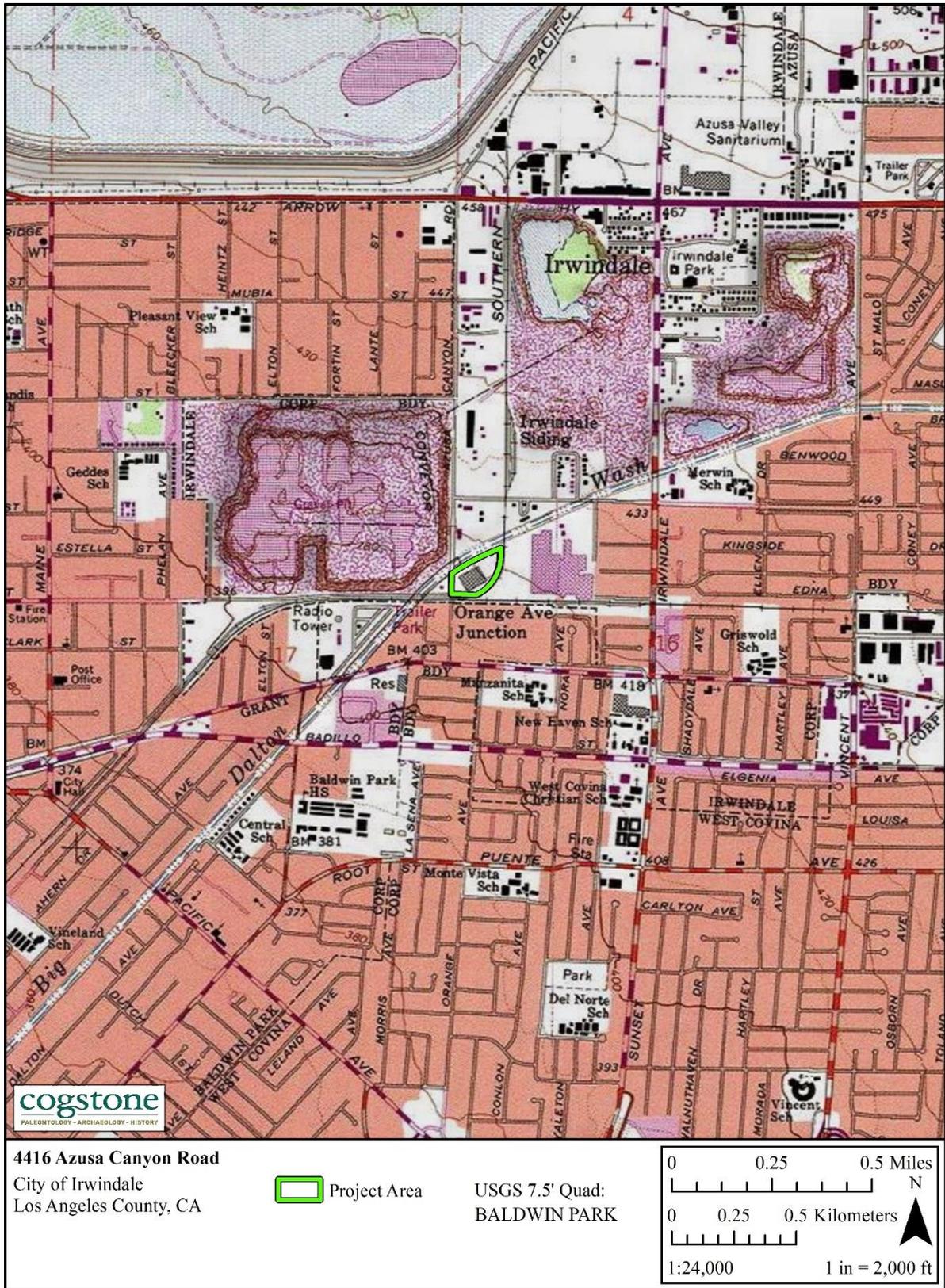


Figure 2. Project location



Figure 3. Aerial map

- Shannon Lopez conducted historic society consultation, built environment evaluation, and co-authored this report. Ms. Lopez holds an M.A. from CSU Fullerton and has more than three years of experience as an architectural historian.
- Cassidy Sharp conducted the intensive archaeological and paleontological pedestrian survey. Ms. Sharp holds an M.S. in Archaeological Science from Durham University, U.K. and has more than five years of experience in archaeology and paleontology.
- Logan Freeberg prepared the Geographic Information System (GIS) maps throughout this report. Mr. Freeberg has a B.A. in Anthropology from UC Santa Barbara, a GIS certification from CSU Fullerton, and over 18 years of experience in California archaeology.

## **REGULATORY ENVIRONMENT**

### **STATE LAWS AND REGULATIONS**

#### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: “take all action necessary to provide the people of this state with...historic environmental qualities.” It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

#### **TRIBAL CULTURAL RESOURCES**

As of 2015, CEQA established that “[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a

significant effect on the environment” (Public Resources Code, § 21084.2). In order to be considered a “tribal cultural resource,” a resource must be either:

- (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
- (2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

#### **PUBLIC RESOURCES CODE**

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, “public lands” means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

#### **CALIFORNIA REGISTER OF HISTORICAL RESOURCES**

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic resources or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

- 1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- 2) It is associated with the lives of persons important to local, California, or national history;
- 3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- 4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

#### **NATIVE AMERICAN HUMAN REMAINS**

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

**CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307**

This section states that “No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value.”

**DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES**

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy.

Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

**CITY OF IRWINDALE GENERAL PLAN RESOURCE MANAGEMENT ELEMENT**

**ISSUE AREA – RESOURCE PRESERVATION**

The City of Irwindale will maintain and preserve those natural and man-made amenities that contribute to the City’s livability.

Resource Management Element Policy 8. The City will identify and preserve those sites/buildings that are important to the community for the benefit of the future generations that will reside or work in the City.

Resource Management Element Policy 9. The City will continue to cooperate with the other agencies that are charged with improving air and water quality in the region.

Resource Management Element Policy 10. The City of Irwindale will continue to cooperate with surrounding cities in the formulation and implementation of regional resource management plans and programs.

Resource Management Element Policy 11. The City of Irwindale supports the ethic of conservation of non-renewable resources. This includes efforts to reduce the use of energy (in any form), greenhouse gas (GHG) emissions (consistent with AB 32) and efforts to find new and more energy efficient methods for delivering services. The City supports the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable, green, and energy efficient building standards.

## **BACKGROUND**

### **GEOLOGICAL SETTING**

The Project lies within the Los Angeles Basin, a sedimentary basin which includes the coastal plains of Los Angeles and Orange counties and extends west to Catalina Island, California. This region is bounded by the Santa Ana Mountains to the east, the Santa Monica Mountains to the north, and the San Joaquin Hills to the south. The marine Los Angeles Basin began to develop in the early Miocene Epoch, about 23 million years ago. Through time the basin transitioned to terrestrial sedimentary deposition by the middle Pleistocene, about 1 million years ago.

The area is part of the coastal section of the northernmost Peninsular Range Geomorphic Province and is characterized by elongated northwest-trending mountain ridges separated by sediment-floored valleys. Subparallel faults branching off from the San Andreas Fault to the east create the local mountains and hills. The Peninsular Ranges Geomorphic Province is located in the southwestern corner of California and is bounded by the Transverse Ranges Geomorphic Province to the north and the Colorado Desert Geomorphic Province to the east (Wagner 2002).

### **STRATIGRAPHY**

Geologic mapping indicates that the Project is underlain by late Pleistocene to Holocene young alluvial fans deposits (unit 3), which were deposited between 129,000 years ago and historic times (Campbell et al. 2014). Although not mapped, the Project Area contains various amounts

of artificial fill that was laid down during previous development, which was noted during the pedestrian field survey.

### **YOUNG ALLUVIAL FAN DEPOSITS, UNIT 3**

Alluvial fan deposits are laid down along the outer slopes of our valleys from local mountains via the mouths of canyons, mainly from flooding streams and debris flows. Sediments consist primarily of unconsolidated silt, sand, and gravel deposits (Campbell et al. 2014). Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods.

### **ARTIFICIAL FILL**

Artificial fill (modern) is frequently not depicted on geologic maps due to its ubiquitous nature; it is usually only shown when its extent is considerable. Although such fill is typically less than a few feet thick, it can be substantially thicker in the areas of overpasses, freeways, and other large earthworks. Any fossils that may be encountered therein are not scientifically significant.

### **PALEONTOLOGICAL SETTING**

During the Pleistocene Epoch (~2.6 million – ~11, 000 years ago), as the ocean continued to recede (and/or the land to rise), coastal California changed from shallow marine to terrestrial. The developing terrestrial landscape had a climate that was moister than at present, with free flowing streams and relatively abundant standing water. Numerous freshwater sources provided various opportunities for fossilization, providing a fairly complete view of Pleistocene life. An increase in freshwater also allowed vegetation to flourish, which would have resembled the flora found today near Monterey, California. Pleistocene megafauna present in the region included ground sloth, mammoth, mastodon, horse, camel, bison, pronghorn, peccary, wolf, and saber-toothed cat. Small animals were also abundant and included most of the species found in the same areas today.

### **PREHISTORIC SETTING**

Approaches to prehistoric frameworks have changed over the past half century from being based on material attributes to radiocarbon chronologies to association with cultural traditions.

Archaeologists defined a material complex consisting of an abundance of milling stones (for the grinding of food items) with few projectile points or vertebrate faunal remains dating from about 7000BP to 3000BP as the “Millingstone Horizon” (Wallace 1955; Warren 1968). Later, the “Millingstone Horizon” was redefined as a cultural tradition named the Encinitas Tradition (Warren 1968), with various regional expressions including those of Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use “Millingstone Horizon” and some used Middle Holocene (the time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.) (Sutton and Gardner 2010:7). Faunal remains vary by location but include shellfish, land animals, marine mammals, and fish.

The Encinitas Tradition is currently redefined as comprising four geographical patterns (Sutton and Gardner 2010: 8-25). These are (1) Topanga in coastal Los Angeles and Orange counties; (2) La Jolla in coastal San Diego County; (3) Greven Knoll in inland San Bernardino, Riverside, Orange, and Los Angeles counties; and (4) Pauma in inland San Diego County.

About 3500BP, the Encinitas Tradition was replaced in the greater Los Angeles Basin by the Del Rey Tradition (Sutton 2010). This tradition has been generally assigned to the Intermediate and Late Prehistoric periods. The changes that initiated the beginning of the Intermediate Period include new settlement patterns, economic foci, and artifact types that coincided with the arrival of a biologically distinctive population. The Intermediate and Late Prehistoric periods have not been well-defined. Many archaeologists have proposed, however, that the beginning of the Intermediate marked the arrival of Takic-speaking groups (from the Mojave Desert, southern Sierra Nevada, and San Joaquin Valley) and that the Late Prehistoric Period reflected Shoshonean groups (from the Great Basin). Related cultural and biological changes occurred on the southern Channel Islands about 300 years later.

As defined by Sutton (2010), the Del Rey Tradition replaces usage of the Intermediate and Late Prehistoric designations for both the southern California mainland and the southern Channel Islands. Within the Del Rey Tradition are two regional patterns named Angeles and Island. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California.

## **PREHISTORIC CHRONOLOGY**

The latest cultural revisions for the Project Area define traits for time phases of the Topanga pattern of the Encinitas Tradition applicable to coastal Los Angeles and Orange counties (Sutton and Gardner 2010; Table 1). This pattern is replaced in the APE by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010).

**Table 1. Cultural Patterns and Phases**

| Phase       | Dates BP       | Material Culture  | Other Traits  |
|-------------|----------------|---|---|
| Topanga I   | 8,500 to 5,000 | Abundant manos and metates, many core tools and scrapers, few but large points, charmstones, cogged stones, early discoidals, faunal remains rare   | Shellfish and hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations  |
| Topanga II  | 5,000 to 3,500 | Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and charmstones | Shellfish important, addition of acorns, reburial of long bones only, addition of flexed inhumations (some beneath metate cairns), cremations rare  |
| Topanga III | 3,500 to 1,000 | Abundant but decreasing manos and metates, increasing use of mortars and pestles, wider variety of small projectile points, stone-lined ovens   | Hunting and gathering important, flexed inhumations (some under rock cairns), cremations rare, possible subsistence focus on yucca/agave  |
| Angeles IV  | 1,000 to 800   | Cottonwood arrow points for arrows appear, <i>Olivella</i> cupped beads and <i>Mytilus</i> shell disks appear, some imported pottery appears, possible appearance of ceramic pipes                | Changes in settlement pattern to fewer but larger permanent villages, flexed primary inhumations, cremations uncommon   |
| Angeles V   | 800 to 450     | Artifact abundance and size increases, steatite trade from islands increases, larger and more elaborate effigies  | Development of mainland dialect of Gabrielino, settlement in open grasslands, exploitation of marine resources declined and use of small seeds increased, flexed primary inhumations, cremations uncommon |
| Angeles VI  | 450 to 150     | Addition of locally made pottery, metal needle-drilled <i>Olivella</i> beads, addition of Euro-American material culture (glass beads and metal tools)  | Use of domesticated animals, flexed primary inhumations continue, some cremations   |

Topanga Pattern groups were relatively small and highly mobile. Sites known are temporary campsites, not villages, and tend to be along the coast in wetlands, bays, coastal plains, near-coastal valleys, marine terraces and mountains. The Topanga toolkit is dominated by manos and metates with projectile points scarce (Sutton and Gardner 2010:9).

In Topanga Phase I, other typical characteristics were a few mortars and pestles, abundant core tools (scraper planes, choppers and hammerstones), relatively few large, leaf-shaped projectile points, cogged stones, and early discoidals. Secondary inhumation under cairns was the common mortuary practice. In Orange County as many as 600 flexed burials were present at one site and dated 6435 radiocarbon years before present (Sutton and Gardner 2010:9, 13).

In Topanga Phase II, flexed burials and secondary burial under cairns continued. Adoption of the mortar and pestle is a marker of this phase. Other typical artifacts include manos, metates, scrapers, core tools, discoidals, charmstones, cogged stones and an increase in the number of projectile points. In Orange County, stabilization of sea level during this time period resulted in increased use of estuary, near shore, and local terrestrial food sources (Sutton and Gardner 2010:14-16).

In Topanga Phase III, there was continuing abundance of metates, manos, and core tools plus increasing amounts of mortars and pestles. More numerous and varied types of projectile points are observed along with the introduction of stone-lined earthen ovens. Cooking features such as these were possibly used to bake yucca or agave. Both flexed and extended burials are known (Sutton and Gardner 2010:17).

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing (Sutton 2010).

The Angeles IV phase is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and Mytilus shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. The presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used (Sutton 2010).

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and the use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not (Sutton 2010).

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact period (i.e., after A.D. 1542) (Sutton 2010). One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled Olivella disk beads.

The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation. \

## **ETHNOGRAPHY**

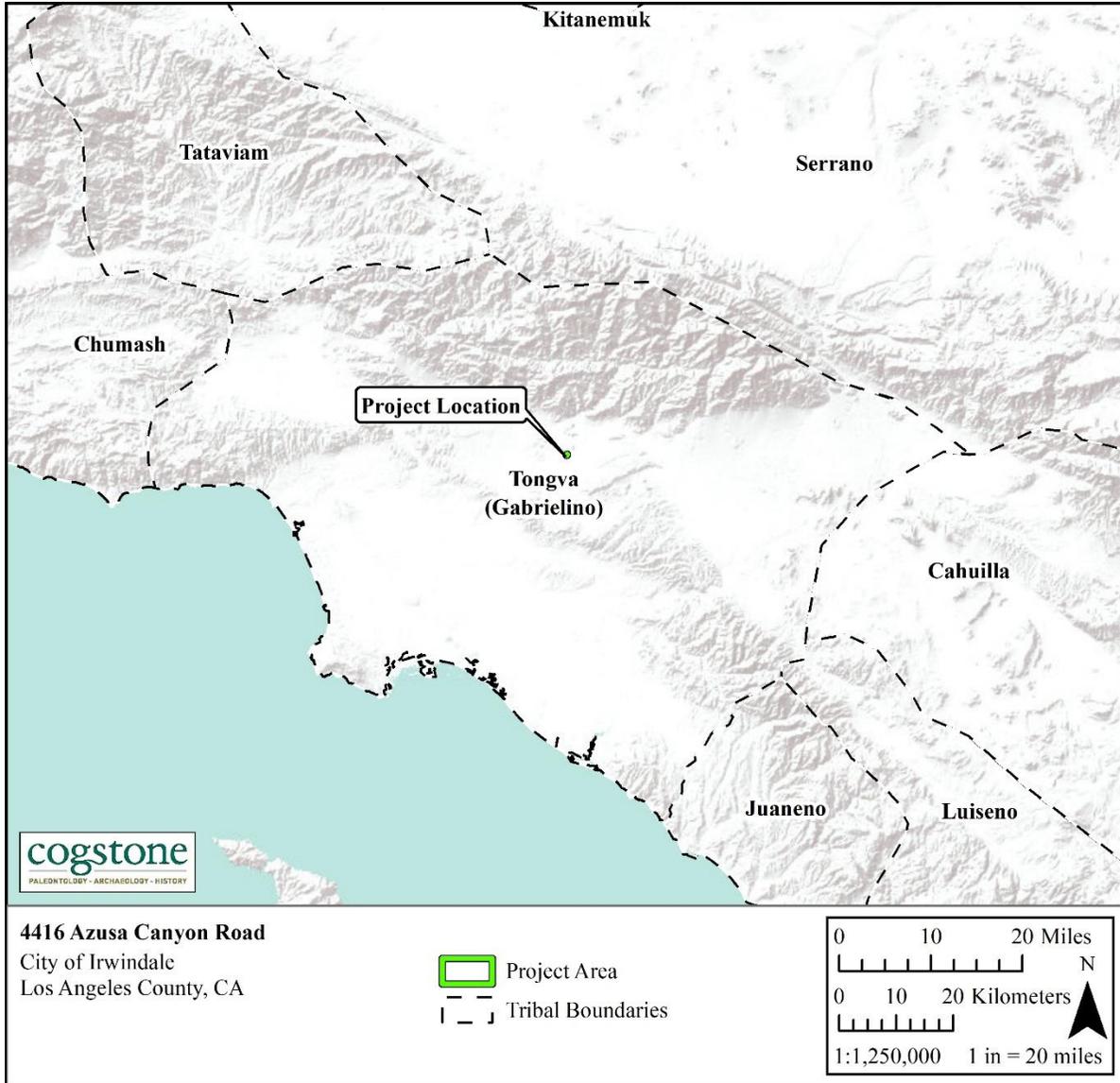
The Gabrielino speak a language that is part of the Takic language family. Their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978; McCawley 1996; Figure 4). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people.

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best-known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland, and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turbans, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).

The nearest recorded Tongva village, *Pasbenga* (near present day Santa Ana), is located approximately 4.45 miles east of the center of the Project.



**Figure 4. Tribal boundaries map**

## HISTORIC SETTING

### IRWINDALE

The area which would become the City of Irwindale was first settled during the 1860s by members of two families – the Ayons and the Fraijos – that both were originally from Sonora, Mexico that both lived in San Juan Capistrano and then Anaheim. Gregorio Fraijo obtained 80 acres of land near the Irwindale Center. Fraijo soon sold half this holding to his friend Fecundo Ayon. Gregorio Fraijo grew corn, beans, and chiles on his land and the Fraijo and Ayon families grew even closer by marriage. The settlement attracted new arrivals many of whom made their living tending cattle and sheep (City of Irwindale 2008).

Water was obtained from deep wells and an excavated trench. Homes were built from the river rock in the San Gabriel floodplain and several men became master stonemasons and built beautiful buildings, fences, and waterways. A Mr. Irwin (first name unknown) established a successful citrus farm in the Cypress Street-Vincent Avenue area (City of Irwindale 2008).

While Gregorio Fraijo and Mr. Irwin made their fortunes off of agriculture, the majority of the land was and remains unsuitable for farming. However, with the rise of car culture in the United States the demand for crushed rock for improved roads proved an economic opportunity for the community (City of Irwindale n.d.; 2008). In 1909, the first quarry opened north of Foothill Boulevard and the minerals it produced earned Irwindale the designation “Significant Mineral Resource Zone.” It is estimated that most of California’s roads, highways, and byways consist of some percentage of Irwindale rock (Irwindale Community Redevelopment Agency 2009). On August 6, 1957, the City of Irwindale incorporated as the 56<sup>th</sup> city in Los Angeles County. The origin of “Irwindale” is in dispute. Some say it comes from Mr. Irwin, others say its origins lie in name of California’s thirteenth governor, William Irwin, who had a post office named in his honor in the area in 1895 (Peterson 2016)

The City of Irwindale consists of 9.5 square miles. Less than one percent of the City is zoned for residential use which results in a small residential population of less than 1,500 (United States Census Bureau 2010-2019). Irwindale is experiencing a gradual shift from its traditional mining-oriented economy towards manufacturing.

#### **THE PEPSI BOTTLING GROUP INC.**

The first Pepsi-Cola drink was created by pharmacist Caleb D. Bradham (1866-1934) in New Bern, North Carolina. As a result of the drink’s popularity, Bradham incorporated the Pepsi-Cola Company in 1902 (Britannica 2021). In 1905, the Pepsi-Cola Company began offering the rights to bottle Pepsi-Cola, with the first bottlers originating in Durham and Charlotte, North Carolina, and Charlottesville, Virginia. With the onset of World War II, rationing laws made it difficult for the Pepsi-Cola Company to obtain sugar for production of their product (however, rationing laws made certain exceptions towards their competitor, the Coca-Cola Company). There was a spirit of comradery amongst the Pepsi-Cola bottling owners. When the bottling plant in Sedalia, Missouri (owned by Julian Bagby) burned to the ground, other bottlers came to his aid by loaning him trucks and producing product for him until he could rebuild (Pepsi-Cola Bottlers Association 2021).

In the late 1940s and early 1950s, the Pepsi-Cola Company began experimenting with canning; however, canned Pepsi-Cola would not become accepted amongst customers until the 1960s. During the 1950s, Pepsi-Cola’s key competitor was Coca-Cola. As part of Pepsi’s advertisement strategy for the decade, Pepsi would seek to brand itself as a beverage for modern, classy, and upscale customers. Pepsi would also advertise its product as a “Light Refreshment” for women who wanted to keep a slim figure (Austin 2013).

In 1969, the Federal Trade Commission (FTC) began investigating the soft drink franchise system and determined that they were anti-competitive. Following the ruling, for nearly 11 years, the Pepsi-Cola bottlers lobbied Congress against the FTC. In 1980, President Jimmy Carter signed the Soft Drink Interbrand Competition Act into law which clarified “the circumstances under which territorial provisions in licenses to manufacture, distribute, and sell trademarked soft drink products are lawful under the antitrust laws,” thus protecting the franchise system (Pepsi-Cola Bottlers Association 2021).

In 1999, the Pepsi Bottling Group was founded as the world’s largest bottler of Pepsi-Cola beverages with an exclusive right to manufacture, sell, and distribute Pepsi-Cola beverages in the United States and various international countries (Bloomberg 2021). On August 4, 2009, PepsiCo purchased the Pepsi-Bottling Group along with another large bottler, PepsiAmerica; both are now subsidiaries of PepsiCo, called the Pepsi Beverage Company (PBC) (Pepsi-Cola Bottlers Association 2021).

#### **PEPSI-COLA BOTTLERS OF CALIFORNIA IN THE 1950s**

In April of 1958, a list of Pepsi-Cola Bottlers of California was published (Newspapers 1958). At the time of the article’s publication, a total of 22 Pepsi-Cola Bottling plants (including the plant at 4416 Azusa Canyon Road) were operating throughout the State of California. At present, a total of six of these locations remain, five of which operate under the company name “Pepsi Bottling Group”:

- (Original name) Pepsi-Cola Bottling Co. of Bakersfield, CA. (Remains in operation)
- (Original name) Pepsi-Cola Bottling Co. of Brawley, CA. (Remains in operation)
- (Original name) Pepsi-Cola Bottling Co. of Mt. Shasta, CA. (Remains in operation)
- (Original name) Pepsi-Cola Bottling Co. of Salinas, CA. (Remains in operation)
- (Original name) Pepsi-Cola Bottling Co. of Yuba City, CA. (Remains in operation)
- (Original name) Pepsi-Cola Bottling Plant of Irwindale, CA. (Facility is now vacant)

Of the six remaining plants from the 1950s-era, the relatively small plant located at Mt. Shasta exhibits the lowest degree of alterations/additions to the building’s exterior. The remaining plants have undergone moderate to extensive alterations/additions which, in certain cases, have dramatically changed the building’s footprint and massing. By comparison, the 4416 Azusa Canyon Road plant is the second least altered facility, with the most notable alterations consisting of the building additions at the northwest and northeast elevations.

#### **PROJECT AREA HISTORY**

The Project Area was not part of a Mexican land grant but is located less than 0.25 miles north of Rancho La Puente (Figure 5). The earliest USGS topographic quadrangle map of the Project Area is from 1894 (Pomona; 1:62,500) which depicts a road crossing southwest/northeast through the Project Area. This 1894 map also shows a section of the Southern Pacific Railroad

running east/west slightly south of the southern boundary of the Project Area. The road crossing the Project Area is no longer visible in the 1927 Puente (1:24,000) USGS topographic quadrangle map. This 1927 map shows Dalton Wash adjacent to the northern boundary of the Project Area and a single building in northwest portion of the Project Area.

The 1953 Baldwin Park (1:24,000) USGS topographic quadrangle map shows a second building in the northwest portion of the Project Area and a branch of the Pacific Electric Railroad running adjacent to the east and southern boundary of the Project Area. The current building at 4416 Azusa Canyon Road is seen in the 1956 USDA aerial photograph but all other buildings in the Project Area have been removed (Frame Finder 1956). The current building's original footprint was rectangular. Exterior additions to the building occurred in ca. 1977 with the smaller rectangular addition at the northwest elevation (NETROnline 1977). The larger rectangular addition at the northeast elevation was added sometime between when the 1980 and 1994 USDA aerial photographs were taken (NETROnline 1980, 1994). No notable changes are visible in USDA aerial photographs after 1994. John Reed received a patent to land within the Project Area in 1878. No additional information about him was found.

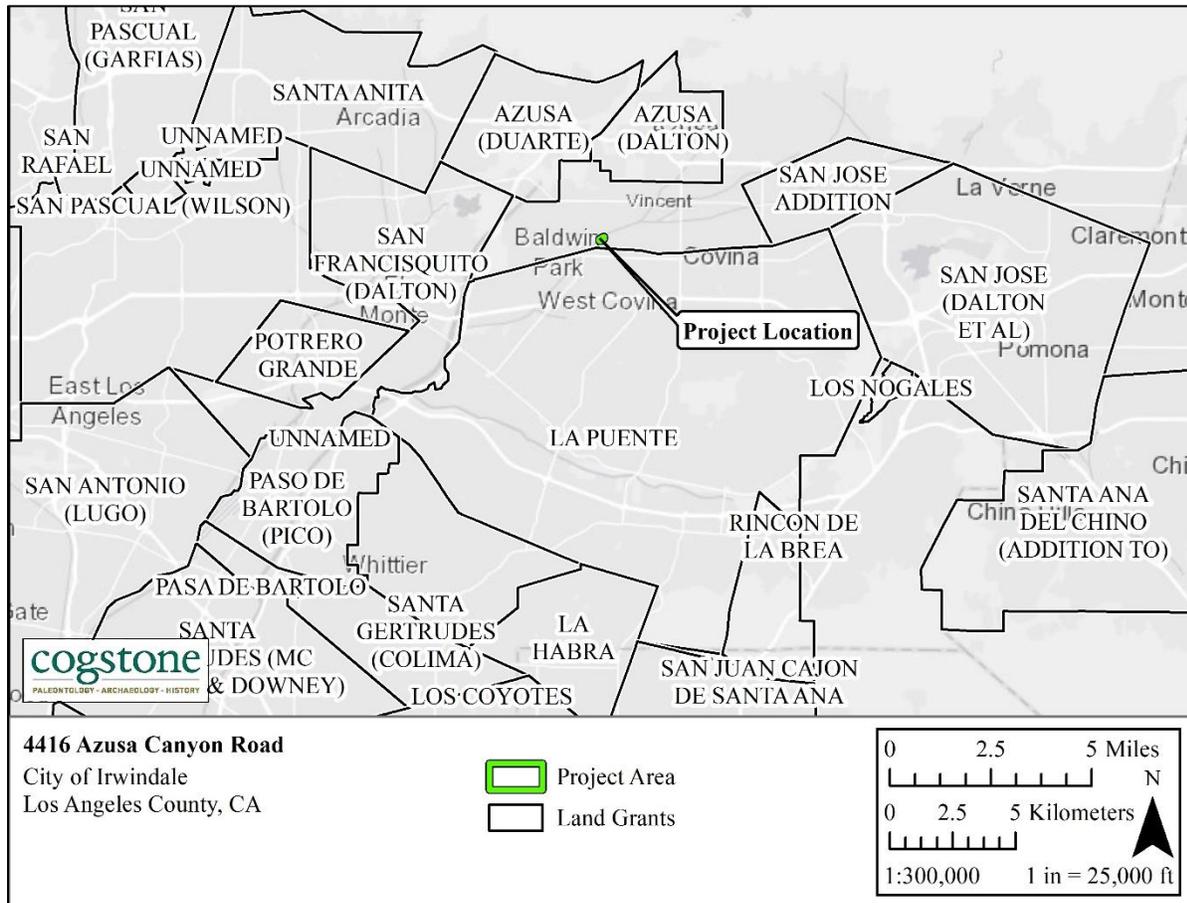


Figure 5. Land grant map

## RECORDS SEARCHES

### PALEONTOLOGICAL RECORD SEARCH

A record search of the Project Area was obtained from the Natural History Museum of Los Angeles County (NHMLAC; Bell 2021; Appendix B). Additional records from the University of California Museum of Paleontology database (UCMP 2021), the PaleoBiology Database (PBDB 2021), published literature (Jefferson 1991a, 1991b), and in previous record searches from the NHMLAC, were also consulted.

No recorded paleontological localities producing vertebrate fossils were found within the Project Area or within a one-mile radius of the Project Area. However, the NHMLAC does record localities near to the Project Area from the same or similar sedimentary deposits (Table 2). The closest locality the museum has recorded is approximately 12 miles southeast of the Project, which produced a fossil of extinct horse (*Equus* sp.) at two feet below the surface. The most notable vertebrate fossil localities for which the museum retains records are recorded from between 15 and 16 miles west and southwest of the Project Area from Lincoln Park and Montecito Heights. Extinct animals from these sites include Harlan’s ground sloth (†<sup>1</sup>*Paramylodon harlani*), saber-toothed cat (†*Smilodon fatalis*), Pacific mastodon (†*Mammuthus pacificus* [was *M. americanum*; see Dooley et al. 2019]), mammoth (†*Mammuthus* sp.), horse (†*Equus* sp.), camel (†*Camelops* sp.), and California turkey (†*Meleagris californica*).

**Table 2. Known Pleistocene Fossils in the Vicinity of the Project Area**

Extinct animals are noted by † although all fossils from deposits older than Pleistocene are likely from extinct species.

| Common Name | Taxon                 | Depth below original surface | Formation at surface             | Locality  | Location  | Reference |
|-------------|-----------------------|------------------------------|----------------------------------|-----------|---|-----------|
| horse       | † <i>Equus</i> sp.    | 2 feet                       | La Habra Formation (Pleistocene) | LACM 3347 | 11204 Bluefield; Whittier; ~12 miles southeast of current project                                     | Bell 2021 |
| horse       | † <i>Equus</i> sp.    | 15 – 20 feet                 | Pleistocene (Qo)                 | LACM 1728 | In English Canyon southwest of the City of Chino, Chino Hills, ~13 miles southeast of current project | Bell 2021 |
| camel       | † <i>Camelops</i> sp. |                              |                                  |           |   |           |

<sup>1</sup> †- indicates that the species is extinct

Cultural and Paleontological Resources Assessment for the 4416 Azusa Canyon Road Project

| Common Name             | Taxon   | Depth below original surface | Formation at surface                    | Locality        | Location   | Reference                           |
|-------------------------|---|------------------------------|---|-----------------|--|-------------------------------------|
| horse                   | † <i>Equus</i> sp.  | unknown                      | Holocene or late Pleistocene alluvium   | LACM VP 3363    | West of Monterey Pass Road in Coyote Pass; east of the Long Beach Freeway and south of the north boundary of Section 32; East Los Angeles; 13 miles southwest of current project | Bell 2021                           |
| three-spine stickleback | <i>Gasterosteus aculeatus</i>   | 11 to 34 feet                | young alluvium (Qya2)                   | LACM 7701, 7702 | Bell Gardens: near the intersection of Atlantic Ave. and I-710 north of the Los Angeles River; ~15 miles southwest of current project  | Bell 2021                           |
| salamander              | <i>Batrachoseps</i> sp.   |                              |   |                 |  |                                     |
| lizard                  | Lacertilia  |                              |   |                 |  |                                     |
| constrictor snake       | Colubridae  |                              |   |                 |  |                                     |
| rabbit                  | <i>Sylvilagus</i> sp.   |                              |   |                 |  |                                     |
| pocket mouse            | <i>Microtus</i> sp.   |                              |   |                 |  |                                     |
| harvest mouse           | <i>Reithrodontomys</i> sp.  |                              |   |                 |  |                                     |
| pocket gopher           | <i>Thomomys</i> sp.   |                              |   |                 |  |                                     |
| western pond turtle     | <i>Actinemys marmorata</i>  | 20-35 feet                   | Pleistocene older alluvial fan (Qof4)   | LACM 2032       | Near the intersection of Mission Rd. or Daly St., Lincoln Park; ~15 miles west of current project  | Jefferson 1991a, 1991b; McLeod 2017 |
| Harlan's ground sloth   | † <i>Paramylodon harlani</i>  |                              |   |                 |  |                                     |
| Pacific mastodon        | † <i>Mammut pacificus</i> [was <i>M. americanum</i> ; see Dooley et al. 2019] |                              |   |                 |  |                                     |
| mammoth                 | † <i>Mammuthus</i> sp.  |                              |   |                 |  |                                     |
| horse                   | † <i>Equus</i> sp.  |                              |   |                 |  |                                     |
| camel                   | † <i>Camelops</i> sp.   |                              |   |                 |  |                                     |
| ground sloth            | † <i>Nothrotheriops</i> sp.   | unknown                      | Pleistocene (Qo)                        | LACM 7508       | In the uppermost reaches of Soquel Canyon, Chino Hills, ~16 miles southeast of current project   | Bell 2021                           |
| horse                   | † <i>Equus scotti</i>   |                              |   |                 |  |                                     |
| California turkey       | † <i>Meleagris californica</i>  | unknown                      | Pleistocene older alluvial fan (Qof4)   | LACM 1023       | Near the intersection of Workman St. or Alhambra Ave., Montecito Heights; ~16 miles southwest of current project   | Jefferson 1991a, 1991b; Bell 2021   |
| sabertoothed cat        | † <i>Smilodon fatalis</i>   |                              |   |                 |  |                                     |
| horse                   | † <i>Equus</i> sp.  |                              |   |                 |  |                                     |
| deer                    | <i>Odocoileus</i> sp.   |                              |   |                 |  |                                     |
| horse                   | † <i>Equus</i> sp.  | 43 feet                      | Pleistocene younger alluvial fan (Qyf2) | LACM 1755       | Near the intersection of Hill St. or 12th St., Los Angeles (Fashion District); 18 miles southwest of current project   | McLeod 2018                         |

## CALIFORNIA HISTORIC RESOURCES INFORMATION SYSTEM

Cogstone principal investigator for archaeology John Gust requested a search of the California Historic Resources Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) located on the campus of California State University, Fullerton that included the entire proposed Project Area as well as a one-half mile radius on April 9, 2021. SCCIC staff completed the request on May 13, 2021. Results of the record search indicate that five previous studies have been completed within one-half mile of the proposed Project Area, but none within the Project Area (Table 3).

**Table 3. Previous Cultural Resource Studies**

| Report No. (LA-) | Author(s)         | Title  | Year | Distance (miles) from Project Area |
|------------------|-------------------|--|------|------------------------------------|
| 02782            | Scott, Matthew A. | A Cultural Resource Assessment of the Three Potential Treatment Plant Sites in the Cities of Irwindale, Baldwin Park, and West Covina, Los Angeles County, California                              | 1992 | 0-0.25                             |
| 03824            | Anonymous         | Cultural Resources Report for the Baldwin Park Operable Unit Water Delivery Plan   | 1995 | 0-0.25                             |
| 07237            | Bonner, Wayne H.  | Cultural Resources Records Search and Site Visit Results for Sprint Facility Candidate La70xc601b (M. J. Roofing), 1122 North Azusa Canyon Road, West Covina, Los Angeles County, California       | 2005 | 0-0.25                             |
| 10641            | Tang, Bai "Tom"   | Preliminary Historical/Archaeological Resources Study, San Bernardino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties of Los Angeles and San Bernardino | 2010 | 0-0.25                             |
| 11471            | Eggemeyer, Emilie | Verizon Wireless-Carvette, 2223 Ramona Boulevard, West Covina, California 91790  | 2011 | 0.25-0.5                           |

The records search also determined one previously recorded resource is found within the search radius located 0.25 to 0.5 miles from the Project Area but none are located within the Project boundaries.

The Mojave Road (P-19-187085) is a multi-component resource which started as a Native American trail and was later modified for use by the United States Army and others during the historic period. It is California Historic Landmark (CHL) 963 and is listed in the California Register of Historical Resources but has not been evaluated for eligibility for listing in the National Register of Historic Places.

**OTHER SOURCES**

In addition to the SCCIC records search, a variety of sources were consulted in April 2021 to obtain information regarding the cultural context of the Project Area (Table 4). Sources included the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), California Built Environment Resources Directory (BERD), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Specific information about the Project Area, obtained from historic-era maps and aerial photographs, is presented in the Project Area History section.

**Table 4. Additional Sources Consulted**

| Source   | Results                          |
|--|----------------------------------|
| National Register of Historic Places (NRHP)              | Negative                         |
| Historic USGS Topographic Maps                           | See Project Area History section |
| Historic US Department of Agriculture Aerial Photographs | See Project Area History section |
| California Register of Historical Resources (CRHR)       | Negative                         |
| California Built Environment Resources Directory (BERD)  | Negative                         |
| California Historical Landmarks (CHL)                    | Negative                         |
| California Points of Historical Interest (CPHI)          | Negative                         |
| Caltrans Historic Bridge Inventory                       | Negative                         |

| Source  | Results  |       |          |                                  |   |                                     |   |                         |   |                                 |   |
|---|--|-------|----------|----------------------------------|---|-------------------------------------|---|-------------------------|---|---------------------------------|---|
| Historic Societies and Agencies                             | <p>Multiple attempts were made to contact the Covina Valley Historical Society, Historical Society of Pomona Valley, Los Angeles Conservancy, and the Pepsi-Cola Bottlers Association with requests for information regarding the Project. A response was received from the Los Angeles Conservancy on April 16, 2021. Erik Van Breen (Preservation Coordinator) responded he had no information on the Project Area and recommended Cogstone contact the Covina Valley Historical Society or Pomona Heritage. No responses have been received from the Covina Valley Historical Society, Historical Society of Pomona Valley, or the Pepsi-Cola Bottlers Association.</p> <table border="1" data-bbox="846 751 1414 1566"> <thead> <tr> <th data-bbox="846 751 1133 787">Group</th> <th data-bbox="1133 751 1414 787">Attempts</th> </tr> </thead> <tbody> <tr> <td data-bbox="846 787 1133 1003">Covina Valley Historical Society</td> <td data-bbox="1133 787 1414 1003">1<sup>st</sup> attempt: Mail April 16, 2021.<br/>2<sup>nd</sup> attempt: Mail June 15, 2021<br/>3<sup>rd</sup> attempt: Mail June 28, 2021</td> </tr> <tr> <td data-bbox="846 1003 1133 1213">Historical Society of Pomona Valley</td> <td data-bbox="1133 1003 1414 1213">1<sup>st</sup> attempt: Mail April 16, 2021;<br/>2<sup>nd</sup> attempt: Mail June 15, 2021<br/>3<sup>rd</sup> attempt: Mail June 28, 2021</td> </tr> <tr> <td data-bbox="846 1213 1133 1356">Los Angeles Conservancy</td> <td data-bbox="1133 1213 1414 1356">1<sup>st</sup> attempt: Email April 15, 2021;<br/>2<sup>nd</sup> attempt: Mail June 15, 2021</td> </tr> <tr> <td data-bbox="846 1356 1133 1566">Pepsi-Cola Bottlers Association</td> <td data-bbox="1133 1356 1414 1566">1<sup>st</sup> attempt: Mail May 11, 2021;<br/>2<sup>nd</sup> attempt: Email May 21, 2021<br/>3<sup>rd</sup> attempt: Mail June 28, 2021</td> </tr> </tbody> </table> | Group | Attempts | Covina Valley Historical Society | 1 <sup>st</sup> attempt: Mail April 16, 2021.<br>2 <sup>nd</sup> attempt: Mail June 15, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021 | Historical Society of Pomona Valley | 1 <sup>st</sup> attempt: Mail April 16, 2021;<br>2 <sup>nd</sup> attempt: Mail June 15, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021 | Los Angeles Conservancy | 1 <sup>st</sup> attempt: Email April 15, 2021;<br>2 <sup>nd</sup> attempt: Mail June 15, 2021 | Pepsi-Cola Bottlers Association | 1 <sup>st</sup> attempt: Mail May 11, 2021;<br>2 <sup>nd</sup> attempt: Email May 21, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021 |
| Group   | Attempts   |       |          |                                  |   |                                     |   |                         |   |                                 |   |
| Covina Valley Historical Society                            | 1 <sup>st</sup> attempt: Mail April 16, 2021.<br>2 <sup>nd</sup> attempt: Mail June 15, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021  |       |          |                                  |   |                                     |   |                         |   |                                 |   |
| Historical Society of Pomona Valley                         | 1 <sup>st</sup> attempt: Mail April 16, 2021;<br>2 <sup>nd</sup> attempt: Mail June 15, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021  |       |          |                                  |   |                                     |   |                         |   |                                 |   |
| Los Angeles Conservancy                                     | 1 <sup>st</sup> attempt: Email April 15, 2021;<br>2 <sup>nd</sup> attempt: Mail June 15, 2021  |       |          |                                  |   |                                     |   |                         |   |                                 |   |
| Pepsi-Cola Bottlers Association                             | 1 <sup>st</sup> attempt: Mail May 11, 2021;<br>2 <sup>nd</sup> attempt: Email May 21, 2021<br>3 <sup>rd</sup> attempt: Mail June 28, 2021  |       |          |                                  |   |                                     |   |                         |   |                                 |   |
| Bureau of Land Management (BLM) General Land Office Records | Positive: See Table 5  |       |          |                                  |   |                                     |   |                         |   |                                 |   |

**Table 5. BLM Land Patents**

| Name      | Year | Accession Number | Type             | T; R; Section  |
|-----------|------|------------------|------------------|--|
| John Reed | 1878 | MW-0559-069      | Military Warrant | Township 1 South; Range 10 West; Southwest ¼ of Southwest ¼ of Section 9 |

## **NATIVE AMERICAN CONSULTATION**

Cogstone requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on April 13, 2021. On April 27, 2021 the NAHC responded that the Project Area was negative for any known sacred sites or resources. The NAHC provided a list of seven tribes affiliated with the Project Area and recommended that they be consulted for information on sacred sites in the vicinity of the Project Area (Appendix C). Cogstone assisted the City with Assembly Bill 52 (AB 52) consultations. Cogstone sent letters requesting consultation to each of the tribes listed by certified mail on May 6, 2021. A follow up email was sent on June 2, 2021, and a final attempt to reach the tribes was made by phone on June 10, 2021. Three responses were received.

On June 10, 2021, Gabrieleño Band of Mission Indians - Kizh Nation Chairman Andrew Salas indicated during a telephone call that he was going to follow up with the City of Irwindale.

On June 17, 2021, Gabrielino Tongva Indians of California Tribal Council Chairperson Robert Dorame contacted via telephone call and said that the Tribe would like to be notified if prehistoric materials are found and would like to be notified if burial remains are found even if his group is not designated Most Likely Descendent. If burial remains are found the Tribe wants to engage in formal consultation.

On June 10, 2021, a Santa Rosa Band of Cahuilla Indians representative indicated during a telephone call that the Tribe did not have any comments.

## **SURVEY**

### **METHODS**

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g., cutbanks, ditches, animal burrows, etc.) were visually inspected. Photographs of the Project Area, including ground surface visibility and items of interest, were taken with a digital camera.

Methods pertaining to the survey of built environment included thoroughly photographing all , elevations/facades of a building or structure including close-up photographs of important architectural features. Character defining features of a building or structure’s exterior (including overall shape of the building, its materials, craftsmanship, decorative details, etc.) were documented along with any and all notable alterations (both historic and non-historic). Only the building’s exterior was documented.

## RESULTS

On April 23, 2021 Cogstone archaeologist and cross-trained paleontologist Cassidy Sharp surveyed all non-hardscaped portions of the Project Area using two to three meter wide transects (Figures 6-9). Ground visibility was generally poor (15 to 20 percent). Surface sediments within the Project Area are silty loam with many subangular to rounded pebbles and cobbles. No archaeological or paleontological resources were found.

An approximately 30 feet long section of railroad track was identified inside the eastern edge of the Project Area where Southern Pacific Railroad tracks complete their curve to proceed north (Figure 7). The Southern Pacific Railroad tracks sit outside but adjacent to the Project Area’s southern and eastern boundaries. The 1948 USDA aerial photograph depicts both sides of the eastern and southern boundaries of the Project Area in agricultural production with the Southern Pacific rail line in place, in its current configuration (NETROnline 1948). The 30 feet long section of track is not visible in this photograph. Subsequent USDA aerial photographs from 1952, 1953, 1964, 1965, 1972, and 1977 indicate that there was not a rail spur that veered west from the Southern Pacific Railroad tracks into the Project Area (NETROnline 1952, 1953, 1964, 1965, 1972, 1977). As there was no spur that enters the Project Area, and the 30 feet section of track is not present in the 1979 USDA aerial photograph (NETROnline 1979), the section of track is considered to be less than 45 years old. This section was not recorded on Department of Parks and Recreation (DPR) 523 series forms and is excluded from this analysis.



**Figure 6. Overview of southern portion of Project Area, view northeast**



**Figure 7. Overview along southern edge of Project Area. view east-northeast.**



**Figure 8. Overview of north portion of Project Area with Big Dalton Channel at left, view northeast**



**Figure 9. Typical sediments in non-hardscaped portions of Project Area**

## **BUILT ENVIRONMENT RESULTS**

Cogstone's Architectural Historian Shannon Lopez conducted a built environment survey of historic-aged buildings within the Project Area on April 23, 2021. One resource, a Pepsi-Cola bottling plant constructed in the late 1950s, was identified. Despite access limitations to the building due to locked chain linked fences, Ms. Lopez was able to photograph the exterior of the building (Appendix D).

### **Pepsi-Cola Bottling Plant (4416 Azusa Canyon Road)**

This one-story industrial building is rectangular in shape with large additions located at the northwest and the northeast elevations. The main body of the building has a flat roof without overhang. The two additions also have a flat footprint with flat roofs but with a wide eave overhang. The exterior of the building consists of concrete at the southeast, southwest, and northwest elevations and corrugated metal sheeting at the northeast elevation. The concrete northwest, southwest, and southeast elevations also include evenly spaced concrete pilasters. The main entrance is located at the northern end of the southwest façade and consists of a single glass pedestrian door with transom window, and multiple large, fixed window panels (six panes each) set in aluminum frames. Directly above the main entrance and windows is a blue, metal, louvered awning fixed to the building's exterior (added ca. 2012-2016) (NETROnline 2012-2016). The large, fixed window panels continue along the western third of the northwest elevation and are also sheltered by metal louvered awnings (installed ca. 2012-2016).

The rectangular flat roofed addition at the northeast elevation is supported by six steel and concrete pillars. The roof and eaves are clad in corrugated metal sheeting. A corrugated metal sheet awning shelters a section of the below grade loading ramp which is adjacent to the northeast elevation of this addition. The second addition at the building's northwest elevation is shorter than the roofline of the main building. The exterior walls appear to be painted cinderblock or brick. A large flat roofed overhang supported by five steel and concrete pillars is at the northwest elevation of the addition.

## **IMPACT ANALYSIS**

### **PALEONTOLOGICAL SENSITIVITY**

A multilevel ranking system was developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system (BLM 2016; Appendix E) has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings.

Fossil resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm in diameter or less. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So the sands, silts, and clays of rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

Artificial fill is assigned a very low potential for fossils (PFYC 1; Table 6). Impacts more than 20 feet below the original ground surface in the young alluvial fan deposits, unit 3, are assigned a moderate sensitivity (PFYC 3), while those less than 20 feet below the original ground surface are assigned a low sensitivity (PFYC 2).

**Table 6. Paleontological sensitivity rankings of Project units**

|                                     | PFYC Ranking |         |                                 |                                 |             |
|-------------------------------------|--------------|---------|---------------------------------|---------------------------------|-------------|
|                                     | 5: Very High | 4: High | 3: moderate                     | 2: Low                          | 1: Very Low |
| artificial fill                     |              |         |                                 |                                 | X           |
| young alluvial fan deposits, unit 3 |              |         | more than 20 feet below surface | less than 20 feet below surface |             |

Rankings as per BLM 2016.

**ARCHAEOLOGICAL SENSITIVITY**

Based on pedestrian survey, the cultural records search results from the SCCIC, and the negative SLF search results, the Project Area is assessed to have low sensitivity for prehistoric resources. Based on these data sources and the review of USGS topographic quadrangle maps and historic

USDA aerial photographs, the Project Area is assessed to have low to moderate sensitivity for buried historic archaeological resources as the building type and related information is not known for the two buildings that are seen on the 1953 Baldwin Park USGS topographic quadrangle map but are no longer present in the 1956 USDA aerial photograph (Frame Finder 1956).

## **CALIFORNIA REGISTER OF HISTORICAL RESOURCES (CRHR) ELIGIBILITY EVALUATION**

To be eligible for listing in the CRHR, a resource must meet at least one of the following criteria:

- Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion 2. Is associated with the lives of persons significant in our past.
- Criterion 3. Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion 4. Has yielded, or may be likely to yield, information important in history or prehistory.

### **PEPSI-COLA BOTTLING PLANT (4416 AZUSA CANYON ROAD)**

#### **Historic Context**

Significance: Theme: Commercial/Light Industrial Development

Period of Significance: 1956-2020

The historic context of this resource is Commercial/Light Industrial Development as it relates to soft drink production and distribution (See Historic Setting: The Pepsi Bottling Group Inc. and Pepsi-Cola Bottlers of California in the 1950s for more information). The period of significance begins with the facility's opening year in 1956 and ends with its year of final closure in 2020.

#### **Criterion 1**

This building is associated with Pepsi-Cola Co. (now PepsiCo.) and was responsible for the production and distribution of Pepsi products from 1956 to its closure in 2020. At the time of this facility's construction (late 1950s) a total of 22 Pepsi-Cola Bottling plants (including the plant at 4416 Azusa Canyon Road) were operating throughout the State of California (with many more locations across the United States). At present, a total of six of these 1950s California

locations remain, five of which operate under the company name “Pepsi Bottling Group.” The multiple locations of these bottling facilities operating in the State of California alone reflect the success of the Pepsi-Cola Co. nationwide. While this building is associated with the Pepsi-Cola Co./ PepsiCo., its history of operation is not an exceptional representation of this period of time. Despite intensive research efforts, no records could be found which associate this facility with any significant contributions to the growth and development of Pepsi-Cola Co. beyond its intended function to produce and distribute Pepsi-Cola products. It is also not an exemplary representation of the capabilities of Pepsi Bottling facilities when compared to other bottling plants from this time period, at least six of which still exist today. Therefore, this building is recommended not eligible for listing the California Register of Historic Resources (CRHR) Criterion 1.

### **Criterion 2**

Following a thorough background investigation regarding this facility, this building is not known to be associated with the lives of significant persons in our past; therefore, this building is recommended not eligible for listing under CRHR Criterion 2.

### **Criterion 3**

This building does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. This building is Utilitarian in style with minimal ornamentation. The building’s footprint is a standard rectangular footprint and includes one single story flat roofed addition at its northwest elevation and one rectangular, single-story, flat roofed addition at its northeast elevation. Extensive research and comparison of this facility to other extant bottling plants of the same time period indicate that this facility is unexceptional in its design with some of its contemporaries exhibiting more notable decorative features. Therefore, this building is recommended not eligible for listing under CRHR Criterion 3.

### **Criterion 4**

This building has not yielded nor may be likely to yield, information important in history or prehistory; therefore this building is recommended not eligible for listing under CRHR Criterion 4.

### **Integrity:**

This building retains its integrity of Location, Association, and Feeling. There is notable loss of integrity of Setting due to industrial development of the surrounding area.

Upon review of various contemporary Pepsi-Cola Bottling plants of the 1950s and 1960s, it is common for these buildings to undergo alteration and expansion during their years of operation in order to improve the facility’s efficiency and productive output. The building additions at the Irwindale Pepsi-Cola Bottling Plant follow this method of facility improvement as they expand

the loading bay area, thus improving the building's capacity for the import and export of goods and materials. Therefore, while the construction of these additions does alter the building's original integrity of Design, Materials, and Workmanship it is not necessarily a negative impact.

## CONCLUSIONS AND RECOMMENDATIONS

### PALEONTOLOGICAL RESOURCES

The Project Area is mapped entirely as late Pleistocene to Holocene young alluvial fan deposits (unit 3). The record search revealed no fossil localities from within the Project Area or immediate vicinity; however, localities are recorded near the Project from the same sediments as those found within the study area.

The paleontological records search revealed that all of the fossils previously recovered within an 18-mile radius of the Project were a minimum of two feet deep, occurring in deposits mapped as Pleistocene alluvium at the surface. Sediments with a Holocene component such as those of the study area produced fossils starting at 24 feet deep near to the Project Area. As such, the late Pleistocene to Holocene young alluvial fan sediments less than 20 feet below the modern surface are assigned a low potential for fossils (PFYC 2) due to the lack of fossils in these deposits. More than 20 feet below the modern surface, these sediments are assigned a moderate potential for fossils (PFYC 3) due to similar deposits producing fossils at that depth near to the study area.

Based upon records of fossils found in similar sediments nearby, no paleontological monitoring is currently recommended for the mass excavations. Drilling or pile driving activities, regardless of depth, have a low potential to produce fossils meeting significance criteria, because any fossils brought up by the auger during drilling will not have information about formation, depth or context. The only instance in which such fossils will meet significance criteria is if the fossil is a species new to the region.

In the unlikely event that fossils are found the following mitigation measures will apply:

**PAL-1:** If unanticipated fossil discoveries are made, all work must halt within 50 feet until a qualified paleontologist can evaluate the find. Work may resume immediately outside of the 50-foot radius. Mitigation Measures PAL-2 and PAL-3 shall be implemented.

**PAL-2:** If the discoveries are determined to be significant, full-time paleontological monitoring will be recommended for the remainder of ground disturbance for the project. Paleontological monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor shall have the authority to

temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Monitoring efforts can be reduced or eliminated at the discretion of the project paleontologist.

**PAL-3:** Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the most specific taxonomic level possible, cataloged, analyzed, and delivered to the Natural History Museum of Los Angeles County for permanent curation and storage. The cost of curation is assessed by the repository and shall be responsibility of the land owner. At the conclusion of laboratory work and museum curation, a final Paleontological Monitoring Report (PMR) shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered, an analysis of fossils recovered and their scientific significance, and recommendations. A copy of the report shall also be submitted to the Natural History Museum of Los Angeles County.

## **ARCHAEOLOGICAL RESOURCES**

No further cultural resources work is necessary. Cogstone recommends for the proposed Project to proceed as planned. Should cultural resources be identified during construction the following mitigation measures are recommended.

**CUL-1:** If an inadvertent cultural material is discovered during ground-disturbing activities, all work must halt within 50 feet of the find until the qualified archaeologist can determine the significance. No soil shall be exported from within the 50-foot buffer around the find until a determination of significance is made. The qualified archaeologist will then also determine if continued archaeological monitoring is warranted.

If the qualified archaeologist determines that the find qualifies as a significant cultural resource, the archeologist shall make recommendations on the treatment and disposition of the deposits, which shall be developed in accordance with all applicable provisions of California Public Resource Code Section 21083.2 and State CEQA Guidelines Sections 15064.5 and 15126.4. For example, if significant cultural resources are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan. The archaeologist shall prepare a final report describing monitoring methods that includes a catalog of all ~~and curated~~ cultural resources identified during the Project for submission to the City. The City will determine disposition of collected cultural resources which may include return to landowner/applicant,

transfer to a consulting Native American group, donation to school or museum, or long term curation at an approved curation facility. The applicant shall be financially responsible for costs associated with cultural resources monitoring, including artifact curation, up to the limits imposed by Public Resources Code Section 21083.2.

**CUL-2:** The City of Irwindale will notify The Gabrielino Tongva Indians of California Tribal Council (Tribe) if prehistoric materials, including Native American burial remains, are found. Any notification by the City of Irwindale to the Tribe of the discovery of burial remains will be separate from the Native American Heritage Commission (NAHC) process and will occur regardless of whether the NAHC designates the Tribe as Most Likely Descendent. If Native American burial remains are found the Tribe will engage the City of Irwindale in formal Native American consultation.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then can recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met

## **BUILT ENVIRONMENT RESOURCES**

One built environment resource, a historic-age building, was thoroughly documented during Cogstone's 2021 built environment survey using Department of Parks and Recreation 523 forms (Appendix F). Due to a lack of significance, this building is recommended not eligible for listing

at the local, state, or national level. Demolition and renovations of the existing structure does not require any mitigation due to lack of significance.

## REFERENCES CITED

Austin, Christina

2013 “Beautifully Illustrated Ads from the 1950s When Pepsi Went Upscale Against Coke.” *Insider*. Published: March 2, 2013. <https://www.businessinsider.com/pepsi-cola-ads-1950s-2013-2>. Accessed May 28, 2021.

Bean, L. J., and C. R. Smith

1978 “Gabrielino.” In *Handbook of North American Indians*, Volume 8. *California*, volume edited by Robert F. Heizer, pp. 538-549 (W. T. Sturtevant, general editor). The Smithsonian Institution, Washington, D.C.

Bell, A. (Natural History Museum of Los Angeles County)

2021 Vertebrate Paleontology Records Check for paleontological resources for the proposed Irwindale Speculative Concrete Tilt-up Building Project, Cogstone Project # 5186, in the City of Irwindale, Los Angeles County, Project Area. See Appendix B.

Bloomberg

2021 “Pepsi Bottling Group Inc/The.” <https://www.bloomberg.com/profile/company/PBG:US>. Accessed May 4, 2021.

BLM (Bureau of Land Management)

2016 *Potential Fossil Yield Classification (PFYC) System*. <https://www.blm.gov/policy/im-2016-124>.

Campbell, R. H., C. J. Wills, P. J. Irvine, and B. J. Swanson

2014 Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, California, version 2.1: California Department of Conservation, California Geological Survey and U.S. Geological Survey map, scale 1:100,000. Online at [ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim\\_geo\\_pdf/Los\\_Angeles\\_100k\\_v2.1\\_Map.pdf](ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim_geo_pdf/Los_Angeles_100k_v2.1_Map.pdf).

City of Irwindale

n.d. “History”. <https://www.irwindaleca.gov/269/History>. Accessed April 14, 2021.

2008 City of Irwindale, 2020 General Plan, General Plan Update. <https://www.irwindaleca.gov/DocumentCenter/View/38/General-Plan?bidId=>. Accessed July 2, 2021.

Dooley A. C. Jr., E. Scott, J. Green, K. B. Springer, B. S. Dooley, and G. J. Smith

2019 *Mammot pacificus* sp. nov., a newly recognized species of mastodon from the Pleistocene of western North America. *PeerJ* 7:e6614 <https://doi.org/10.7717/peerj.6614>.

FrameFinder

1956 “Flight C\_22555, Frame 12-48”. [https://mil.library.ucsb.edu/ap\\_indexes/FrameFinder/](https://mil.library.ucsb.edu/ap_indexes/FrameFinder/). Accessed April 14, 2021.

#### Google Maps

2021 “4416 Azusa Canyon Road, Irwindale, CA.”

<https://www.google.com/maps/place/4416+Azusa+Canyon+Rd,+Irwindale,+CA+91706/@34.0934317,-117.942485,173m/data=!3m1!1e3!4m5!3m4!1s0x80c2d7f188cac073:0xa08c058099acfbda!8m2!3d34.0932022!4d-117.9419251>. Accessed April 15, 2021.

Harrington, John P.

1917–1930s *The Papers of John P. Harrington in the Smithsonian Institution 1907–1957: Volume Three, Microfilm.*

[https://edan.si.edu/slideshow/viewer/?damspath=/Public\\_Sets/NMNH/NMNH-RC-Anthropology/NMNH-RC-Anth-Archives/NMNH-RC-Anth-Archives-NAA/NAA-Harrington/NAA-Harrington-Microfilm/NAA-Harrington\\_mf6\\_r03](https://edan.si.edu/slideshow/viewer/?damspath=/Public_Sets/NMNH/NMNH-RC-Anthropology/NMNH-RC-Anth-Archives/NMNH-RC-Anth-Archives-NAA/NAA-Harrington/NAA-Harrington-Microfilm/NAA-Harrington_mf6_r03), accessed December 22, 2015.

Irwindale Community Redevelopment Agency

2009 “City of Irwindale Community Redevelopment Agency 2010-2014 Five-Year Redevelopment Implementation Plan”. *Irwindale FY 2009/10-2013/14 Implementation Plan*. Available at: <https://www.irwindaleca.gov/DocumentCenter/View/77/2010-2014-Implementation-Plan?bidId=>. Accessed April 14, 2021.

Jefferson, G. T.

1991a A Catalogue of Late Quaternary Vertebrates from California: Part one, Nonmarine Lower Vertebrate and Avian Taxa. Natural History Museum of Los Angeles, Technical Report #5.

1991b A Catalogue of Late Quaternary Vertebrates from California: Part two, Mammals. Natural History Museum of Los Angeles, Technical Report #7.

Kroeber, A. L.

1976 *Handbook of Indians of California*. Reprint of 1925 original edition, Dover Publications, New York.

McCawley, W.

1996 *First Angelinos: the Gabrielino Indians of Los Angeles*. Malki Museum Press/Ballena Press, Banning, California.

McLeod, S. (Natural History Museum of Los Angeles County)

2017 Vertebrate Paleontology Records Check for paleontological resources for the proposed MUST Facility Project, Cogstone Project # 3993, in the City of Long Beach, Los Angeles County, California, project area. On file with Cogstone, Orange, CA.

2018 Vertebrate Paleontology Records Check for paleontological resources for the proposed Boyle Heights Sports Center Gym Project, Cogstone Project # 2177-08, in the City of Los Angeles, Los Angeles County, Project Area.

#### NETROnline

- 1977 *Historic Aerials*. <https://www.historicaerials.com/viewer#>. Accessed April 14, 2021.  
1980 *Historic Aerials*. <https://www.historicaerials.com/viewer#>. Accessed April 14, 2021.  
1994 *Historic Aerials*. <https://www.historicaerials.com/viewer#>. Accessed April 14, 2021.  
2012 *Historic Aerials*. <https://www.historicaerials.com/viewer#>. Accessed April 14, 2021.  
2016 *Historic Aerials*. <https://www.historicaerials.com/viewer#>. Accessed April 14, 2021.

#### PBDB

- 2021 Records search of the Paleobiology Database. Accessed May 2021.

#### Pepsi-Cola Bottlers Association

- 2021 History. <https://pcba.net/about-us/history/>. Accessed May 4, 2021.

#### Peterson, Robert

- 2016 “Irwindale: Mining the Building Blocks of Los Angeles”, KCET, August 2, 2016, <https://www.kcet.org/shows/lost-la/irwindale-mining-the-building-blocks-of-los-angeles>. Accessed July 2, 2021.

#### Scott, E. and K. Springer

- 2003 CEQA and Fossil Preservation in Southern California. *The Environmental Monitor*, Winter: 4-10, 17.

#### Scott, E., K. Springer, and J. C. Sagebiel

- 2004 Vertebrate Paleontology in the Mojave Desert: The Continuing Importance of ‘Follow Through’ in Preserving Paleontologic Resources, p. 65-70, in M. W. Allen and J. Reed (eds.), *The Human Journey and Ancient Life in California’s Deserts: Proceedings from the 2001 Millennium Conference*. Maturango Museum Publication No. 15, Ridgecrest, California.

#### Sutton, M.

- 2010 The Del Rey Tradition and its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(2):1-54.

#### Sutton, M., and J. Gardner

- 2010 Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly* 42(4):1-64

#### UCMP

- 2021 Records search of the University of California, Berkeley paleontology database. Accessed online May 2021.

#### United States Census

- 2010-2019 “California”. *City and Town Population Totals: 2010-2019*. <https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-cities-and-towns.html>. Accessed April 14, 2021.

#### USGS Historical Topographic Map Explorer

- 1894 *Pomona*. U.S. Geological Survey [map], 1:62,500. Topographic Quadrangle Map, Reston, VA. 1960. <https://livingatlas.arcgis.com/topoexplorer/index.html>. Accessed April 14, 2021.
- 1927 *Puente*. U.S. Geological Survey [map], 1:24,000. Topographic Quadrangle Map, Reston, VA. 1927. <https://livingatlas.arcgis.com/topoexplorer/index.html>. Accessed April 14, 2021.
- 1953 *Baldwin Park*. U.S. Geological Survey [map], 1:24,000. Topographic Quadrangle Map, Reston, VA. 1960. <https://livingatlas.arcgis.com/topoexplorer/index.html>. Accessed April 14, 2021.

Wagner, D. L.

- 2002 California geomorphic provinces. California Geological Survey note 36. [https://www.coastal.ca.gov/coastalvoices/resources/California\\_Geomorphic\\_Provinces.pdf](https://www.coastal.ca.gov/coastalvoices/resources/California_Geomorphic_Provinces.pdf).

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214-230.

Warren, Claude N.

- 1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in Western United States*, edited by C. Irwin-Williams. *Eastern New Mexico University Contributions in Anthropology* 1(3):1-14.

## **APPENDIX A. QUALIFICATIONS**

**EDUCATION**

- 1999 M.A., Anthropology (Archaeology), Harvard University, Cambridge  
1995 B.A., Anthropology, University of Pennsylvania, Philadelphia

**TRAININGS AND CERTIFICATIONS**

- 2017 Section 106 Advanced Seminar, Advisory Council for Historic Preservation, Riverside, CA  
2017 Consulting with SHPO, Society for California Archaeology, Yosemite, CA  
2010 Professional CEQA/NEPA Certificate, ICF International Corporation, Rosemead, CA  
2009 Section 106 Training, Advisory Council for Historic Preservation, Agua Caliente, Palm Springs, CA  
2002 National Environmental Protection Act Workshop, University of Nevada, Reno, Heritage Resources Management Program, Crown Plaza Hotel, Seattle, WA  
2000 Consulting with Indian Tribes on Cultural Resources, National Preservation Institute, Riverside, CA

**SUMMARY OF QUALIFICATIONS**

Ms. Martinez is a Registered Professional Archaeologist (RPA) with 24 years of experience in archaeological fieldwork, research, and curation. She has expertise in the planning, implementation, and completion of all phases of archaeological work and has participated in archaeological investigations as a principal investigator, crew member, and tribal monitor. She meets national standards in archaeology set by the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. Her experience also includes compliance with CEQA, NEPA, NHPA Sec. 106, NAGPRA, SB 18, AB 52, and California General Order 131-D exemption. Ms. Martinez has extensive experience consulting with Native American leaders and community members in a variety of contexts.

**SELECTED EXPERIENCE**

**Deep Soil Mixing Pilot Project, Community of Pacific Palisades, Los Angeles County, CA.** As part of an on-call contract with the Los Angeles Bureau of Engineering (LABOE), Cogstone provided cultural and paleontological resources monitoring as well as managed Native American monitoring during ground-disturbing activities. The City of Los Angeles was the lead agency under the California Environmental Quality Act (CEQA). Monitoring for the Project was conducted in compliance with the Contingency Plan conditions for the Coastal Development Permit (CDP) from the California Coastal Commission (CCC). No cultural or paleontological resources were identified. No further work was necessary. Sub to ICF. Task Manager. 2020

**Heathercliff Malibu Development Project, City of Malibu, Los Angeles County, CA.** Cogstone conducted a study to determine the potential impacts to cultural resources resulting from the construction of a single residence bounded by Heathercliff Road to the southeast and the Pacific Coast Highway to the northwest. This study included all information required by the City of Malibu Archaeology Guidelines. Cogstone conducted a record search, Sacred Lands File Search, pedestrian survey, and produced an assessment. Sub to ACS Construction. Task Manager. 2019

**Florence Mills Apartments Project, City of Los Angeles, Los Angeles County, CA.** This project was for the development of affordable and subsidized multi-family apartment buildings along the Historic Central Avenue Corridor in Southeast LA. Cogstone conducted monitoring of construction activities associated with excavation of historic-age and modern-age fill, as well as native soils, functions to ensure archaeological materials not previously exposed would be identified, assessed and impacts mitigated in order to preserve and/or extract the maximum scientific value of the resource. Task Manager. 2019

**Roosevelt Park Regional Stormwater Capture Project, unincorporated area of Florence-Firestone, Los Angeles County, CA.** Cogstone conducted cultural and paleontological monitoring during all ground-disturbing activities in native sediments. This project included the construction of three diversion structures and pipelines. Upon completion of monitoring, a cultural and paleontological compliance report was prepared. Sub to Environmental Advisors. Archaeology Supervisor and Report Author. 2018

## EDUCATION

1990 M.A., Anthropology (Biological), University of California, Los Angeles  
1985 B.A., Anthropology (Physical), California State University, Northridge

## SUMMARY OF QUALIFICATIONS

Mr. Scott is a professional vertebrate paleontologist with over four decades of experience in paleontological mitigation, fieldwork, curation, and research. He is an emeritus paleontology curator at the San Bernardino County Museum, an adjunct instructor at California State University, San Bernardino, and a research associate of the Natural History Museum of Los Angeles County and the La Brea Tar Pits and Museum. He is a 30+ year member of the Society of Vertebrate Paleontology, an international society of professional scientists where he currently serves on the Government Affairs Committee and also holds membership in the Geological Society of America and other professional societies. Eric has published over 40 research articles in professional scientific journals.

## SELECTED EXPERIENCE

**Purple Line Extension (Westside Subway), Sections 1 and 2, Metropolitan Transit Authority (METRO), Los Angeles, CA.** The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Cogstone supervises paleontological monitoring, fossil recovery, and fossil preparation in the lab. Sub to JV West (Section 1) and AECOM (Section 2). Principal Paleontologist. 2017-ongoing

**Deep Soil Mixing Pilot Project, Community of Pacific Palisades, Los Angeles County, CA.** As part of an on-call contract with the Los Angeles Bureau of Engineering (LABOE), Cogstone provided cultural and paleontological resources monitoring as well as managed Native American monitoring during ground-disturbing activities. The City of Los Angeles was the lead agency under the California Environmental Quality Act (CEQA). Monitoring for the Project was conducted in compliance with the Contingency Plan conditions for the Coastal Development Permit (CDP) from the California Coastal Commission (CCC). No cultural or paleontological resources were identified. No further work was necessary. Sub to ICF. Principal Investigator for Paleontology. 2020

**Gates Canyon Stormwater Capture Project, unincorporated area of Calabasas, Los Angeles County, CA.** Cogstone conducted cultural and paleontological resources monitoring for 31 days during proposed improvements to Gates Canyon Park that would allow the capture and storage of stormwater runoff from an adjacent 105-acre residential area. Monitoring complied with program mitigation measures and as defined by the County of Los Angeles, Department of Public Works (LACDPW). LACDPW was the project proponent and acted as the lead agency under CEQA. Sub to Aspen Environmental. Task Manager. 2019

**Irvine General Plan Update - Phase II, City of Irvine, Orange County, CA.** Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine to support the Phase II update of the City's General Plan. A general analysis of impacts of future projects within the City of Irvine that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to PlaceWorks. Paleontology QA/QC. 2018-2019

**Camino de la Cumbre Project, City of Sherman Oaks, Los Angeles County, CA.** Cogstone conducted a paleontological resources assessment to determine the potential for impacting fossil resources during excavations of the Camino de la Cumbre residential development project. Services included a records search, background research, pedestrian survey, and report preparation. Sub to Ridge, Inc. Task Manager. 2018

**EDUCATION**

- 2016 Ph.D., Anthropology, University of California, Riverside (UCR)
- 2011 M.A., Anthropology, UCR
- 2007 M.A., Applied Geography, University of Colorado, Colorado Springs (UCCS)
- 2002 B.A., Anthropology, minor in Geography/Environmental Studies, UCCS

**SUMMARY OF QUALIFICATIONS**

Dr. Gust is a Registered Professional Archaeologist (RPA) with over 9 years of experience in field archaeology. He meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and his field expertise includes pedestrian surveys, excavation monitoring, resource recording, and historic artifact analysis. He has managed cultural resources projects for both public and private sector clients. Dr. Gust is a member of the Society for California Archaeology, Society for American Archaeology, and the American Anthropological Association.

**SELECTED EXPERIENCE**

**Deep Soil Mixing Pilot Project, Community of Pacific Palisades, Los Angeles County, CA.** As part of an on-call contract with the Los Angeles Bureau of Engineering (LABOE), Cogstone provided cultural and paleontological resources monitoring as well as managed Native American monitoring during ground-disturbing activities. The City of Los Angeles was the lead agency under the California Environmental Quality Act (CEQA). Monitoring for the Project was conducted in compliance with the Contingency Plan conditions for the Coastal Development Permit (CDP) from the California Coastal Commission (CCC). No cultural or paleontological resources were identified. No further work was necessary. Sub to ICF. Principal Investigator for Archaeology. 2020

**Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the Native American Heritage Commission, and an intensive-pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. Principal Investigator for Archaeology. 2019-2020

**Los Angeles World Airports (LAWA) Terminal 1.5 Project, City of Los Angeles, Los Angeles County, CA.** Cogstone conducted cultural and paleontological resources monitoring during the excavations for the construction of a new airport terminal at LAX that included the construction of a five-story structure with four above-grade levels and one basement level. Cogstone also conducted archaeological and paleontological Worker Environmental Awareness Program (WEAP) training for all construction personnel. The City of Los Angeles was the lead agency for the project. Sub to CDM. Archaeology Supervisor and Report Author. 2018-2019

**Heathercliff Malibu Development Project, City of Malibu, Los Angeles County, CA.** Cogstone conducted a study to determine the potential impacts to cultural resources resulting from the construction of a single residence bounded by Heathercliff Road to the southeast and the Pacific Coast Highway to the northwest. This study included all information required by the City of Malibu Archaeology Guidelines. Cogstone conducted a record search, Sacred Lands File Search, pedestrian survey, and produced an assessment. Sub to ACS Construction. Principal Investigator for Archaeology and Report Author. 2019

**Florence Mills Apartments Project, City of Los Angeles, Los Angeles County, CA.** This project was for the development of affordable and subsidized multi-family apartment buildings along the Historic Central Avenue Corridor in Southeast LA. Cogstone conducted monitoring of construction activities associated with excavation of historic-age and modern-age fill, as well as native soils, functions to ensure archaeological materials not previously exposed would be identified, assessed and impacts mitigated in order to preserve and/or extract the maximum scientific value of the resource. Archaeology Supervisor and Report Author. 2019

## EDUCATION

- 2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino  
 2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles

## SUMMARY QUALIFICATIONS

Ms. Scott has more than 25 years of experience in California paleontology. She is a sedimentary geologist and qualified paleontologist with extensive experience. She is a skilled professional who is well-versed in the compliance procedures of CEQA, NEPA, and the Paleontological Resources Preservation Act (PRPA). Ms. Scott regularly prepares reports for paleontological assessments, mitigation and monitoring plans and measures, and monitoring reports for a variety of federal, state, and local agencies throughout California. In addition, she has prepared paleontological resources reports for CEQA/ EIR compliance documents for Project-level and program-level Specific Plans, General Plans, Master Plans, and Zoning Amendments for mixed-use, residential, commercial and industrial developments. Ms. Scott serves as company safety officer.

## SELECTED PROJECTS

**Purple Line Extension (Westside Subway), Metro/FTA, Los Angeles, CA.** The Project involves extension of the subway from Wilshire/Western to the VA Facility in Westwood for 9 miles. Cogstone prepared the supplemental Archaeology and Architectural History Reports and the cultural and paleontological sections of the FEIS/FEIR. Cogstone subsequently prepared the cultural and paleontological mitigation and monitoring plans for the entire Project. Currently providing monitoring and all other cultural and paleontological services for Section One of the Project. Paleontological Field and Lab Director, Report Co-author. 2011-present

**Barren Ridge Transmission Line, Los Angeles Department of Water and Power (LADWP), Saugus to Mojave, Los Angeles and Kern Counties, CA.** Over 75 miles of LADWP electrical lines were installed Angeles National Forest, BLM and private lands. Supervised paleontological monitoring and lab work and prepared a Paleontological Monitoring Report to CEQA, BLM, and PRPA standards. Sub to Aspen Environmental Group. Principal Paleontologist. 2015-present

**City of La Verne General Plan, Los Angeles County, CA.** The Project was for an update to the City's General Plan, a 5,446-acre area. Provided a Paleontological and Cultural Assessment Report for the City. Sub to De Novo Planning Group. Principal Paleontologist. 2018

**Interstate 405 Paleontological Resources Mitigation Plan, Los Angeles and Orange Counties, CA.** Improvements to a 6-miles of Interstate 405 (I-405) between State Route 73 and Interstate 605. Provided a Paleontological Mitigation and Monitoring Plan. Principal Paleontologist. Sub to OC 405 Partners. 2018

**Little Tujunga Canyon Bridge, Angeles National Forest, Los Angeles County, CA.** The Project was to replace the Little Tujunga Canyon Road Bridge along Little Tujunga Canyon Road. Provided a Paleontological Assessment Report. Sub to Michael Baker International. Principal Paleontologist. 2017

**Park Place Extension Project, City of El Segundo, Los Angeles County, CA.** The City proposed to extend Park Place from Allied Way to Nash Street with a railroad grade separation to implement a critical Project improving traffic and circulation in the Project Area. Provided a combined Paleontological Identification and Evaluation Report (PIR/PER). Sub to Michael Baker International. Principal Paleontologist. 2017

**Coto de Caza EIR Subdivision, Coto de Caza, Orange County, CA.** The project proposed the subdivision of an existing large estate for development of 28 new residential lots on approximately 50-57 acres of land. Proposed residential lots were a minimum of one acre in size. Prepared a Paleontological Assessment Report. Contracted to Bill Lyon. Co-Principal Paleontologist/Report Co-author. 2015

**EDUCATION**

2018 M.A., History (with an emphasis in architecture), California State University, Fullerton  
2012 B.A., History, Minor in Asian-Pacific Studies, California State University, Dominguez Hills

**SUMMARY OF QUALIFICATIONS**

Ms. Lopez is a qualified historian and she meets the Secretary of the Interior's *Standards and Guidelines for Architectural History*. She is experienced in architectural history research and surveys along with photo documentation and recording of built environment resources for local and federal projects. Ms. Lopez is acknowledged as an approved Architectural Historian by Caltrans. She has extensive knowledge with Native American consultation, consultation with city and county historical societies, and analysis of primary and secondary sources. Additionally, she is an approved Reader at the Huntington Library by the Los Angeles Office of Historic Resources.

**SELECTED EXPERIENCE**

**Los Angeles Harbor College, City of Los Angeles, Los Angeles County, CA.** Cogstone conducted a study to determine the potential impacts to cultural resources for the proposed demolition, renovation, and construction at the college. Three of the building scheduled for demolition were considered historic in age and required evaluation under CEQA. Cogstone conducted a records search, historical society outreach, a pedestrian survey, and produced a Historic Resources Evaluation Report. Sub to PlaceWorks. Architectural Historian. 2020

**Long Beach Municipal Urban Stormwater Treatment (MUST) Project, Los Angeles County, CA.** In 2017, Cogstone prepared a cultural and paleontological resources assessment for the proposed construction of a stormwater facility. The project intended to improve the water quality of existing urban runoff to the Los Angeles River, and ultimately to the Long Beach Harbor. Services included pedestrian surveys, records searches, background research, built environment assessment, Native American consultation, and reporting. In 2020, Cogstone produced a Paleontological Resources Management Plan to propose effective mitigation of potential impacts to paleontological resources resulting from proposed construction of MUST and its associated Wetlands project. Sub to Michael Baker. Architectural Historian. 2020

**Fresno West Area Specific Plan, City of Fresno, Fresno County, CA.** Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the city in order to guide future growth and development. Cogstone conducted a records search and in-depth background research. Of the 82 previously recorded cultural resources, 78 were built environment. Three mitigation measures were recommended for future development. The City of Fresno acted as the lead agency under CEQA. Sub to De Novo. Architectural Historian. 2019

**Purple Line Extension (Westside Subway) Crack Propagation Reassessment, City of Beverly Hills, Los Angeles County, CA.** On behalf of METRO, Cogstone was approved to reassess the exterior façade of the old Porsche building located on Wilshire Boulevard. The purpose of this reassessment was to document and compare the cracks of the current building during construction of the underground subway with those recorded in a pre-construction survey. Architectural Monitor. 2018

**3800 W. 6th Street Mixed-Used Development, Koreatown, Los Angeles County, CA.** Cogstone conducted a paleontological and cultural resources assessment for proposed construction of a 21-story mixed-use development with two levels of underground parking. Services included records search, built environment survey, resource recording and technical report. Architectural Historian. 2018

**La Verne General Plan Update, City of La Verne, Los Angeles County, CA.** Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Ms. Lopez guided the extensive historical research at City Hall where building records, Mills Acts, photographs and other documents were reviewed. Sub to De Novo. Co-Architectural Historian. 2018

## **EDUCATION**

2002 B.A., Cultural Anthropology, University of California, Santa Barbara

## **TRAINING AND CERTIFICATIONS**

HAZWOPER Certified - Certified American Red Cross CPR; Certified American Red Cross Standard First Aid  
Applied Archaeology of Southern California, USDA Forest Service, San Bernardino National Forest  
Railroad Security Certified

## **SUMMARY OF QUALIFICATIONS**

Ms. Duarte is a skilled archaeologist with 18 years of experience in monitoring, surveying, and excavation in California. She has experience with Native American consultation as required by Section 106 of the National Historic Preservation Act (NHPA) and under Senate Bill 18 for the protection and management of cultural resources. Beginning in 2006, Ms. Duarte worked for the U.S. Forest Service in the Biology, Timber, and Geology Department as an archaeologist, including serving as a trained wild-land firefighter to preserve archaeological sites in forest fires. Additional skills include paleontological identification, fossil preparation, artifact identification and preparation, and final report preparation.

## **SELECTED EXPERIENCE**

**Newport Village Project, City of Newport Beach, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during proposed construction of 14 residential condominium units, 108 apartment units, and 121,370 square feet of mixed-use development. The project would also have publicly accessible waterfront promenade with 844 parking spaces in surface-level and subterranean parking. Services included records searches, pedestrian survey, Sacred Lands File search from the NAHC, background research, and reporting. The City of Newport Beach acted as the lead agency under CEQA. Sub to Cox, Castle & Nicholson LLP. Archaeologist. 2019-2020

**Prologis Vermont Avenue and Redondo Beach Industrial Project, City of Los Angeles, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during proposed construction of an industrial center, 223 automobile parking spaces, 32 bicycle parking spaces, 36 high truck loading positions, and parking stalls for truck trailers. Services included records searches, pedestrian survey, Sacred Lands File search from the NAHC, background research, and reporting. The City of Los Angeles acted as the lead agency under CEQA. Sub to PlaceWorks. Archaeologist. 2019-2020

**Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the NAHC, and an intensive-pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. Archaeologist/Co-Author. 2019-2020

**Firestone Phoenix, City of Los Angeles, Los Angeles County, CA.** Cogstone provided cultural resources monitoring during ground-disturbing construction activities. Excavation activities included grubbing, mechanical excavation, and grading. Cogstone also conducted Worker Environmental Awareness Program (WEAP) training for construction personnel. Two artifacts were collected during monitoring and returned to the property owner. All work was completed in compliance with NEPA, CEQA, PRC, and project specific requirements from the Los Angeles County Development Authority (LACDA). A cultural resources monitoring compliance report was submitted upon completion of monitoring. Sub to A Community of Friends. Archaeologist. 2019-2020

## EDUCATION

2014 M.S., Geology, California State University, Fullerton (CSUF)  
2010 B.S., Geology, CSUF

## SUMMARY OF QUALIFICATIONS

Ms. Vreeland is a Paleontologist with over 10 years of experience in field paleontology. Her field and laboratory experience includes fieldwork and research projects throughout California and Nevada, as well as conducting fieldwork and surficial geologic mapping in Montana. Ms. Vreeland has expertise in invertebrate paleontology and paleoecology. Ms. Vreeland is a member of the Geological Society of America, the Paleontological Society, the Society for Sedimentary Geology, and the Association for Women in Geoscience.

## SELECTED EXPERIENCE

**Jack Ranch Tract, unincorporated area of San Luis Obispo County, CA.** Cogstone prepared a Paleontological Mitigation Plan (PMP) to propose effective mitigation of potential adverse impacts to paleontological resources resulting from proposed construction of 13 residential lots as well as a Conditional Use Permit to allow for a Major Agricultural Cluster project. Cogstone is providing archaeological and paleontological monitoring during construction for residential development of a 299-acre parcel. The County of San Luis Obispo is the lead agency for this project under the California Environmental Quality Act. Sub to Kirk Consulting. Paleontology Supervisor. 2020-present

**Five Point Community Development - various projects, City of Irvine, Orange County, CA.** LSA Associates conducted paleontological and archaeological resources monitoring for various Five Point Community Development projects in Irvine as well as preparation of environmental documents. Paleontologist. 2015-2020

**Alameda Corridor East Grade Separation Projects, various cities, Los Angeles County, CA.** LSA Associates conducted on-call paleontological resource monitoring for various railway grade separation projects and preparation of Paleontological Mitigation Plans. Paleontologist. 2019-2020

**South Campus Student Housing Project, City of Sacramento, Sacramento County, CA.** LSA Associates prepared a Paleontological Resources Monitoring and Mitigation Plan as well as developed and conducted a Workers Environmental Awareness Program (WEAP) training. The project involved construction and operation of student housing facilities for upper-division university students adjacent to the California State University, Sacramento campus. Paleontologist. 2020

**American Kings Solar Project, Kings County, CA.** LSA Associates prepared a Paleontological Analysis for the proposed construction, operation, maintenance, and decommissioning of an up to 128-megawatt alternating current photovoltaic solar power-generating facility. Paleontologist. 2019

**Teresina Project, City of Lake Forest, Orange County, CA.** LSA Associates conducted paleontological and archaeological resources monitoring during grading for the development of a new residential community. Upon completion of the project, a Paleontological Resources Monitoring Report was prepared. Paleontologist. 2018

**NBC Universal Project, City of Los Angeles, Los Angeles County, CA.** LSA Associates prepared and conducted WEAP training for all personnel on the project, as well as archaeological and paleontological resource monitoring for additional developments and improvements to the NBC Universal lot and associated roads. Paleontologist. 2018-2020

## EDUCATION

2018 Geographic Information Systems (GIS) Certificate, California State University, Fullerton  
2003 B.A., Anthropology, University of California, Santa Barbara

## SUMMARY QUALIFICATIONS

Mr. Freeberg has over 18 years of experience in cultural resource management and has extensive experience in field surveying, data recovery, monitoring, and excavation of archaeological and paleontological resources associated with land development projects in the private and public sectors. He has conducted all phases of archaeological work, including fieldwork, laboratory analysis, research, and reporting. Mr. Freeberg also has a strong grounding in conventional field and laboratory methods and is skilled in the use of ArcGIS.

## SELECTED PROJECTS

**Southern California Edison (SCE) Environmental Clearance On-Call Program, Statewide, CA.** Cogstone was contracted to provide on-call cultural resource monitoring services for various SCE projects throughout California. Cogstone has conducted archaeological monitoring, GIS mapping, and prepared technical reports for over 80 task orders. Sub to Cardno. GIS Supervisor. 2019-*ongoing*

**Pacific Gas and Electric (PG&E) Master Services Agreement, Statewide, CA.** Cogstone was contracted to provide on-call cultural resource monitoring services for various PG&E projects throughout California. Cogstone conducted archaeological monitoring for over 20 task orders. Sub to Cardno. GIS Supervisor. 2019-*ongoing*

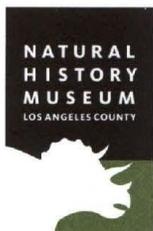
**Goddard School Project, City of Chino Hills, San Bernardino County, CA.** Cogstone produced a paleontological resources mitigation and monitoring program for a proposed 59,129 square foot development consisting of a one-story, 10,587-square foot pre-school/daycare with nine classrooms, fenced play yards and play structures, and a parking lot with 40 stalls. Cogstone put forward mitigation measures that included monitoring for all ground-breaking activities, paleontological resource awareness training for construction personnel, and the completion of a final mitigation report. GIS Supervisor. 2019-2020

**Roosevelt Park Regional Stormwater Capture Project, unincorporated area of Florence-Firestone, Los Angeles County, CA.** Conducted cultural and paleontological monitoring during all ground disturbing activities in native sediments. This project included the construction of three diversion structures and pipelines. Sub to Environmental Advisors. GIS Supervisor. 2019

**Euclid Fueling Station Project, City of Santa Ana, Orange County, CA.** This study was conducted to determine the potential impacts to archaeological and paleontological resources during construction activities for a proposed 7-Eleven gas station and convenience store. The proposed project entailed the construction of the convenience store, associated parking, gas station, and underground fuel storage tank. Planned vertical impacts included approximately three to four feet of fill removal over at least some of the site, a trench approximately eight feet deep for utilities, and approximately 12 feet for the new fuel storage tanks. Sub to Sagecrest Environmental. GIS Supervisor and report co-author. 2019

**Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the Native American Heritage Commission, and an intensive-pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. GIS Supervisor. 2019-2020

## **APPENDIX B. PALEONTOLOGICAL RECORD SEARCH**



Natural History Museum  
of Los Angeles County  
900 Exposition Boulevard  
Los Angeles, CA 90007  
tel 213.763.DINO  
www.nhm.org

Research & Collections

e-mail: [paleorecords@nhm.org](mailto:paleorecords@nhm.org)

April 14, 2021

Cogstone Resource Management

Attn: Logan Freeberg

re: Paleontological resources for the Irwindale Speculative Concrete Tilt-Up Building Project (Cogstone #5186)

Dear Logan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Irwindale Speculative Concrete Tilt-Up Building project area as outlined on the portion of the Baldwin Park USGS topographic quadrangle map that you sent to me via e-mail on April 12, 2021. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

| Locality Number | Location   | Formation   | Taxa  | Depth        |
|-----------------|--|---|---|--------------|
| LACM VP 3347    | 11204 Bluefield; Whittier  | La Habra Formation (lacustrine silt with caliche and plant detritus)              | Horse ( <i>Equus</i> )  | 2 feet bgs   |
| LACM VP 1728    | W of intersection of English Rd & Peyton Dr, Chino   | Unknown (light brown shale with interbeds of very coarse brown sand; Pleistocene) | Horse ( <i>Equus</i> ), camel ( <i>Camelops</i> )   | 15-20 ft bgs |
| LACM VP 7508    | Near intersection of Vellano Club Dr. and Palmero Dr., Oakcrest Development; N of Serrano Canyon | Unknown formation (Pleistocene)   | Ground sloth ( <i>Nothrotheriops</i> ); elephant family (Proboscidea); horse ( <i>Equus</i> )           | Unknown      |
| LACM VP 7702    | Intersection of 26th St and Atlantic Blvd, Bell Gardens  | Unknown Formation (Pleistocene; silt)   | Fish ( <i>Gasterosteus</i> ); Snake (Colubridae), Rodents ( <i>Thomomys</i> , <i>Microtus</i> ); Rabbit | 30 ft bgs    |

| <i>(Sylvilagus)</i> |   |  |  |  |
|---------------------|---|--|--|--|
| LACM VP<br>3363     | W of Monterey Pass Road<br>in Coyote Pass; E of the<br>Long Beach Freeway & S<br>of the N boundary of<br>Section 32 | Unknown Formation<br>(Pleistocene; sand<br>and silt) | Horse ( <i>Equus</i> )<br>sabertooth cat ( <i>Smilodon</i> ),<br>horse ( <i>Equus</i> ), deer<br>( <i>Odocoileus</i> ), Turkey<br>( <i>Meleagris</i> ) | unknown<br>Unknown<br>(excavations<br>for storm<br>drains) |
| LACM VP<br>1023     | Workman & Alhambra Sts  | Unknown Formation<br>(Pleistocene)                   |  |  |

*VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface*

This records search covers only the records of the Natural History Museum of Los Angeles County (“NHMLA”). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,



Alyssa Bell, Ph.D.  
Natural History Museum of Los Angeles County

enclosure: invoice

## **APPENDIX C. NATIVE AMERICAN CONSULTATION**

**Local Government Tribal Consultation List Request**

**Native American Heritage Commission**

1550 Harbor Blvd, Suite 100  
West Sacramento, CA 95691  
916-373-3710  
916-373-5471 – Fax  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)

Type of List Requested

CEQA Tribal Consultation List (AB 52) – Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2

General Plan (SB 18) – Per Government Code § 65352.3.

Local Action Type:

General Plan  General Plan Element  General Plan Amendment

Specific Plan  Specific Plan Amendment  Pre-planning Outreach Activity

Required Information

Project Title: Speculative Concrete Tilt-Up Building

Local Government/Lead Agency: City of Irwindale

Contact Person: John Gust

Street Address: 1518 W. Taft Ave

City: Orange Zip: 92865

Phone: 951 315-6033 Fax: \_\_\_\_\_

Email: jgust@cogstone.com

**Specific Area Subject to Proposed Action**

County: Los Angeles City/Community: Irwindale

**Project Description:**

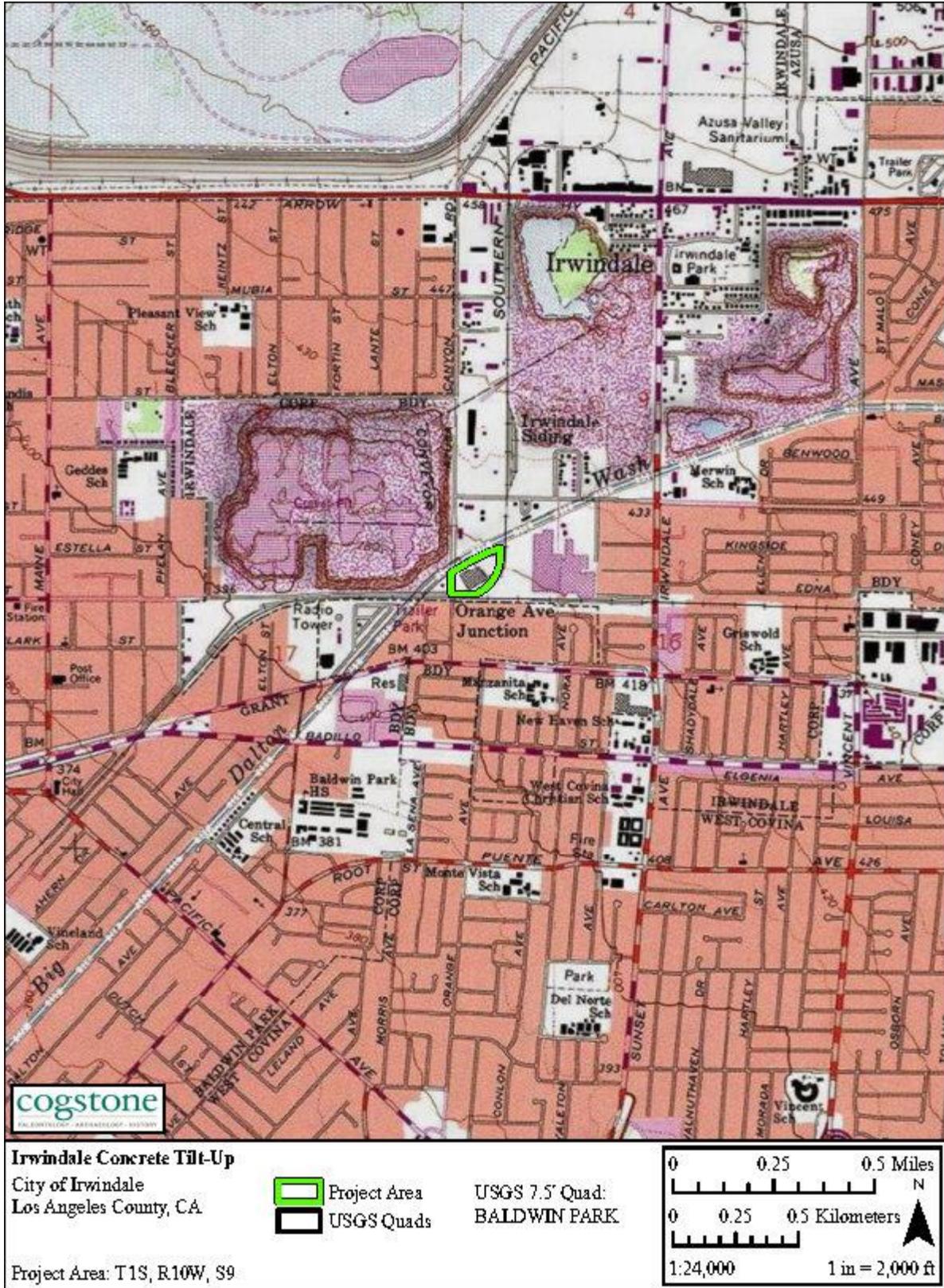
The Project involves the demolition of an existing building constructed in 1956 in order to construct a new ~125,475 square foot stand-alone speculative concrete tilt-up warehouse building with an office mezzanine.

Additional Request

Sacred Lands File Search - Required Information:

USGS Quadrangle Name(s): Baldwin Park

Township: 1S Range: 10W Section(s): 9





STATE OF CALIFORNIA

Govin Newsom, Governor

### NATIVE AMERICAN HERITAGE COMMISSION

April 27, 2021

John Gust  
City of Irwindale

Via Email to: [jgust@cogstone.com](mailto:jgust@cogstone.com)

CHAIRPERSON  
Laura Miranda  
Luiseño

VICE CHAIRPERSON  
Reginald Pagaling  
Chumash

SECRETARY  
Merri Lopez-Keifer  
Luiseño

PARLIAMENTARIAN  
Russell Attebery  
Karuk

COMMISSIONER  
William Mungary  
Paiute/White Mountain  
Apache

COMMISSIONER  
Julie Tumamait  
Stenslie  
Chumash

COMMISSIONER  
[Vacant]

COMMISSIONER  
[Vacant]

COMMISSIONER  
[Vacant]

EXECUTIVE SECRETARY  
Christina Snider  
Pomo

NAHC HEADQUARTERS  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

**Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Speculative Concrete Tilt-Up Building Project, Los Angeles County**

Dear Mr. Gust:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, [Pub. Resources Code §21084.3 (a)] ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

- 1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: [Andrew.Green@nahc.ca.gov](mailto:Andrew.Green@nahc.ca.gov).

Sincerely,



Andrew Green  
Cultural Resources Analyst

Attachment

**Native American Heritage Commission  
Tribal Consultation List  
Los Angeles County  
4/27/2021**

***Gabrieleno Band of Mission  
Indians - Kizh Nation***

Andrew Salas, Chairperson  
P.O. Box 393  
Covina, CA, 91723  
Phone: (626) 926 - 4131  
admin@gabrielenoindians.org

Gabrieleno

***Soboba Band of Luiseno  
Indians***

Isaiah Vivanco, Chairperson  
P. O. Box 487  
San Jacinto, CA, 92581  
Phone: (951) 654 - 5544  
Fax: (951) 654-4198  
vivanco@soboba-nsn.gov

Cahuilla  
Luiseno

***Gabrieleno/Tongva San Gabriel  
Band of Mission Indians***

Anthony Morales, Chairperson  
P.O. Box 693  
San Gabriel, CA, 91778  
Phone: (626) 483 - 3564  
Fax: (626) 286-1262  
GTTribalcouncil@aol.com

Gabrieleno

***Gabrielino /Tongva Nation***

Sandonne Goad, Chairperson  
106 1/2 Judge John Aiso St.,  
#231  
Los Angeles, CA, 90012  
Phone: (951) 807 - 0479  
sgoad@gabrielino-tongva.com

Gabrielino

***Gabrielino Tongva Indians of  
California Tribal Council***

Robert Dorame, Chairperson  
P.O. Box 490  
Bellflower, CA, 90707  
Phone: (562) 761 - 6417  
Fax: (562) 761-6417  
gtongva@gmail.com

Gabrielino

***Gabrielino-Tongva Tribe***

Charles Alvarez,  
23454 Vanowen Street  
West Hills, CA, 91307  
Phone: (310) 403 - 6048  
roadkingcharles@aol.com

Gabrielino

***Santa Rosa Band of Cahuilla  
Indians***

Lovina Redner, Tribal Chair  
P.O. Box 391820  
Anza, CA, 92539  
Phone: (951) 659 - 2700  
Fax: (951) 659-2228  
lsaul@santarosa-nsn.gov

Cahuilla

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Speculative Concrete Till-Up Building Project, Los Angeles County.



May 6, 2021

[FIRST LAST]  
 [TRIBE]  
 [TITLE/ROLE]  
 [ADDRESS, STREET]  
 [CITY, CA, ZIP]

RE: CEQA Consultation Request for the 4416 Azusa Canyon Road Project and Initial Study/Mitigated Negative Declaration for the City of Irwindale, Los Angeles County, California.

Dear [TITLE & LAST NAME]:

The City of Irwindale (City) is preparing an Initial Study for the proposed warehouse project (Project), located at 4416 Azusa Canyon Road, Irwindale, Los Angeles County, California (Figure 1) (Assessor Parcel Number (APN) 8417-004-006). The Project involves the demolition of an existing building constructed in 1956 in order to construct a new, approximately 125,475 square foot, stand-alone, speculative concrete tilt-up warehouse building with an office mezzanine (Figure 2). This Project will comply with California Environmental Quality Act (CEQA) regulations. The City will be the lead CEQA Agency.

We are contacting you because the [TRIBE] requested to be notified and provided information, under the provisions of the CEQA (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, regarding projects within the City's jurisdiction and within the traditional territory of the [TRIBE]. Please consider this letter and preliminary Project information as the formal notification of the proposed Project. The City is requesting to consult with the [TRIBE] in order to identify tribal cultural resources that may be impacted by the proposed Project. The point of contact for the City is below.

| City of Irwindale Point of Contact Information |  |
|--|--|
| Name/Title:                                    | Brandi Jones<br>Senior Planner                                     |
| Address:                                       | City of Irwindale<br>5050 Irwindale Avenue                         |
| City:  | Irwindale, CA 91706  |
| Tel:   | (626)430-2260  |
| E-Mail:  | <a href="mailto:BJones@IrwindaleCA.gov">BJones@IrwindaleCA.gov</a> |

5050 NORTH IRWINDALE AVE., IRWINDALE, CA 91706



PHONE: (626) 430-2200 FACSIMILE: (626) 430-4209

Cogstone Resource Management, Inc. (Cogstone) has been retained to assist the City with a combined cultural and paleontological resources assessment report. The Native American Heritage Commission (NAHC) was contacted on April 13, 2021 to perform a search of the Sacred Lands File. The NAHC responded on April 27, 2021 and reported with a negative result indicating that no known Native American sacred sites and/or heritage resources are located within the Project area or the immediate vicinity.

Cogstone requested a record search of the Project Area and a half-mile radius from the South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton Campus on April 9, 2021 and the result are pending. When available the record search results will be shared upon request.

An intensive pedestrian survey was conducted on April 23, 2021 and no archaeological resources were identified. The 1956 building was recorded as a built environment resource.

The City would appreciate receiving any comments, issues and/or concerns relating to cultural resources, sacred lands, and tribal cultural resources that you may have within the Project area. All information provided will be kept confidential.

**Please respond within 30 days**, pursuant to PRC 21080.3.1(d), if you would like to consult on this Project. If you have any questions or concerns with the Project, please do not hesitate to contact Brandi Jones at the City at the address above or via email [BJones@lrwindaleCA.gov](mailto:BJones@lrwindaleCA.gov) or phone (626) 430-2260.

Thank you for your assistance.

Brandi Jones

Attachments: Figure 1. Project Vicinity Map  
Figure 2. Project Location Map  
Figure 3. Aerial View of Project Site  
Figure 4. Assessor's Parcel Map

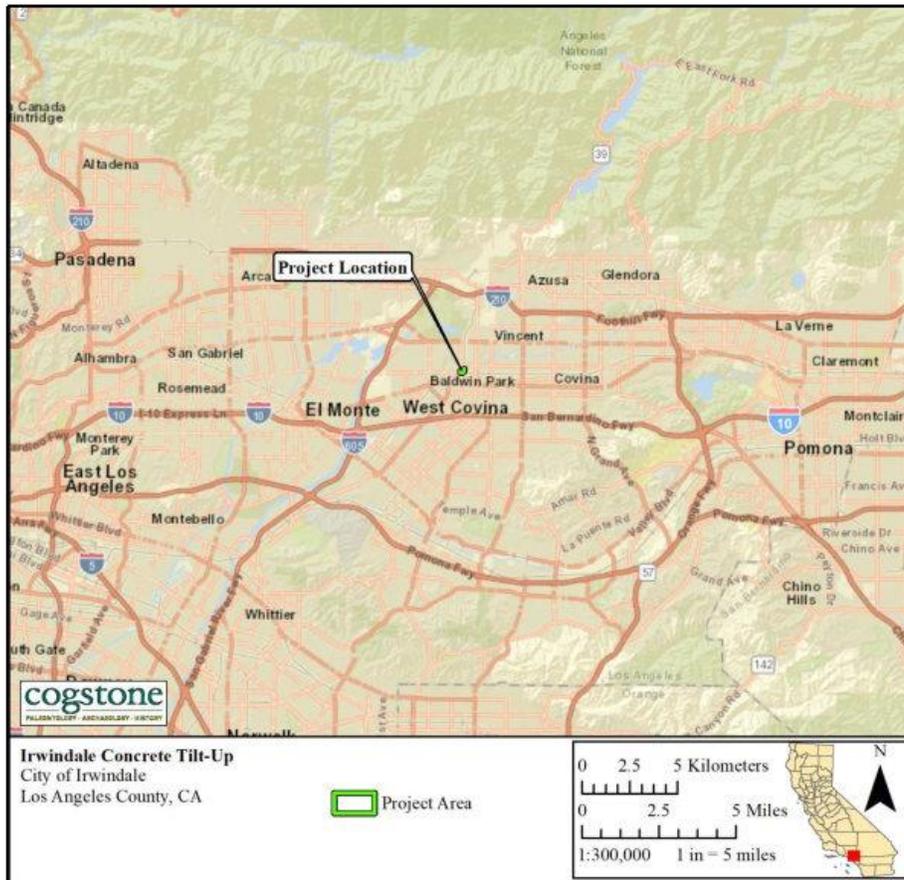


Figure 1. Project vicinity map

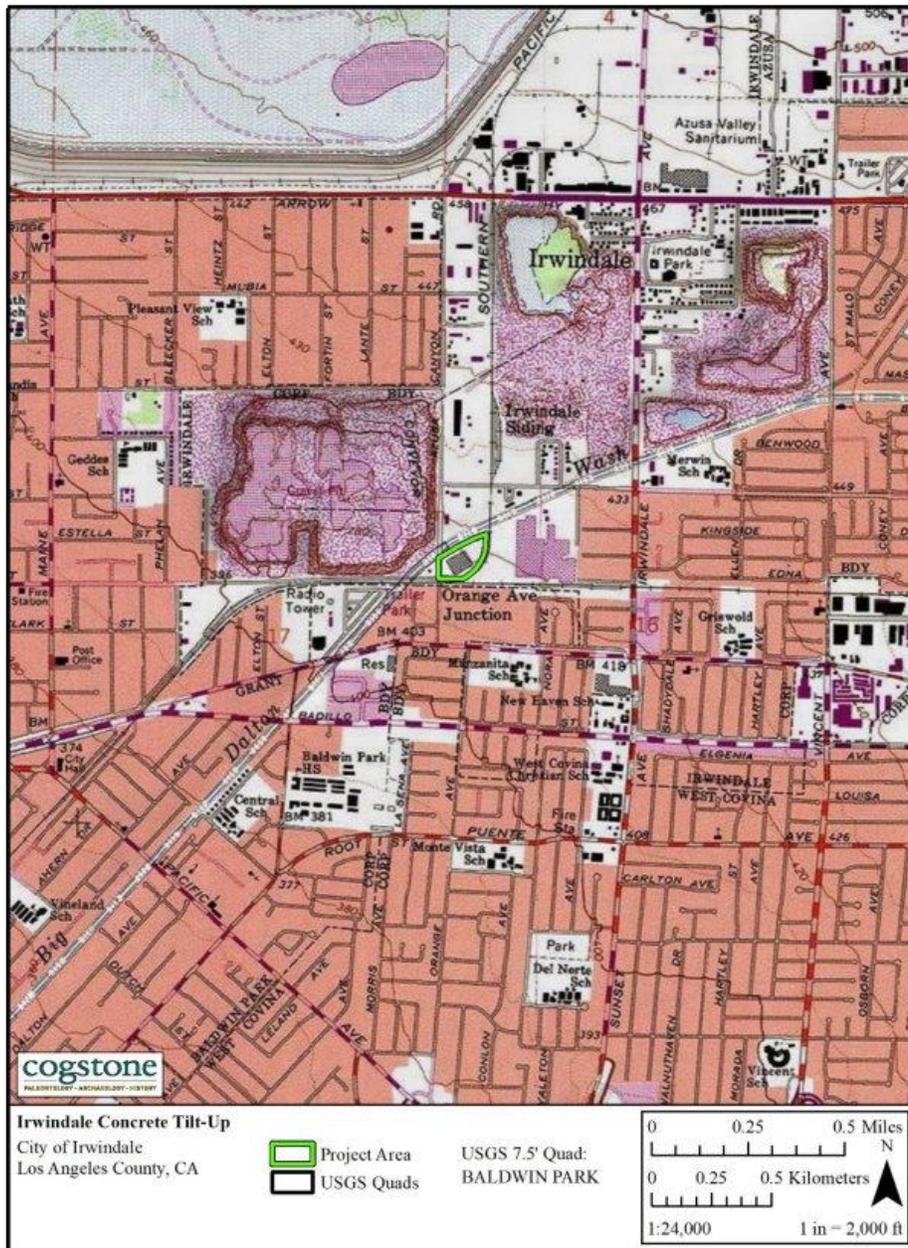


Figure 2. Project location map

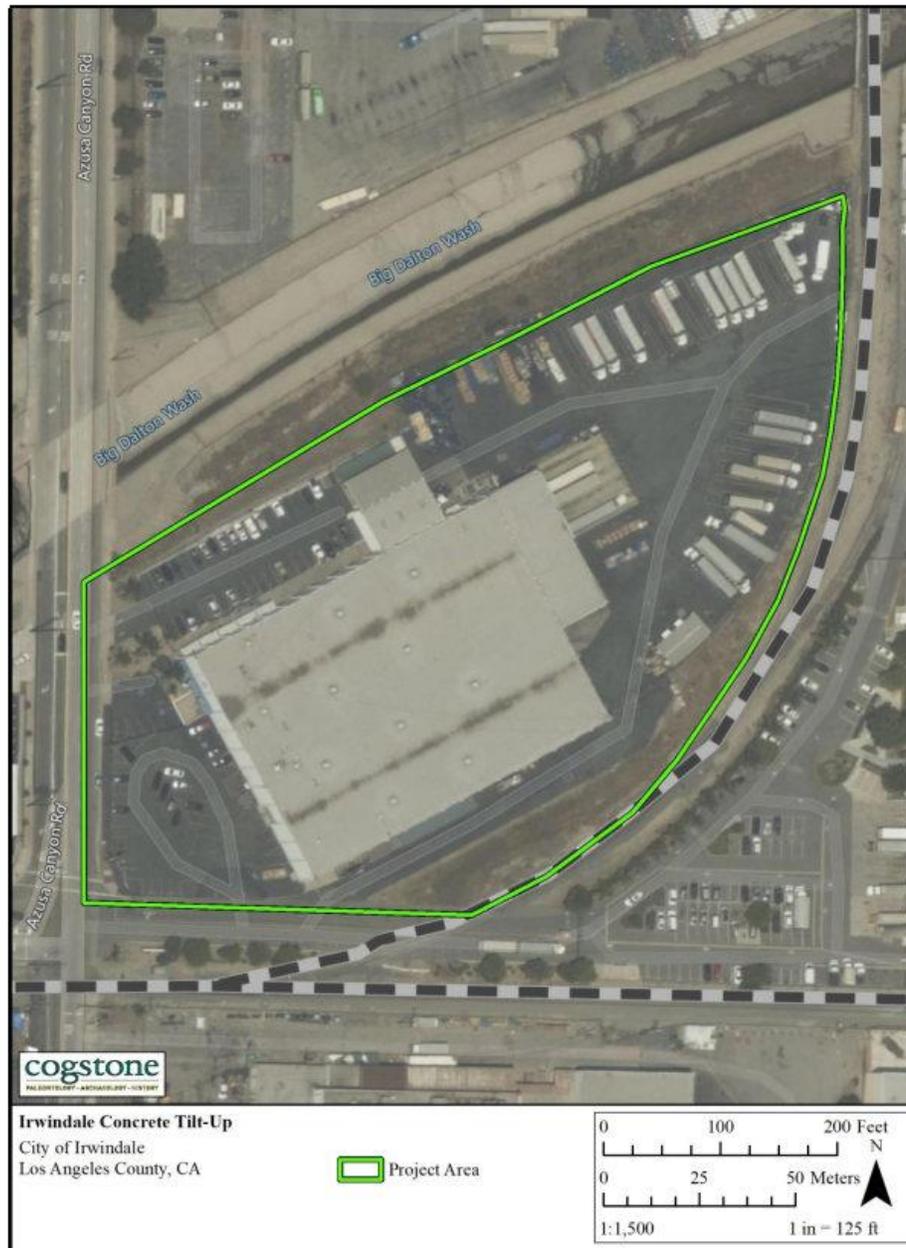


Figure 3. Project aerial map

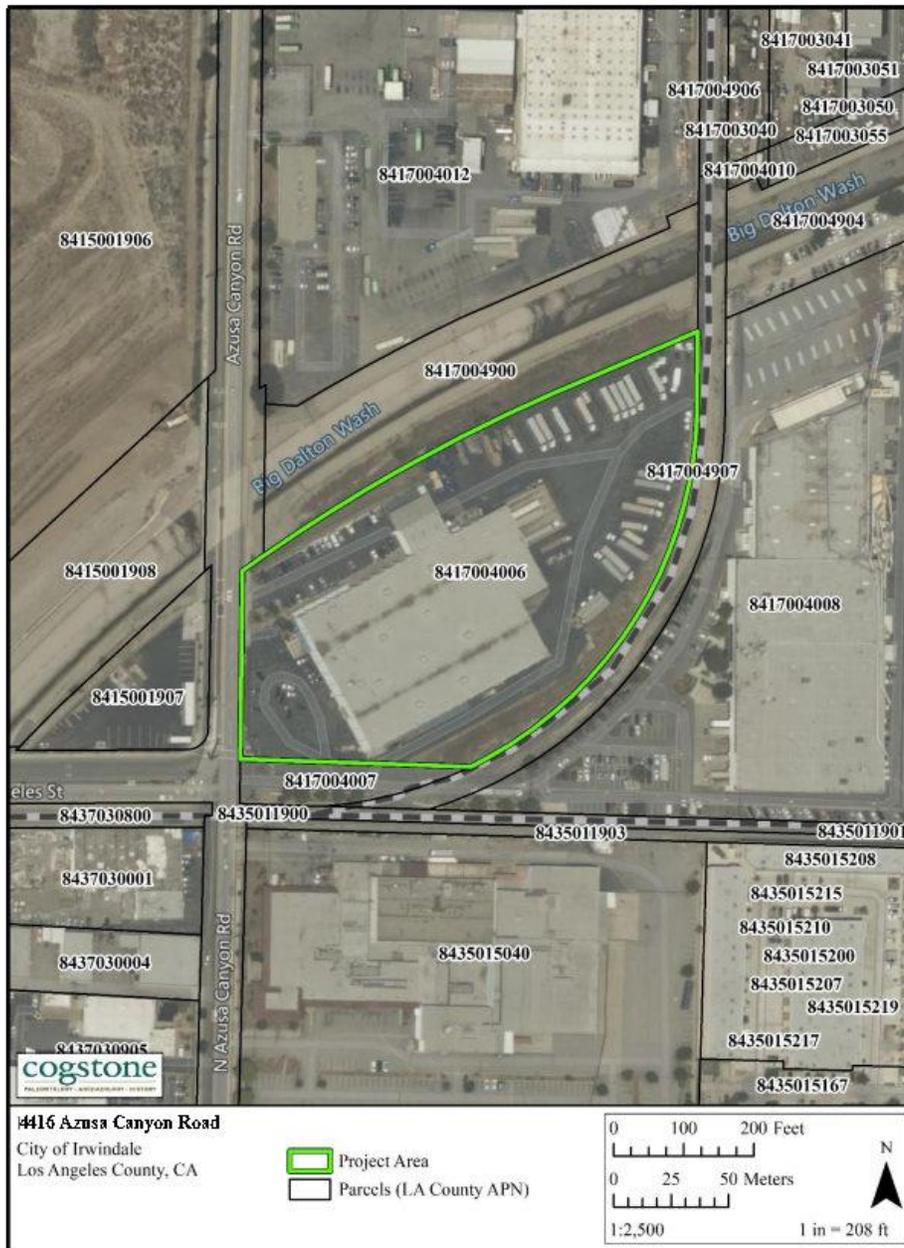


Figure 4. Assessor's parcel map

| <b>Native American Group</b>   | <b>First contact attempt and method</b> | <b>Second contact attempt and method</b> | <b>Third contact attempt and method</b>                 | <b>Replies received and date</b>  | <b>Comments</b> |
|--|---|--|---|---|-----------------|
| Gabrielino Tongva Indians of California Tribal Council - Robert Dorame, Chairperson  | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021, left voicemail message       | On 6/17/2021, Chairperson Dorame contacted via telephone call and said that the Tribe would like to be notified if prehistoric materials are found and would like to be notified if burial remains are found, even if his group is not designated Most Likely Descendent. If burial remains are found the Tribe wants to engage in formal consultation. |                 |
| Gabrielino Tongva Tribal Council - Sandonne Goad, Chairperson                        | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021, left voicemail message       | No response as of 6/23/2021   |                 |
| Gabrielino-Tongva Tribe - Charles Alvarez, Chairperson                               | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021, voicemail box was full       | No response as of 6/23/2021   |                 |
| Gabrieleño Band of Mission Indians - Kizh Nation - Andrew Salas, Chairperson         | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021, spoke with Chairperson Salas | On 6/10/2021, Chairperson Salas indicated during telephone call that he was going to follow up with the City of Irwindale.  |                 |
| Gabrielino/Tongva San Gabriel Band of Mission Indians - Anthony Morales, Chairperson | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021, left voicemail message       | No response as of 6/23/2021   |                 |
| Santa Rosa Band of Cahuilla Indians - Lovina Redner, Tribal Chair                    | Certified USPS mail letter, 5/6/2021    | Electronic mail, 6/2/2021                | Telephone call, 6/10/2021                               | On 6/10/2021, representative said during telephone call that the Tribe did not have any comments  |                 |

| <b>Native American Group</b>                                       | <b>First contact attempt and method</b> | <b>Second contact attempt and method</b> | <b>Third contact attempt and method</b>                                     | <b>Replies received and date</b> | <b>Comments</b>  |
|--|---|--|---|----------------------------------|--|
| Soboba Band of Mission Indians –<br>Isaiah Vivanco,<br>Chairperson | Certified USPS mail letter,<br>5/6/2021 | Electronic mail,<br>6/2/2021             | Phone call, 6/10/2021, provided name of current chairperson, Isaiah Vivanco | No response as of 6/23/2021      | Request letter first sent to previous chairperson. Letter addressed to Chairperson Vivanco sent by electronic mail on 6/10/2021. Previous electronic mail contact attempt of 6/2/2021 sent to Joseph Ontiveros in the Cultural Resources Department. |

**[4416 Azusa Canyon Road 5186]  
Tribal Consultation Log**

| Conversations With:          |  |             |  |
|------------------------------|--|-------------|--|
| <b>Tribe</b>                 | Gabrielino Tongva Indians of California Tribal Council |             |  |
| <b>Name</b>                  | Robert Dorame  |             |  |
| <b>Title</b>                 | Chairperson  |             |  |
| <b>Address</b>               |  |             |  |
| <b>Phone Number (Office)</b> |  | <b>Cell</b> |  |
| <b>Email Address</b>         |  |             |  |

| <b>Date:</b> 6/17/2021  | <b>Time:</b> 11:53am | <b>3rd Attempt</b> <input type="checkbox"/> Email <input type="checkbox"/> US Mail <input checked="" type="checkbox"/> Phone Call | <b>By:</b> John Gust |
|---|----------------------|---|----------------------|
| <p>Chairperson Dorame contacted John Gust via telephone call returning his call of 6/10/2021 and said that the Tribe would like to be notified if prehistoric materials are found and would like to be notified if burial remains are found even if his group is not designated Most Likely Descendent. If burial remains are found the Tribe wants to engage in formal consultation.</p> |                      |   |                      |

**[4416 Azusa Canyon Road 5186]  
Tribal Consultation Log**

| Conversations With:          |  |             |  |
|------------------------------|--|-------------|--|
| <b>Tribe</b>                 | Gabrieleno Band of Mission Indians - Kizh Nation |             |  |
| <b>Name</b>                  | Andrew Salas                                     |             |  |
| <b>Title</b>                 | Chairperson                                      |             |  |
| <b>Address</b>               |  |             |  |
| <b>Phone Number (Office)</b> |  | <b>Cell</b> |  |
| <b>Email Address</b>         |  |             |  |

| <b>Date:</b>   | <b>Time: 10:00 am (approx.)</b> | <b>3rd Attempt <input type="checkbox"/> Email <input type="checkbox"/> US Mail <input checked="" type="checkbox"/> Phone Call</b> | <b>By: John Gust</b> |
|--|---------------------------------|---|----------------------|
| Chairperson Salas indicated that he was going to follow up with the City of Irwindale. |                                 |   |                      |

**[4416 Azusa Canyon Road 5186]  
Tribal Consultation Log**

| Conversations With:          |                                     |             |  |
|------------------------------|-------------------------------------|-------------|--|
| <b>Tribe</b>                 | Santa Rosa Band of Cahuilla Indians |             |  |
| <b>Name</b>                  | Representative in Tribal Office     |             |  |
| <b>Title</b>                 |                                     |             |  |
| <b>Address</b>               |                                     |             |  |
| <b>Phone Number (Office)</b> |                                     | <b>Cell</b> |  |
| <b>Email Address</b>         |                                     |             |  |

| <b>Date:</b> 6/10/2021  | <b>Time:</b> 10:00 am (approx.) | <b>3rd Attempt</b> <input type="checkbox"/> Email <input type="checkbox"/> US Mail <input checked="" type="checkbox"/> Phone Call | <b>By:</b> John Gust |
|---|---------------------------------|---|----------------------|
| Tribal representative who answered call said that the Tribe did not have any comments on the Project. |                                 |   |                      |

## **APPENDIX D. BUILT ENVIRONMENT SURVEY PHOTOS**

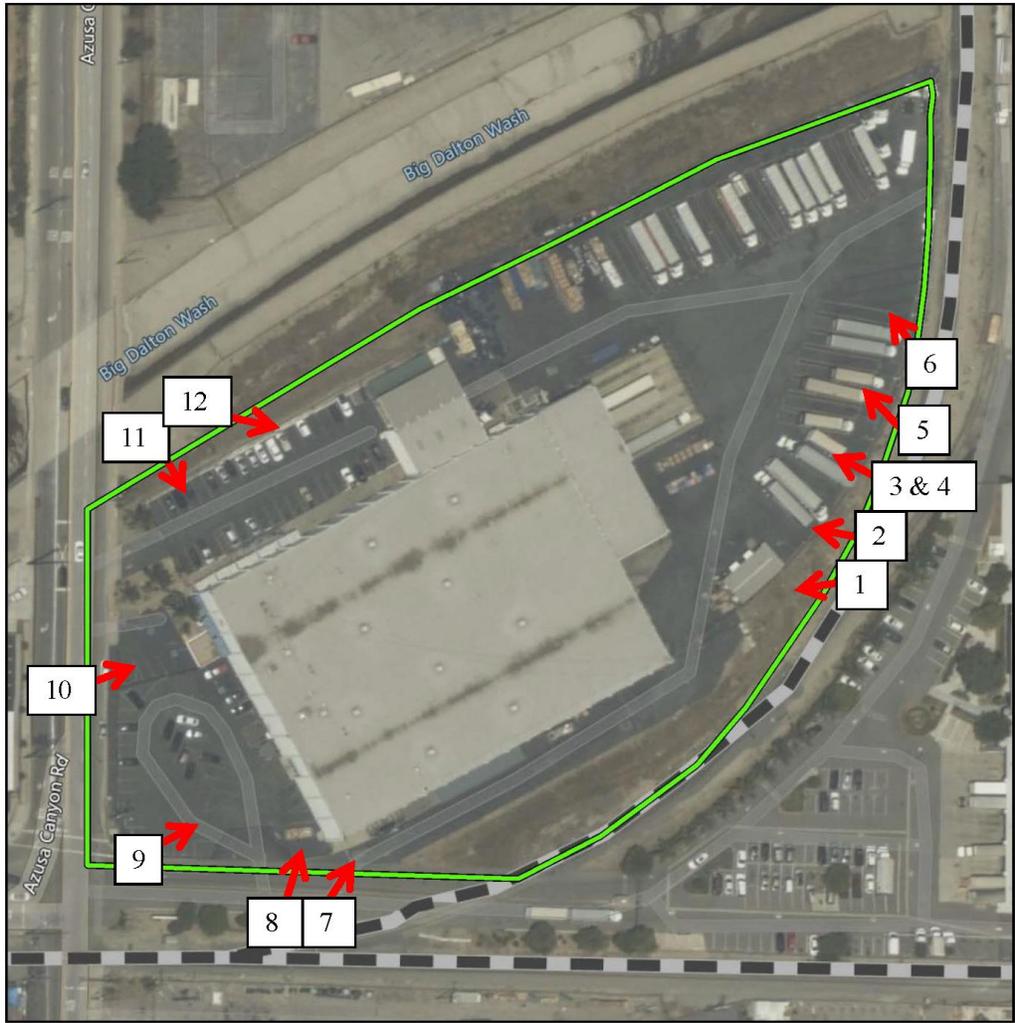


Figure D-1. Photo Key



**Figure D-2. Photo log**



**Figure D-3. Photo log**

**APPENDIX E. PALEONTOLOGICAL SENSITIVITY RANKING  
CRITERIA**

| <b>PFYC Description Summary (BLM 2016)</b>   | <b>PFYC Rank</b> |
|--|------------------|
| <p><b>Very Low.</b> The occurrence of significant fossils is non-existent or extremely rare. Includes igneous (excluding air-fall and reworked volcanic ash units), metamorphic, or Precambrian rocks. Assessment or mitigation of paleontological resources is usually unnecessary except in very rare or isolated circumstances that result in the unanticipated presence of fossils.</p>  | 1                |
| <p><b>Low.</b> Sedimentary geologic units that are unlikely to contain vertebrate or scientifically significant nonvertebrate fossils. Includes rock units less than 10,000 years old and sediments with significant physical and chemical changes (e.g., diagenetic alteration) which decrease the potential for fossil preservation. Assessment or mitigation of paleontological resources is not likely to be necessary.</p>  | 2                |
| <p><b>Moderate.</b> Units are known to contain vertebrate or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and/or of low abundance. Common invertebrate or plant fossils may be found and opportunities may exist for casual collecting. Paleontological mitigation strategies will be based on the nature of the proposed activity.</p> <p>Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.</p>  | 3                |
| <p><b>High.</b> Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrates or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability.</p> <p>Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary.</p>   | 4                |
| <p><b>Very High.</b> Highly fossiliferous geologic units that consistently and predictably produce vertebrate or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.</p> <p>Paleontological mitigation may be necessary before or during surface disturbing activities. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.</p> | 5                |
| <p><b>Unknown.</b> An assignment of “Unknown” may indicate the unit or area is poorly studied and field studies are needed to verify the presence or absence of paleontological resources. The unit may exhibit features or preservational conditions that suggest significant fossils could be present, but little information about the actual unit or area is known.</p> <p>Literature searches or consultation with professional colleagues may allow an unknown unit to be provisionally assigned to another Class, but the geological unit should be formally assigned to a Class after adequate survey and research is performed to make an informed determination.</p>   | U                |
| <p><b>Water or Ice.</b> Typically used only for areas which have been covered thus preventing an examination of the underlying geology.</p>  | W, I             |

## **APPENDIX F. DPR FORMS**

# Appendix D Geotechnical Investigation and Results of Infiltration Testing

## Appendix

*This page intentionally left blank.*

**GEOTECHNICAL INVESTIGATION  
PROPOSED WAREHOUSE BUILDING**

4116 Azusa Canyon Road  
Irwindale, California  
for  
Rexford Industrial



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

February 14, 2020

Rexford Industrial  
11620 Wilshire Boulevard, 10<sup>th</sup> Floor  
Los Angeles, California 90025



SOUTHERN  
CALIFORNIA  
GEOTECHNICAL  
*A California Corporation*

Attention: Mr. Ricardo Rivas  
Construction Manager

Project No.: **20G105-1**

Subject: **Geotechnical Investigation**  
Proposed Warehouse  
4416 Azusa Canyon Road  
Irwindale, California

Gentlemen:

In accordance with your request, we have conducted a geotechnical investigation at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

A handwritten signature in blue ink that reads "Daniel W. Nielsen".

Daniel W. Nielsen, RCE 77915  
Senior Engineer



A handwritten signature in blue ink that reads "Robert G. Trazo".

Robert G. Trazo, GE 2655  
Principal Engineer



Distribution: (1) Addressee

# TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>1.0 EXECUTIVE SUMMARY</b>                                  | <b>1</b>  |
| <b>2.0 SCOPE OF SERVICES</b>                                  | <b>3</b>  |
| <b>3.0 SITE AND PROJECT DESCRIPTION</b>                       | <b>4</b>  |
| 3.1 Site Conditions   | 4         |
| 3.2 Proposed Development                                      | 4         |
| <b>4.0 SUBSURFACE EXPLORATION</b>                             | <b>6</b>  |
| 4.1 Scope of Exploration/Sampling Methods                     | 6         |
| 4.2 Geotechnical Conditions                                   | 6         |
| <b>5.0 LABORATORY TESTING</b>                                 | <b>8</b>  |
| <b>6.0 CONCLUSIONS AND RECOMMENDATIONS</b>                    | <b>10</b> |
| 6.1 Seismic Design Considerations                             | 10        |
| 6.2 Geotechnical Design Considerations                        | 12        |
| 6.3 Site Grading Recommendations                              | 15        |
| 6.4 Construction Considerations                               | 18        |
| 6.5 Foundation Design and Construction                        | 18        |
| 6.6 Floor Slab Design and Construction                        | 20        |
| 6.7 Retaining Wall Design and Construction                    | 21        |
| 6.8 Pavement Design Parameters                                | 23        |
| <b>7.0 GENERAL COMMENTS</b>                                   | <b>26</b> |
| <b>APPENDICES</b>   |           |
| A Plate 1: Site Location Map<br>Plate 2: Trench Location Plan |           |
| B Trench Logs   |           |
| C Laboratory Test Results                                     |           |
| D Grading Guide Specifications                                |           |
| E Seismic Design Parameters                                   |           |

# 1.0 EXECUTIVE SUMMARY

---

Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

## Site Preparation

- Demolition of the existing structures and pavements will be necessary in order to facilitate the construction of the proposed development. Demolition should include all foundations, floor slabs, utilities and any other subsurface improvements that will not remain in place with the new development. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills or it may be crushed and made into CMB, if desired.
- Initial site stripping should include the removal of any surficial vegetation. Based on conditions encountered at the time of the subsurface exploration, stripping of a few trees and some vegetation will be necessary along the perimeter of the site. Site stripping should remove any tree root masses in their entirety. These materials should be disposed of offsite.
- The near surface soils encountered at the trench locations generally consist of medium dense undocumented fill soils underlain by dense native alluvial soils consisting of silty sands and well-graded gravelly sands with significant cobble and boulder content. The undocumented fill soils extend to depths of 3 to 7½± feet at the trench locations.
- Remedial grading is recommended within the proposed building area, in order to provide uniform support conditions for the new foundations and the floor slab of the proposed structure and to remove undocumented fill soils and any soils disturbed during demolition. We recommend that the proposed building pad area be overexcavated to a depth of at least 3 feet below existing grade and to a depth of at least 3 feet below proposed pad grade. The overexcavation should also extend to a sufficient depth to remove all of the undocumented artificial fill materials within the building pad area. Overexcavation within the foundation areas is recommended to extend to a depth of at least 2 feet below proposed foundation bearing grade.
- As discussed above, the native alluvial soils possess significant amounts of oversized materials, including cobbles and boulders. Where grading will require excavation into these materials, consideration should be given to using selective grading techniques to remove the cobbles and/or boulders from these soils prior to reuse as fill. Recommendations regarding selective grading and handling of oversized materials are provided in Section 6.3 and Appendix D of this report.
- After overexcavation has been completed, the resulting subgrade soils should be evaluated by the geotechnical engineer to identify any additional soils that should be overexcavated. The resulting soils should be scarified and thoroughly flooded to achieve a moisture content of 0 to 4 percent above optimum moisture, to a depth of at least 24 inches. The overexcavation subgrade soils should then be recompacted under the observation of the geotechnical engineer. The previously excavated soils may then be replaced as structural fill, compacted to 90 percent of the ASTM D-1557 maximum dry density.

- The new parking area subgrade soils are recommended to be scarified to a depth of 12± inches, moisture conditioned to 0 to 4 percent above optimum, and recompact to at least 90 percent of the ASTM D-1557 maximum dry density.

### Building Foundations

- Spread footing foundations, supported in newly placed structural fill soils.
- Maximum, net allowable soil bearing pressure: 3,000 lbs/ft<sup>2</sup>.
- Reinforcement consisting of at least two (2) No. 5 rebars (1 top and 1 bottom) in strip footings. Additional reinforcement may be necessary for structural considerations.

### Building Floor Slabs

- Conventional Slab-on-Grade, at least 6 inches thick.
- Modulus of Subgrade Reaction: k = 200 psi/in.
- Reinforcement is not expected to be necessary for geotechnical considerations.
- The actual thickness and reinforcement of the floor slabs should be determined by the structural engineer.

### Pavements

| ASPHALT PAVEMENTS (R = 60) |   |               |          |          |          |
|----------------------------|---|---------------|----------|----------|----------|
| Materials                  | Thickness (inches)                                  |               |          |          |          |
|                            | Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0) | Truck Traffic |          |          |          |
|                            |   | TI = 6.0      | TI = 7.0 | TI = 8.0 | TI = 9.0 |
| Asphalt Concrete           | 3   | 3½            | 4        | 5        | 5½       |
| Aggregate Base             | 3   | 3             | 3        | 3        | 4        |
| Compacted Subgrade         | 12  | 12            | 12       | 12       | 12       |

| PORTLAND CEMENT CONCRETE PAVEMENTS          |  |               |          |          |
|---|--|---------------|----------|----------|
| Materials                                   | Thickness (inches)                             |               |          |          |
|   | Autos and Light Truck Traffic (TI = 5.0 & 6.0) | Truck Traffic |          |          |
|   |  | TI = 7.0      | TI = 8.0 | TI = 9.0 |
| PCC   | 5  | 5             | 6½       | 8        |
| Compacted Subgrade (95% minimum compaction) | 12   | 12            | 12       | 12       |

## **2.0 SCOPE OF SERVICES**

---

The scope of services performed for this project was in accordance with our Proposal No. 19P370, dated September 25, 2019. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to provide criteria for preparing the design of the building foundations, building floor slab, and parking lot pavements along with site preparation recommendations and construction considerations for the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical investigation.

## **3.0 SITE AND PROJECT DESCRIPTION**

---

### **3.1 Site Conditions**

The subject site is located at the northeast corner of Azusa Canyon Road and Los Angeles Street in Irwindale, California. The site is bounded to the north by the Big Dalton Wash, to the west by Azusa Canyon Road, to the south by Los Angeles Street, and to the southeast and east by an existing railroad easement. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of an irregular-shaped parcel, 5.89± acres in size. The site is presently developed with one warehouse, 64,535± ft<sup>2</sup> in size, in the western half of the site. The warehouse is currently occupied by Pepsi Bottling Group. The building is a single-story structure of concrete tilt-up construction and is assumed to be supported on conventional shallow foundations with a concrete slab-on-grade floor. A loading dock is located along a portion of the northeast building wall. A modular building, about 1,000 ± ft<sup>2</sup> in size is present in the east-central portion of the site. This modular building appears to be supported directly on the pavements. The buildings are surrounded by asphaltic concrete pavements in the parking and drive areas, Portland cement concrete pavements in the loading dock areas, and concrete flatwork in limited areas throughout the site. The southeastern area of the site is vacant and undeveloped. The ground surface cover in this area consists of exposed soil with moderate to extensive native grass and weed growth.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevation data obtained from Google Earth, the overall site topography generally slopes downward to the southwest at a gradient of 1 to 2± percent.

### **3.2 Proposed Development**

A site plan, prepared by GAA Architects, has been provided to our office by the client. Based on this plan, a new warehouse, 130,540± ft<sup>2</sup> in size, will be constructed in the central area of the site. Dock-high doors will be constructed along a portion of the south building wall. The building will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock areas, concrete flatwork and landscape planters throughout.

Detailed structural information has not been provided. It is assumed that the new building will be a single-story structure of tilt-up concrete construction, typically supported on conventional shallow foundations with a concrete slab-on-grade floor. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 3 to 5 kips per linear foot, respectively.

Grading plans for the proposed development were not available at the time of this report. The

proposed development is not expected to include any significant amounts of below-grade construction such as basements or crawl spaces. Based on the existing topography, and assuming a relatively balanced site, cuts and fills of 2 to 3± feet are expected to be necessary to achieve the proposed site grades.

## **4.0 SUBSURFACE EXPLORATION**

---

### **4.1 Scope of Exploration/Sampling Methods**

The subsurface exploration conducted for this project consisted of four (4) trenches excavated to depths of 6 to 9± feet below the existing site grades. All of the trenches were logged during excavation by a member of our staff.

The trenches were excavated using a backhoe with a 24-inch-wide bucket. Representative bulk and soil samples were taken during excavation. The bulk samples were collected in plastic bags to retain their original moisture content. The bulk samples were then sealed and transported to our laboratory.

The approximate locations of the trenches are indicated on the Trench Location Plan, included as Plate 2 in Appendix A of this report. The Trench Logs, which illustrate the conditions encountered at the trench locations, as well as the results of some of the laboratory testing, are included in Appendix B.

### **4.2 Geotechnical Conditions**

#### Pavements

Asphaltic concrete pavements were encountered at the ground surface at all four of the trench locations. Trench No. T-1 encountered 4± inches of asphaltic concrete with no discernable layer of aggregate base. The pavement sections at Trench Nos. T-2 through T-4, inclusive, consist of 1½ to 3± inches of asphaltic concrete, underlain by 3 to 7± inches of aggregate base.

#### Artificial Fill

Artificial fill soils were encountered beneath the pavements at all of the trench locations, extending to depths of 3 to 7½± feet below the existing site grades. The artificial fill soils generally consist of medium dense fine sands, silty fine sands, and fine sands intermixed with silty fine sands. These soils contain trace amounts of medium to coarse sand, fine to coarse gravel, and occasional cobbles. At Trench Nos. T-1 and T-4 the fill soils contain occasional to some of clay nodules. The fill soils possess a disturbed appearance and occasional artificial debris content, such as glass fragments, resulting in their classification as artificial fill.

#### Alluvium

Native alluvium was encountered beneath the artificial fill soils at all of the trench locations, extending to at least the maximum depth explored of 9± feet below existing site grades. The

alluvial soils generally consist of dense gravelly well-graded sands, with some cobbles and occasional boulders.

### Groundwater

Groundwater was not encountered at any of the trenches. Based on the lack of any water within the trenches, and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 9± feet below existing site grades, at the time of the subsurface investigation.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the historic groundwater depths in this area is CGS Open File Report 98-13, the Seismic Hazard Evaluation of the Baldwin Park Quadrangle which indicates that the historic high groundwater level for the site is greater than 130 feet below the ground surface. More recent water level data for a well located near the subject site was obtained from the California Department of Water Resources website, <http://www.water.ca.gov/waterdatalibrary/>. The nearest monitoring well in this database is located approximately 300 feet west of the site. Water level readings within this monitoring well indicate a groundwater level of 194± feet below the ground surface in January 2013.

## 5.0 LABORATORY TESTING

---

The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

### Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. Field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Trench Logs and are periodically referenced throughout this report.

### Moisture Content

The moisture content has been determined for selected representative samples. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

### Maximum Dry Density and Optimum Moisture Content

One representative bulk sample was tested for its maximum dry density and optimum moisture content. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557 and are presented on Plate C-1 in Appendix C of this report. These tests are generally used to compare the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil types or soil mixes may be necessary at a later date.

### Soluble Sulfates

One representative samples of the near-surface soils was submitted to a subcontracted analytical laboratory for determination of soluble sulfate content. Sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes into contact with these soils. The results of the soluble sulfate testing are presented below and are discussed further in a subsequent section of this report.

| <b><u>Sample Identification</u></b> | <b><u>Soluble Sulfates (%)</u></b> | <b><u>Severity</u></b> |
|-------------------------------------|------------------------------------|------------------------|
| T-3 @ 0 to 5 feet                   | <0.001                             | Not Applicable (S0)    |

### Corrosivity Testing

A representative bulk sample of the near-surface soils was submitted to a subcontracted analytical laboratory for determination of electrical resistivity, pH, and chloride concentrations. The resistivity of the soils is a measure of their potential to attack buried metal improvements such as utility lines. The results of the resistivity and pH testing are presented below:

| <b><u>Sample Identification</u></b> | <b><u>Resistivity</u></b><br>(ohm-cm) | <b><u>pH</u></b> | <b><u>Chlorides</u></b><br>(mg/kg) |
|-------------------------------------|---------------------------------------|------------------|------------------------------------|
| T-3 @ 0 to 5 feet                   | 14,800                                | 8.0              | 0.6                                |

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

---

Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. The recommendations contained in this report should be taken into the design, construction, and grading considerations.

The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record. The recommendations are provided with the assumption that an adequate program of client consultation, construction monitoring, and testing will be performed during the final design and construction phases to verify compliance with these recommendations. Maintaining Southern California Geotechnical, Inc., (SCG) as the geotechnical consultant from the beginning to the end of the project will provide continuity of services. The geotechnical engineering firm providing testing and observation services shall assume the responsibility of Geotechnical Engineer of Record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

### **6.1 Seismic Design Considerations**

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site-specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

#### Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

#### Seismic Design Parameters

The 2019 California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters

presented below are based on the soil profile and the proximity of known faults with respect to the subject site.

Based on standards in place at the time of this report, the proposed development is expected to be designed in accordance with the requirements of the 2019 edition of the California Building Code (CBC), which was adopted on January 1, 2020.

The 2019 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website [www.seismicmaps.org](http://www.seismicmaps.org). This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-16, upon which the 2019 CBC is based. The application utilizes a database of risk-targeted maximum considered earthquake ( $MCE_R$ ) site accelerations at 0.01-degree intervals for each of the code documents. The tables below were created using data obtained from the application. The output generated from this program is included as Plate E-1 in Appendix E of this report.

The 2019 CBC requires that a site-specific ground motion study be performed in accordance with Section 11.4.8 of ASCE 7-16 for Site Class D sites with a mapped  $S_1$  value greater than 0.2. However, Section 11.4.8 of ASCE 7-16 also indicates an exception to the requirement for a site-specific ground motion hazard analysis for certain structures on Site Class D sites. The commentary for Section 11 of ASCE 7-16 (Page 534 of Section C11 of ASCE 7-16) indicates that "In general, this exception effectively limits the requirements for site-specific hazard analysis to very tall and or flexible structures at Site Class D sites." **Based on our understanding of the proposed development, the seismic design parameters presented below were calculated assuming that the exception in Section 11.4.8 applies to the proposed structure at this site. However, the structural engineer should verify that this exception is applicable to the proposed structure.** Based on the exception, the spectral response accelerations presented below were calculated using the site coefficients ( $F_a$  and  $F_v$ ) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2019 CBC.

### 2019 CBC SEISMIC DESIGN PARAMETERS

| Parameter   |          | Value |
|---|----------|-------|
| Mapped Spectral Acceleration at 0.2 sec Period        | $S_s$    | 1.659 |
| Mapped Spectral Acceleration at 1.0 sec Period        | $S_1$    | 0.615 |
| Site Class  | ---      | D     |
| Site Modified Spectral Acceleration at 0.2 sec Period | $S_{MS}$ | 1.659 |
| Site Modified Spectral Acceleration at 1.0 sec Period | $S_{M1}$ | 1.046 |
| Design Spectral Acceleration at 0.2 sec Period        | $S_{DS}$ | 1.106 |
| Design Spectral Acceleration at 1.0 sec Period        | $S_{D1}$ | 0.697 |

It should be noted that the site coefficient  $F_v$  and the parameters  $S_{M1}$  and  $S_{D1}$  were not included in the SEAOC/OSHPD Seismic Design Maps Tool output for the 2019 CBC. We calculated these parameters-based on Table 1613.2.3(2) in Section 16.4.4 of the 2019 CBC using the value of  $S_1$

obtained from the Seismic Design Maps Tool, assuming that a site-specific ground motion hazards analysis is not required for the proposed buildings at this site.

### Liquefaction

Liquefaction is the loss of strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to or exceeds the overburden pressure. The primary factors which influence the potential for liquefaction include groundwater table elevation, soil type and plasticity characteristics, relative density of the soil, initial confining pressure, and intensity and duration of ground shaking. The depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Liquefaction potential is greater in saturated, loose, poorly graded fine sands with a mean ( $d_{50}$ ) grain size in the range of 0.075 to 0.2 mm (Seed and Idriss, 1971). Non-sensitive clayey (cohesive) soils which possess a plasticity index of at least 18 (Bray and Sancio, 2006) are generally not considered to be susceptible to liquefaction, nor are those soils which are above the historic static groundwater table.

The Seismic Hazards Map for the Baldwin Park, California 7.5 Minute Quadrangle, published by the California Geological Survey (CGS) indicates that the subject site is not located within a designated liquefaction hazard zone. In addition, the subsurface conditions encountered at the site are not considered to be conducive to liquefaction. Based on the mapping performed by CGS and the conditions encountered at the trench locations, liquefaction is not considered to be a significant design concern for this project.

## **6.2 Geotechnical Design Considerations**

### General

Artificial fill soils were encountered beneath the pavements at all of the trench locations, extending to depths of 3 to  $7\frac{1}{2}\pm$  feet below the existing site grades. No documentation regarding the placement or compaction of these fill soils is known to exist. Based on these characteristics, the existing fill materials are considered to represent undocumented fill. The fill soils are generally underlain by dense well-graded sands and gravelly sands. The soils encountered at the trench locations generally possess significant over-sized material including extensive cobble content and occasional boulders throughout the depths explored. Some remedial grading is considered warranted within the proposed building area to provide more uniform support characteristics beneath the proposed slab and foundations, and to help facilitate construction activities by removing some of the over-sized materials.

Demolition of the existing pavements and structures is also expected to cause significant disturbance to the near surface soils. Any soils disturbed during demolition should also be removed prior to the placement of structural fill soils. The excavated soils may be moisture conditioned and recompacted as structural fill.

Most of the near-surface soils encountered at the trench locations possess occasional to extensive cobble content and occasional boulders.. Recommendations for the handling and placement of oversized materials are presented in Section 6.3 of this report.

### Los Angeles County Section 111 Statement

Based on the results of our geotechnical analysis, the proposed development will be safe with regard to landslides, settlement and/or slippage. In addition, the proposed development will not adversely affect the geologic stability of the adjacent properties. This finding is in accordance with Section 111 of the Los Angeles County Building Code.

### Settlement

The recommended remedial grading will remove the existing undocumented fill soils and a portion of the near-surface native alluvium soils and replace these materials as compacted structural fill. The native alluvium soils that will remain in place below the recommended depth of overexcavation will not be subject to significant stress increases from the foundations of the new structures. Therefore, following completion of the recommended grading, post-construction settlements are expected to be within tolerable limits.

### Corrosion Potential

The results of the electrical resistivity and pH testing indicate that a sample of the on-site soils possesses a resistivity value of 14,800 ohm-cm, and pH values ranging from 8.0. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Resistivity and pH are two of the five factors that enter into the evaluation procedure. Redox potential, relative soil moisture content and sulfides are also included. Although sulfide testing was not part of the scope of services for this project, we have evaluated the corrosivity characteristics of the on-site soils using resistivity, pH and moisture content. Based on these factors, and utilizing the DIPRA procedure, the on-site soils are not considered to be corrosive to ductile iron pipe. Therefore, polyethylene protection is expected to be required for cast iron or ductile iron pipes. It should be noted that SCG does not practice in the field of corrosion engineering, and therefore, the client may also wish to contact a corrosion engineer to provide a more thorough evaluation.

Based on American Concrete Institute (ACI) Publication 318 Building Code Requirements for Structural Concrete and Commentary, reinforced concrete that is exposed to external sources of chlorides requires corrosion protection for the steel reinforcement contained within the concrete. ACI 318 defines concrete exposed to moisture and an external source of chlorides as "severe" or exposure category C2. ACI 318 does not clearly define a specific chloride concentration at which contact with the adjacent soil will constitute a "C2" or severe exposure. However, the Caltrans Memo to Designers 10-5, Protection of Reinforcement Against Corrosion Due to Chlorides, Acids and Sulfates, dated June 2010, indicates that soils possessing chloride concentrations greater than 500 mg/kg are considered to be corrosive to reinforced concrete. The results of the laboratory testing indicate chloride concentrations of less than 1 ppm. Although the soils contain trace chloride content, we do not expect that the chloride concentrations of the tested soils are high enough to constitute a "severe" or C2 chloride exposure, based on the Caltrans document

referenced above. Therefore, a chloride exposure category of C1 is considered appropriate for this site. Since SCG does not practice in the area of corrosion engineering, the client may also wish to contact a corrosion engineer to provide a more thorough evaluation.

### Expansion

The near-surface soils generally consist of silty sands and gravelly sands with only trace amounts of clay nodules present in the fill soils. These materials have been visually classified as very low to non-expansive. Therefore, no design considerations related to expansive soils are considered warranted for this site.

### Soluble Sulfates

The results of the soluble sulfate testing indicate that the selected samples of the on-site soils to correspond to Class S0 with respect to the American Concrete Institute (ACI) Publication 318-14 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. It is, however, recommended that additional soluble sulfate testing be conducted at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at pad grade within the building area.

### Shrinkage/Subsidence

Removal and recompaction of the near surface fill soils is estimated to result in an average shrinkage of 4 to 8 percent. Recompaction of the native alluvium is expected to result in an average shrinkage of 0 to 5 percent. It should be noted that the potential shrinkage estimate is based on our experience with similar projects at nearby sites. It was not practical to obtain undisturbed samples based on the gravel, cobble, and boulder content of the onsite soils. Therefore, the actual amount of shrinkage could vary considerable from these estimates. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are determined using in-situ testing methods. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be 0.1± feet. This estimate may be used for grading in areas that are underlain by native alluvial soils.

These estimates are based on previous experience and the subsurface conditions encountered at the trench locations. The actual amount of subsidence is expected to be variable and will be dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.

### Grading and Foundation Plan Review

No grading or foundation plans were available at the time of this report. It is therefore recommended that we be provided with copies of the preliminary plans, when they become

available, for review with regard to the conclusions, recommendations, and assumptions contained within this report.

### **6.3 Site Grading Recommendations**

The grading recommendations presented below are based on the subsurface conditions encountered at the trench locations and our understanding of the proposed development. We recommend that all grading activities be completed in accordance with the Grading Guide Specifications included as Appendix D of this report, unless superseded by site-specific recommendations presented below.

#### Site Stripping and Demolition

Demolition of the existing structures and pavements will be necessary in order to facilitate the construction of the proposed development. Demolition should include all foundations, floor slabs, utilities and any other subsurface improvements that will not remain in place with the new development. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills or it may be crushed and made into CMB, if desired.

Initial site stripping should include removal of any surficial vegetation. Based on conditions encountered at the time of the subsurface exploration, stripping of some trees will be necessary along the perimeter of the site. Site stripping should remove any root masses in their entirety. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered.

#### Treatment of Existing Soils: Building Pad

Remedial grading should be performed within the proposed building pad area in order to remove the existing undocumented fill soils, a portion of the near-surface alluvium, and all soils disturbed during demolition. Based on conditions encountered at the trench locations, the existing soils within the proposed building area are recommended to be overexcavated to a depth of at least 3 feet below existing grade and to a depth of at least 3 feet below proposed building pad subgrade elevations, whichever is greater. However, overexcavation to greater depths will be required to remove the undocumented fill soils, which extend to depths of 3 to 7½± at the trench locations. Additional overexcavation should also be performed within the influence zones of the new foundations, to provide for a new layer of compacted structural fill extending to a depth of at least 2 foot below proposed bearing grade.

The overexcavation areas should extend at least 5 feet beyond the building perimeter, and to an extent equal to the depth of fill below the new foundations. If the proposed structure will incorporate any exterior columns (such as for a canopy or overhang) the area of overexcavation should also encompass these areas.

Following completion of the overexcavation, the subgrade soils within the building area should be evaluated by the geotechnical engineer to verify their suitability to serve as the structural fill

subgrade, as well as to support the foundation loads of the new structure. This evaluation should include proofrolling and probing to identify any soft, loose, or otherwise unstable soils that must be removed. Some localized areas of deeper excavation may be required if loose, porous, or low density native soils are encountered at the base of the overexcavation.

**After a suitable overexcavation subgrade has been achieved, the exposed soils should be scarified to a depth of at least 12 inches, and thoroughly flooded to raise the moisture content of the underlying soils to at least 0 to 4 percent above optimum moisture content, extending to a depth of at least 24 inches.** The moisture conditioning of the overexcavation subgrade soils should be verified by the geotechnical engineer. The subgrade soils should then be recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. The previously excavated soils may then be replaced as compacted structural fill.

#### Treatment of Existing Soils: Parking Areas

Based on economic considerations, overexcavation of the existing soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength, or unstable soils are identified by the geotechnical engineer during grading. Subgrade preparation in the new parking and drive areas should initially consist of removal of all soils disturbed during stripping and demolition operations.

The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. Any such materials should be removed to a level of firm and unyielding soil. The exposed subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to 0 to 4 percent above optimum, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength surficial soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking area assume that the owner and/or developer can tolerate minor amounts of settlement within the proposed parking areas. The grading recommendations presented above do not completely mitigate the extent of the existing fill soils in the parking areas. As such, settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the removed soils replaced as compacted structural fill.

#### Treatment of Existing Soils: Retaining Walls and Site Walls

The existing soils within the areas of any proposed retaining and site walls should be overexcavated to a depth of 2 feet below foundation bearing grade and replaced as compacted structural fill as discussed above for the proposed building pad. Any undocumented fill soils within any of these foundation areas should be removed in their entirety. Erection pads for concrete tilt-up walls are considered part of the foundation system, and the recommended overexcavation should also be performed beneath erection pads. The overexcavation subgrade soils should be

evaluated by the geotechnical engineer prior to scarifying, moisture conditioning, and recompacting the upper 12 inches of exposed subgrade soils, as discussed for the building area. The previously excavated soils may then be replaced as compacted structural fill.

#### Fill Placement

- Fill soils should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned to 0 to 4 percent above the optimum moisture content, and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.
- All grading and fill placement activities should be completed in accordance with the requirements of the 2019 CBC and the grading code of the city of Irwindale and county of Los Angeles.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Fill soils should be well mixed.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

#### Selective Grading and Oversized Material Placement

The native alluvial soils possess significant cobble and boulder content. It is expected that large scrapers (Caterpillar 657 or equivalent) will be adequate to move the cobble containing soils as well the soils containing smaller boulders. It may be necessary to move larger boulders individually, and place them as oversized materials in accordance with the Grading Guide Specifications, in Appendix D of this report.

Since the proposed grading will require excavation of cobble and boulder containing soils, it may be desirable to selectively grade the proposed building pad area. The presence of particles greater than 3 inches in diameter within the upper 1 to 3 feet of the building pad subgrade will impact the utility and foundation excavations. Depending on the depths of fills required within the proposed parking areas, it may be feasible to sort the on-site soils, placing the materials greater than 3 inches in diameter within the lower depths of the fills, and limiting the upper 1 to 3 feet of soils to materials less than 3 inches in size. Oversized materials could also be placed within the lower depths of the recommended overexcavations. In order to achieve this grading, it would likely be necessary to use rock buckets and/or rock sieves to separate the oversized materials from the remaining soil. Although such selective grading will facilitate further construction activities, it is not considered mandatory and a suitable subgrade could be achieved without such extensive sorting. However, in any case, it is recommended that all materials greater than 6 inches in size be excluded from the upper 1 foot of the surface of any compacted fills.

**The placement of any oversized materials should be performed in accordance with the Grading Guide Specifications included in Appendix D of this report.** If disposal of oversized materials is required, rock blankets or windrows should be used and such areas should be observed during construction and placement by a representative of the geotechnical engineer.

### Imported Structural Fill

All imported structural fill should consist of very low expansive ( $EI < 20$ ), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

### Utility Trench Backfill

In general, all utility trench backfill should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. It is recommended that materials in excess of 6 inches in size not be used for utility trench backfill. Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by the city of Irwindale and the county of Los Angeles. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

## **6.4 Construction Considerations**

### Excavation Considerations

The near-surface soils at this site generally consist of well-graded silty sands and gravelly sands. These materials may be subject to caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. Deeper excavations may require some form of external stabilization such as shoring or bracing. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. Temporary excavation slopes should be no steeper than 2h:1v. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

### Groundwater

Based on our research, the historic high ground water level is considered to be greater than 130± feet below the ground surface. Therefore, groundwater is not expected to impact grading or foundation construction activities.

## **6.5 Foundation Design and Construction**

Based on the preceding grading recommendations, it is assumed that the new building pad will be underlain by new structural fill soils used to replace existing undocumented fill and a portion of the near-surface alluvium. These structural fill soils are expected to extend to depths of at least 2 feet below proposed foundation bearing grade, underlain by 1± foot of additional soil that has

been densified and moisture conditioned in place. Based on this subsurface profile, the proposed structure may be supported on conventional shallow foundations.

### Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 3,000 lbs/ft<sup>2</sup>.
- Minimum wall/column footing width: 14 inches/24 inches.
- Minimum longitudinal steel reinforcement within strip footings: Two (2) No. 5 rebars (1 top and 1 bottom).
- Minimum foundation embedment: 12 inches into suitable structural fill soils, and at least 18 inches below adjacent exterior grade. Interior column footings may be placed immediately beneath the floor slab.
- It is recommended that the perimeter building foundations be continuous across all exterior doorways. Any flatwork adjacent to the exterior doors should be doweled into the perimeter foundations in a manner determined by the structural engineer.

The allowable bearing pressure presented above may be increased by one-third when considering short duration wind or seismic loads. The minimum steel reinforcement recommended above is based on geotechnical considerations; additional reinforcement may be necessary for structural considerations. The actual design of the foundations should be determined by the structural engineer.

### Foundation Construction

The foundation subgrade soils should be evaluated at the time of overexcavation, as discussed in Section 6.3 of this report. It is further recommended that the foundation subgrade soils be evaluated by the geotechnical engineer immediately prior to steel or concrete placement. Soils suitable for direct foundation support should consist of newly placed structural fill, compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Any unsuitable materials should be removed to a depth of suitable bearing compacted structural fill, with the resulting excavations backfilled with compacted fill soils. As an alternative, lean concrete slurry (500 to 1,500 psi) may be used to backfill such isolated overexcavations.

The foundation subgrade soils should also be properly moisture conditioned to 0 to 4 percent above the Modified Proctor optimum, to a depth of at least 12 inches below bearing grade. Since it is typically not feasible to increase the moisture content of the floor slab and foundation subgrade soils once rough grading has been completed, care should be taken to maintain the moisture content of the building pad subgrade soils throughout the construction process.

## Estimated Foundation Settlements

Post-construction total and differential settlements of shallow foundations designed and constructed in accordance with the previously presented recommendations are estimated to be less than 1.0 and 0.5 inches, respectively. Differential movements are expected to occur over a 30-foot span, thereby resulting in an angular distortion of less than 0.002 inches per inch.

## Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 300 lbs/ft<sup>3</sup>
- Friction Coefficient: 0.32

These are allowable values, and include a factor of safety. When combining friction and passive resistance, the passive pressure component should be reduced by one-third. These values assume that footings will be poured directly against compacted structural fill. The maximum allowable passive pressure is 3,000 lbs/ft<sup>2</sup>.

## **6.6 Floor Slab Design and Construction**

Subgrades which will support new floor slabs should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Based on the anticipated grading which will occur at this site, the floor of the new building may be constructed as a conventional slab-on-grade supported on newly placed structural fill soils, extending to a depth of at least 3 feet below the proposed pad grade. Based on geotechnical considerations, the floor slabs may be designed as follows:

- Minimum slab thickness: 6 inches.
- Modulus of Subgrade Reaction:  $k = 200$  psi/in
- Minimum slab reinforcement: Reinforcement is not expected to be required for geotechnical conditions. The actual floor slab reinforcement should be determined by the structural engineer, based upon the imposed loading.
- Slab underlayment: If moisture sensitive floor coverings will be used the minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area of the slab that such moisture sensitive floor coverings are anticipated. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. Given that a rock free subgrade is anticipated and that a capillary break is not required, sand below the barrier is not

required. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview.

- Moisture condition the floor slab subgrade soils to 0 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.
- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

The actual design of the floor slab should be completed by the structural engineer to verify adequate thickness and reinforcement.

## **6.7 Retaining Wall Design and Construction**

Although not indicated on the site plan, some retaining walls may be required to facilitate the new site grades. The parameters recommended for use in the design of these walls are presented below.

### Retaining Wall Design Parameters

Based on the conditions encountered at the trench locations, the following parameters may be used in the design of new retaining walls for this site. We have provided parameters assuming the use of on-site soils for retaining wall backfill. The near surface soils generally consist of silty sands and gravelly sands. Based on their classifications, the near surface soils are expected to possess a friction angle of at least 32 degrees when compacted to 90 percent of the ASTM-1557 maximum dry density.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures. In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

## RETAINING WALL DESIGN PARAMETERS

| <b>Design Parameter</b>            |                                    | <b>Soil Type</b>        |
|------------------------------------|------------------------------------|-------------------------|
|                                    |                                    | On-Site Soils           |
| Internal Friction Angle ( $\phi$ ) |                                    | 32°                     |
| Unit Weight                        |                                    | 130 lbs/ft <sup>3</sup> |
| Equivalent Fluid Pressure:         | Active Condition (level backfill)  | 40 lbs/ft <sup>3</sup>  |
|                                    | Active Condition (2h:1v backfill)  | 61 lbs/ft <sup>3</sup>  |
|                                    | At-Rest Condition (level backfill) | 61 lbs/ft <sup>3</sup>  |

The walls should be designed using a soil-footing coefficient of friction of 0.32 and an equivalent passive pressure of 300 lbs/ft<sup>3</sup>. The structural engineer should incorporate appropriate factors of safety in the design of the retaining walls.

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

### Seismic Lateral Earth Pressures

In accordance with the 2019 CBC, any retaining walls more than 6 feet in height must be designed for seismic lateral earth pressures. If walls 6 feet or more are required for this site, the geotechnical engineer should be contacted for supplementary seismic lateral earth pressure recommendations.

### Retaining Wall Foundation Design

The retaining wall foundations should be supported within newly placed structural fill. Foundations to support new retaining walls should be designed in accordance with the general Foundation Design Parameters presented in a previous section of this report.

### Backfill Material

On-site soils may be used to backfill the retaining walls. However, all backfill material placed within 3 feet of the back-wall face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a properly installed prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls be used. If the drainage composite material is not covered by an impermeable surface, such as a structure or pavement, a 12-inch thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils. The drainage composite should be separated from the backfill soils by a suitable geotextile, approved by the geotechnical engineer.

All retaining wall backfill should be placed and compacted under engineering-controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557-91). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

### Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 4-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 8-foot on-center spacing. The weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.
- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system.

## **6.8 Pavement Design Parameters**

Site preparation in the pavement area should be completed as previously recommended in the ***Site Grading Recommendations*** section of this report. The subsequent pavement recommendations assume proper drainage and construction monitoring, and are based on either PCA or CALTRANS design parameters for a twenty (20) year design period. However, these designs also assume a routine pavement maintenance program to obtain the anticipated 20-year pavement service life.

### Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The on-site soils generally consist of well graded sands and sandy gravels. Based on their classification, these materials are expected to possess good to excellent pavement support

characteristics, with R-values in the range of 60 to 70. Since R-value testing was not included in the scope of services for this project, the subsequent pavement design is based upon an assumed R-value of 60. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering controlled conditions. It is recommended that R-value testing be performed after completion of rough grading. Depending upon the results of the R-value testing, it may be feasible to use thinner pavement sections in some areas of the site.

Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20 year design life, assuming six operational traffic days per week.

| Traffic Index | No. of Heavy Trucks per Day |
|---------------|-----------------------------|
| 4.0           | 0                           |
| 5.0           | 1                           |
| 6.0           | 3                           |
| 7.0           | 11                          |
| 8.0           | 35                          |
| 9.0           | 93                          |

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

| ASPHALT PAVEMENTS (R=60) |   |               |          |          |          |
|--------------------------|---|---------------|----------|----------|----------|
| Materials                | Thickness (inches)                                  |               |          |          |          |
|                          | Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0) | Truck Traffic |          |          |          |
|                          |   | TI = 6.0      | TI = 7.0 | TI = 8.0 | TI = 9.0 |
| Asphalt Concrete         | 3   | 3½            | 4        | 5        | 5½       |
| Aggregate Base           | 3   | 3             | 3        | 3        | 4        |
| Compacted Subgrade       | 12  | 12            | 12       | 12       | 12       |

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the Marshall maximum density, as determined by ASTM D-2726. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and

Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

Portland Cement Concrete

The preparation of the subgrade soils within Portland cement concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

| <b>PORTLAND CEMENT CONCRETE PAVEMENTS</b>      |  |               |          |          |
|--|--|---------------|----------|----------|
| <b>Materials</b>                               | <b>Thickness (inches)</b>                            |               |          |          |
|  | Autos and Light<br>Truck Traffic<br>(TI = 5.0 & 6.0) | Truck Traffic |          |          |
|  |  | TI = 7.0      | TI = 8.0 | TI = 9.0 |
| PCC  | 5  | 5             | 6½       | 8        |
| Compacted Subgrade<br>(95% minimum compaction) | 12   | 12            | 12       | 12       |

The concrete should have a 28-day compressive strength of at least 3,000 psi. Reinforcing within all pavements should be designed by the structural engineer. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness. The actual joint spacing and reinforcing of the Portland cement concrete pavements should be determined by the structural engineer.

## 7.0 GENERAL COMMENTS

---

This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

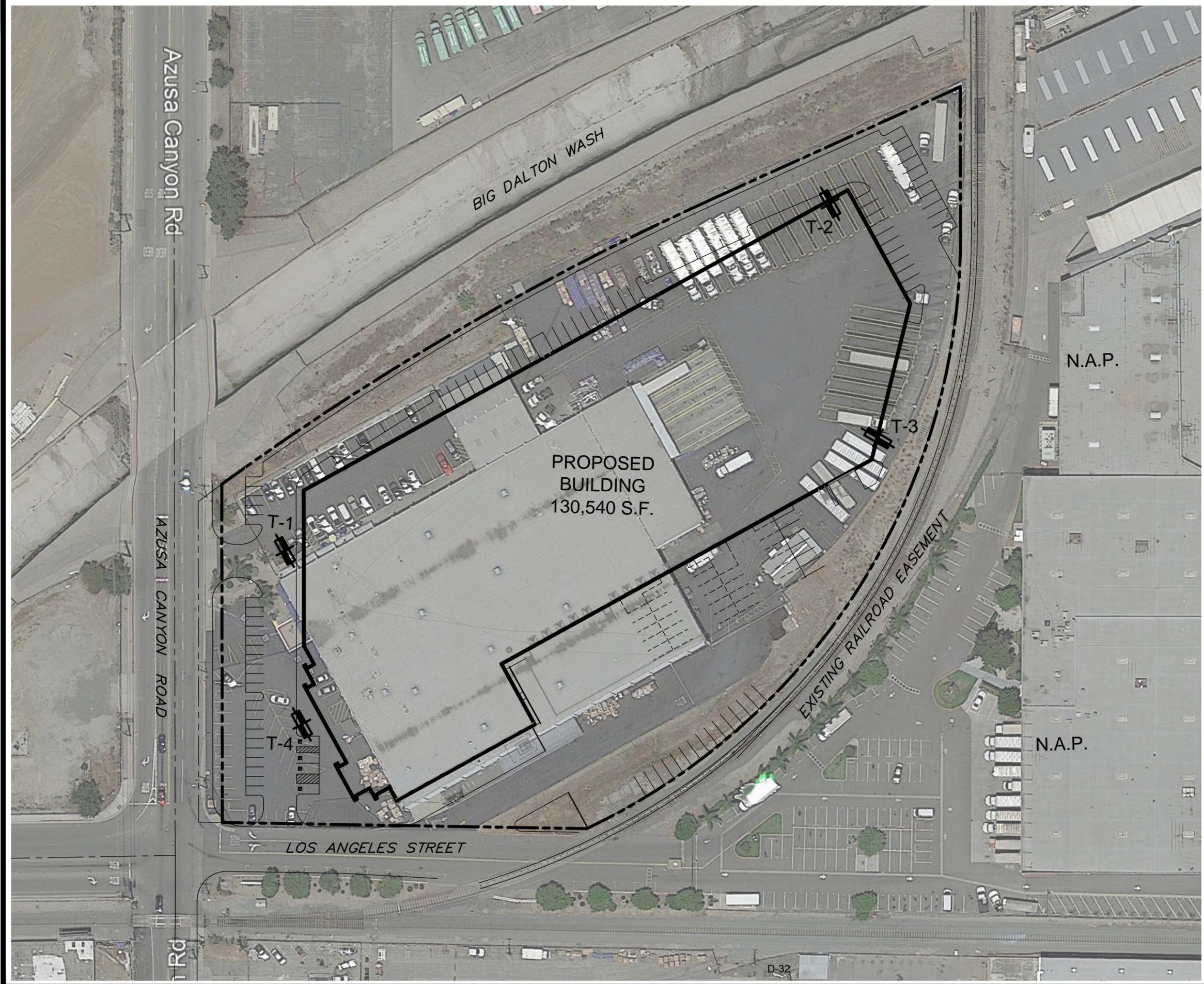
The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

# APPENDIX A





**GEOTECHNICAL LEGEND**

 APPROXIMATE TRENCH LOCATION

NOTE: CONCEPTUAL SITE PLAN PREPARED BY GAA ARCHITECTS.

|                             |   |
|-----------------------------|---|
| <b>TRENCH LOCATION PLAN</b> |   |
| PROPOSED WAREHOUSE          |   |
| IRWINDALE, CALIFORNIA       |   |
| SCALE: 1" = 80'             |  <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: JAH<br>CHKD: RGT     |   |
| SCG PROJECT<br>20G105-1     |   |
| <b>PLATE 2</b>              |   |

# A P P E N D I X B

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-1**

JOB NO.: 20G105-1

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop Warehouse

LOGGED BY: Jamie Hayward

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: N 26 W

READINGS TAKEN: At Completion

DATE: 1-31-2020

ELEVATION: ---

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION |
|-------|--------|-------------------|--------------|--|------------------------|
| 5     | b      |                   | 7            | A: 4 inches Asphaltic Concrete, No Discernable Aggregate Base<br>B: FILL: Gray Brown fine Sand, trace medium to coarse Sand, trace fine Gravel, occasional Clay nodules, medium dense-damp to very moist |                        |
|       | b      |                   | 16           | @ 6 to 8 feet, some hydrocarbon staining   |                        |
| 10    | b      |                   | 1            | C: ALLUVIUM: Gray Brown Gravelly fine to coarse Sand, some Cobbles, occasional Boulders, dense-dry<br><br>Trench Terminated @ 8.5 feet   |                        |
| 15    |        |                   |              |  |                        |

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-1**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-2**

JOB NO.: 20G105-1

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop Warehouse

LOGGED BY: Jamie Hayward

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: N 40 W

READINGS TAKEN: At Completion

DATE: 01-31-2020

ELEVATION: ---

| DEPTH | SAMPLE                       | DRY DENSITY<br>(PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION |
|-------|------------------------------|----------------------|--------------|--|------------------------|
|       | b                            |                      | 9            | A: 1.5 inches Asphaltic Concrete, 7 inches Aggregate Base<br>B: FILL: Brown Silty fine Sand intermixed with gravelly fine to coarse Sand, trace glass fragments, some Cobbles, medium dense-moist  |                        |
|       | b                            |                      | 12           |  |                        |
| 5     | b                            |                      | 9            | C: FILL: Gray Brown fine Sand, trace medium to coarse Sand, little fine Gravel, loose-moist<br>D: ALLUVIUM: Gray Brown Gravelly fine to coarse Sand, some cobbles, occasional Boulders, dense-damp |                        |
|       | b                            |                      | 2            |  |                        |
|       | b                            |                      | 3            |  |                        |
| 10    | Trench Terminated @ 8.5 feet |                      |              |  |                        |
| 15    |                              |                      |              |  |                        |

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-2**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-3**

JOB NO.: 20G105-1

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop Warehouse

LOGGED BY: Jamie Hayward

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: S 63 E

READINGS TAKEN: At Completion

DATE: 01-28-2020

ELEVATION: ---

| DEPTH  | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION  |
|--|--------|-------------------|--------------|--|---|
| 5  | b      | 12                |              | A: 3 inches Asphaltic Concrete, 5 inches Aggregate Base<br>B: FILL: Brown Silty fine Sand, little fine to coarse Gravel, medium dense-moist<br>C: ALLUVIUM: Gray Brown Gravelly fine to coarse Sand, some Cobbles, occasional Boulders, dense-damp | <p>The graphic representation shows a cross-section of the trench. The top layer is labeled 'A' (Asphaltic Concrete). Below it is a layer of 'B' (Brown Silty fine Sand). The bottom layer is 'C' (Gray Brown Gravelly fine to coarse Sand). A 'Concrete Pipe' is shown in the center of the trench. The trench is oriented 'S 63 E'. A scale of 1" = 5' is provided. The trench is terminated at 6 feet due to a damaged pipe.</p> |
| Trench Terminated @ 6 feet due to damaged pipe |        | 3                 |              |  |   |

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-3**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-4**

JOB NO.: 20G105-1

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop Warehouse

LOGGED BY: Jamie Hayward

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: N 29 W

READINGS TAKEN: At Completion

DATE: 01-31-2020

ELEVATION: ---

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION |
|-------|--------|-------------------|--------------|--|------------------------|
| 5     | b      |                   | 10           | A: 2 inches Asphaltic concrete, 3 inches Aggregate Base<br>B: FILL: Gray Brown fine Sand, little medium to coarse Sand, trace fine Gravel, occasional Clay nodules, trace Silt, medium dense-moist |                        |
|       | b      |                   | 11           | C: FILL: Brown Silty fine Sand intermixed with fine Sand, trace Clay nodules, little Iron oxide staining, medium dense-moist to very moist   |                        |
|       | b      |                   | 14           | D: ALLUVIUM: Gray Brown Gravelly fine to coarse Sand, some Cobbles, occasional Boulders, dense-damp  |                        |
|       | b      |                   | 3            | Trench Terminated @ 9 feet   |                        |

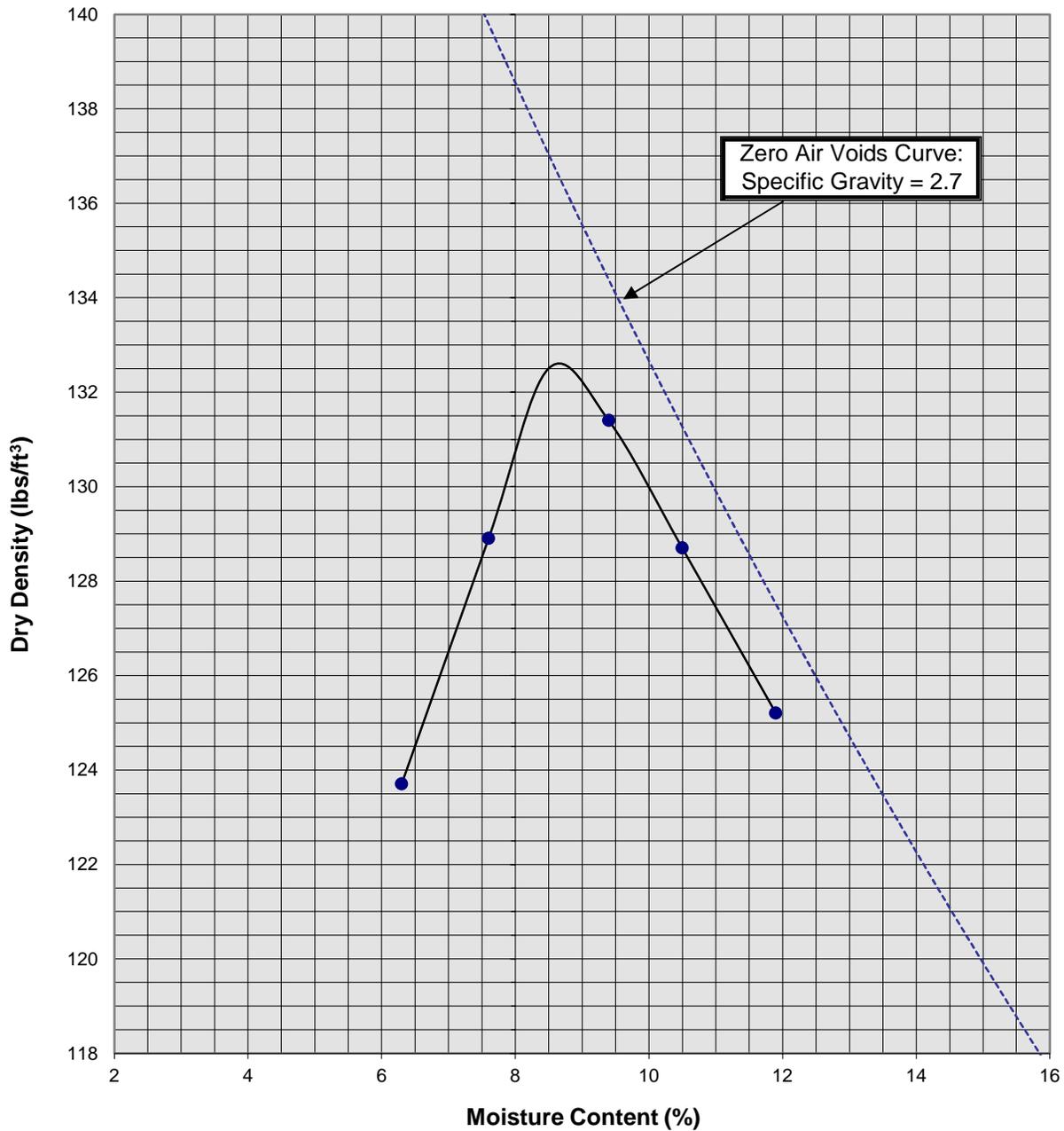
KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-4**

# A P P E N D I X C

### Moisture/Density Relationship ASTM D-1557



|                           |   |
|---------------------------|---|
| Soil ID Number            | T-2 @ 0-5'  |
| Optimum Moisture (%)      | 8.5   |
| Maximum Dry Density (pcf) | 132.5   |
| Soil Classification       | Brown Silty fine to coarse Sand,<br>little fine to coarse Gravel,<br>some Cobbles |

Proposed Warehouse  
Irwindale, California  
Project No. 20G105  
**PLATE C-1**



**SOUTHERN CALIFORNIA GEOTECHNICAL**  
*A California Corporation*

# A P P E N D I X D

## **GRADING GUIDE SPECIFICATIONS**

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

### General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.
- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.
- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.
- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.
- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.
- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

### Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.
- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.
- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.
- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.
- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.
- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted
- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

#### Compacted Fills

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated," and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.
- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.
- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.
- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:
  - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.
  - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or

concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

- Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.
- To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.
- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.
- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.
- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.
- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.
- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.
- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.
- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.
- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.
- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

### Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.
- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.
- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

### Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core
- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.
- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.
- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).
- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.
- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

### Cut Slopes

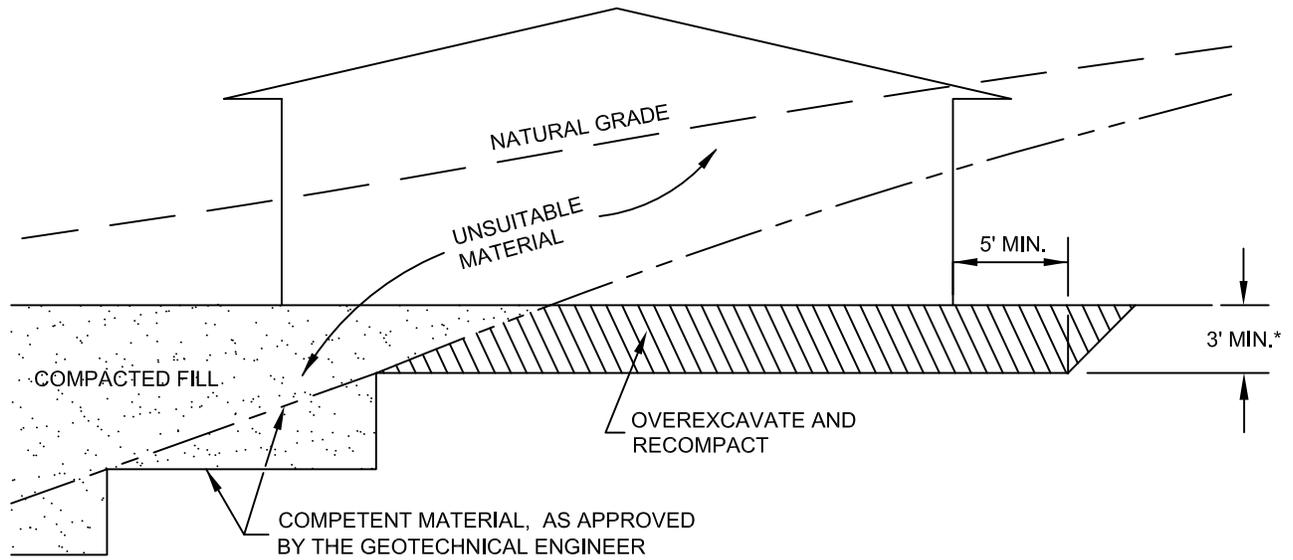
- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.
- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.
- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

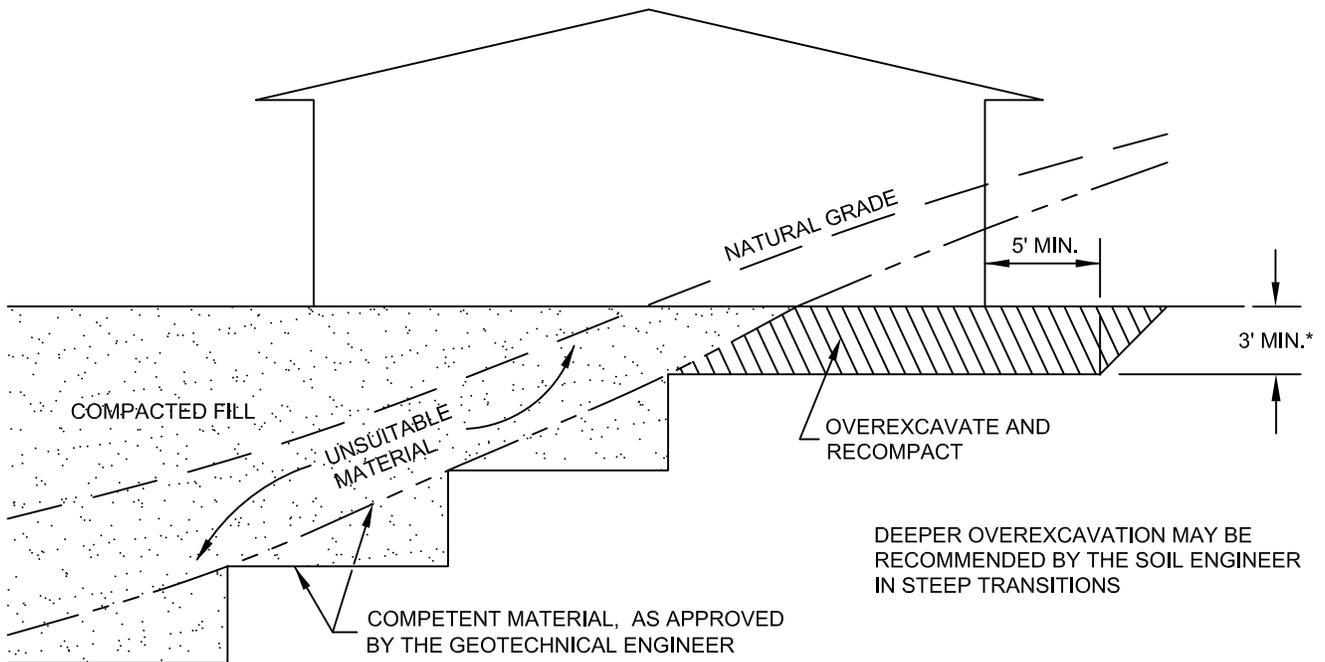
#### Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.
- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean  $\frac{3}{4}$ -inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

CUT LOT



CUT/FILL LOT (TRANSITION)



\*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION.  
ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

**TRANSITION LOT DETAIL**  
**GRADING GUIDE SPECIFICATIONS**

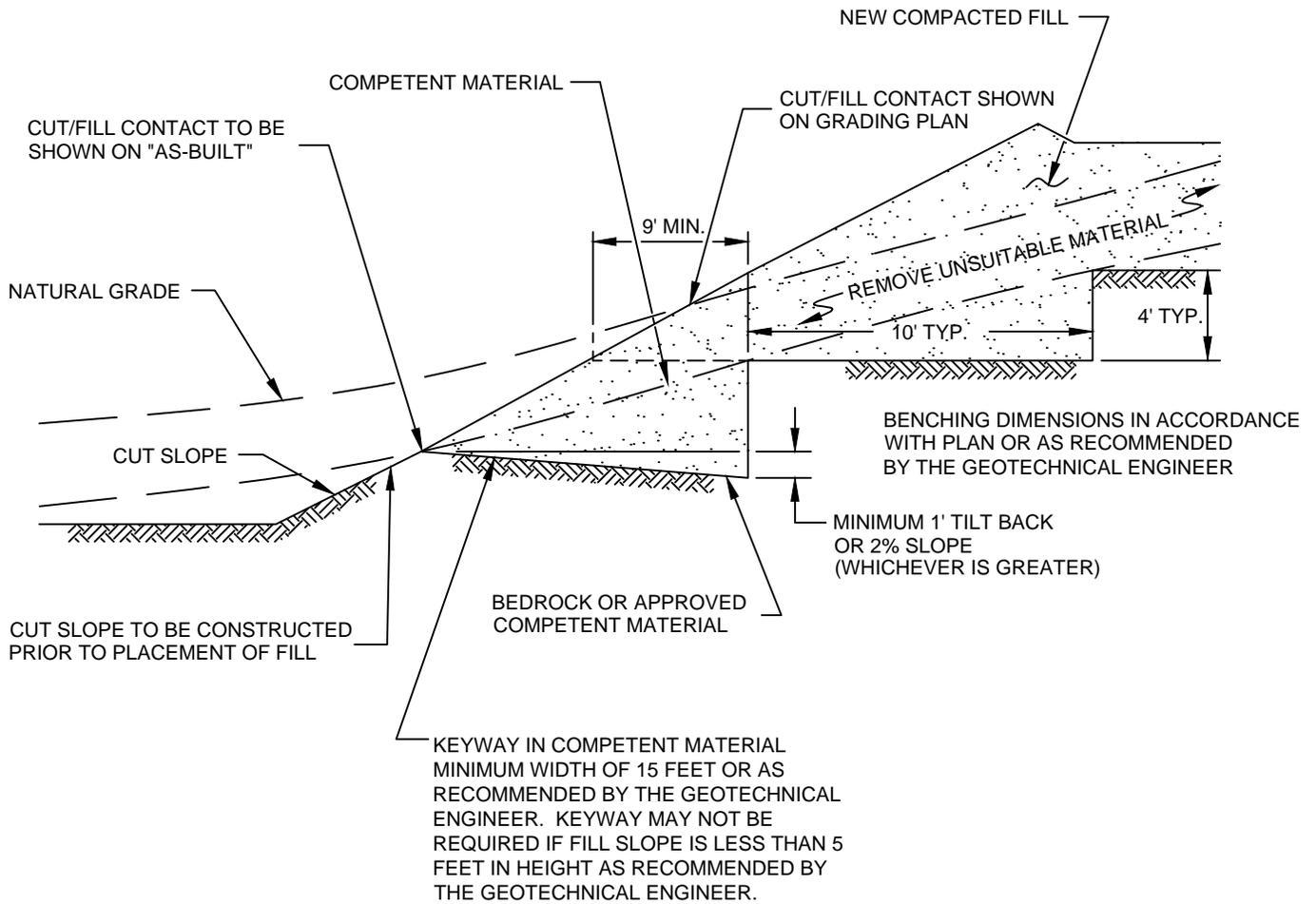
NOT TO SCALE

DRAWN: JAS  
CHKD: GKM

PLATE D-1



**SOUTHERN CALIFORNIA GEOTECHNICAL**



**FILL ABOVE CUT SLOPE DETAIL**  
**GRADING GUIDE SPECIFICATIONS**

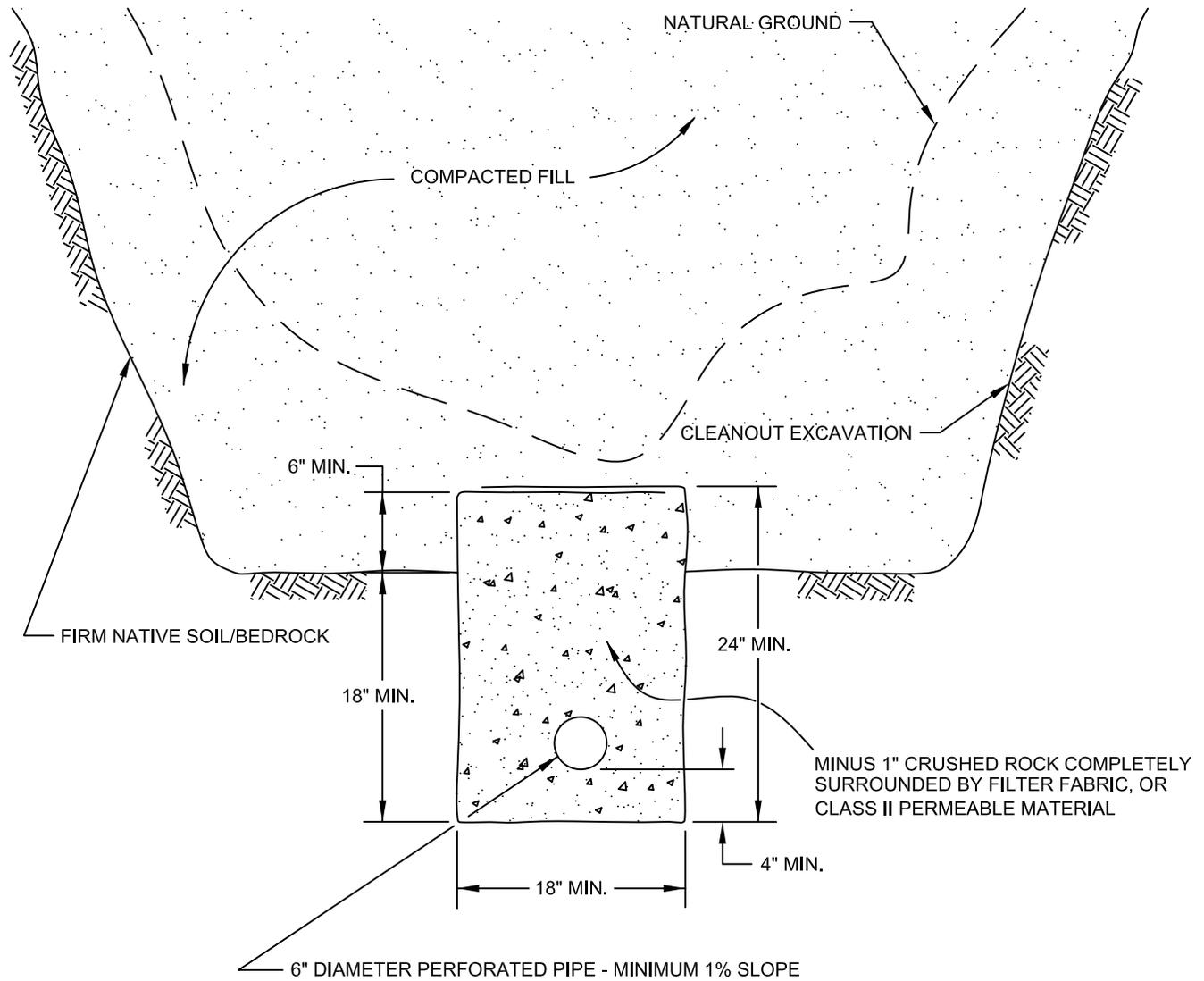
NOT TO SCALE

DRAWN: JAS  
 CHKD: GKM

PLATE D-2



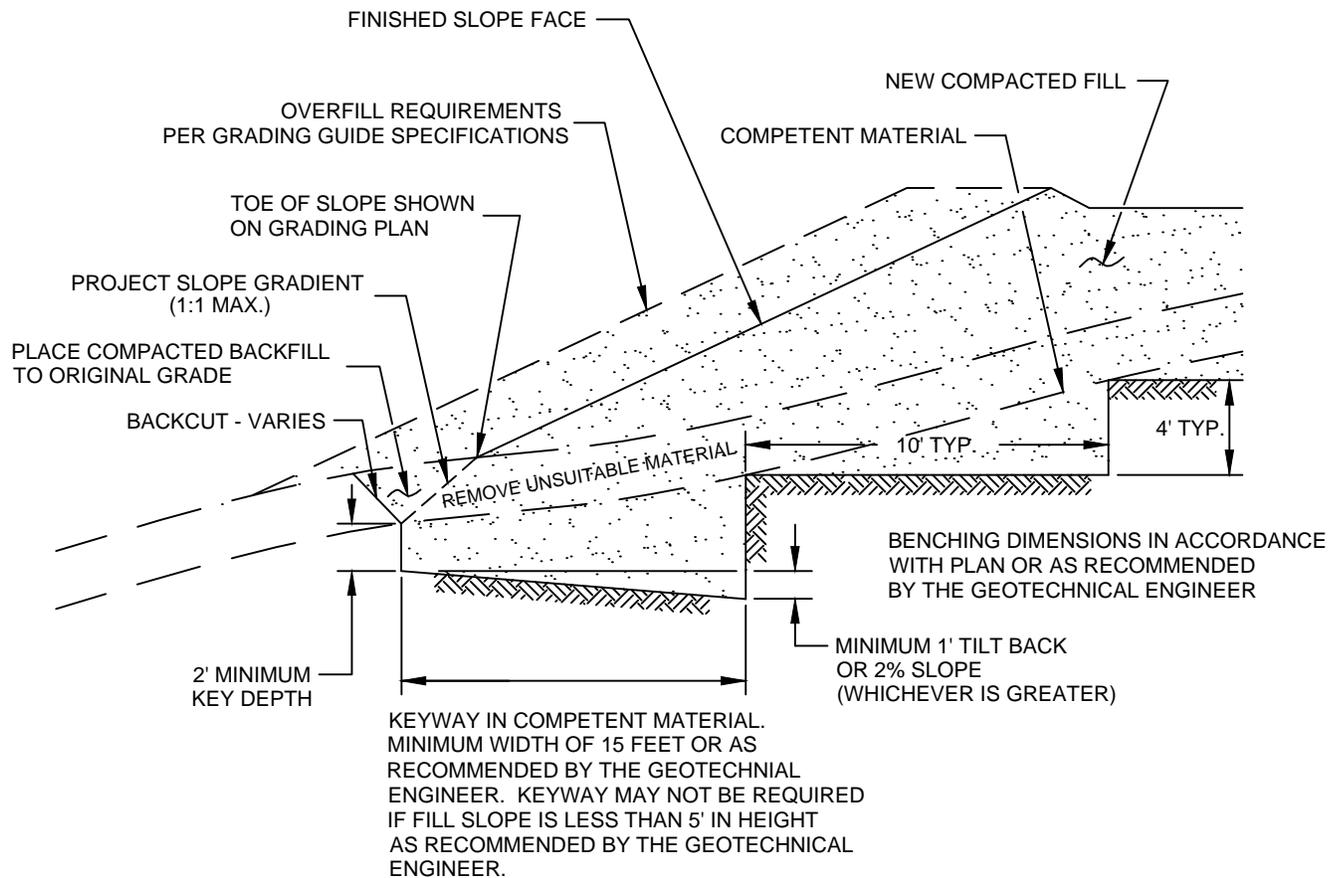
**SOUTHERN CALIFORNIA GEOTECHNICAL**



| PIPE MATERIAL                | DEPTH OF FILL OVER SUBDRAIN |
|------------------------------|-----------------------------|
| ADS (CORRUGATED POLETHYLENE) | 8                           |
| TRANSITE UNDERDRAIN          | 20                          |
| PVC OR ABS: SDR 35           | 35                          |
| SDR 21                       | 100                         |

**SCHEMATIC ONLY  
NOT TO SCALE**

|                                     |   |
|-------------------------------------|---|
| <b>CANYON SUBDRAIN DETAIL</b>       |   |
| <b>GRADING GUIDE SPECIFICATIONS</b> |   |
| NOT TO SCALE                        |  <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: JAS<br>CHKD: GKM             |   |
| <b>PLATE D-3</b>                    |   |



NOTE:  
 BENCHING SHALL BE REQUIRED  
 WHEN NATURAL SLOPES ARE  
 EQUAL TO OR STEEPER THAN 5:1  
 OR WHEN RECOMMENDED BY  
 THE GEOTECHNICAL ENGINEER.

**FILL ABOVE NATURAL SLOPE DETAIL**  
**GRADING GUIDE SPECIFICATIONS**

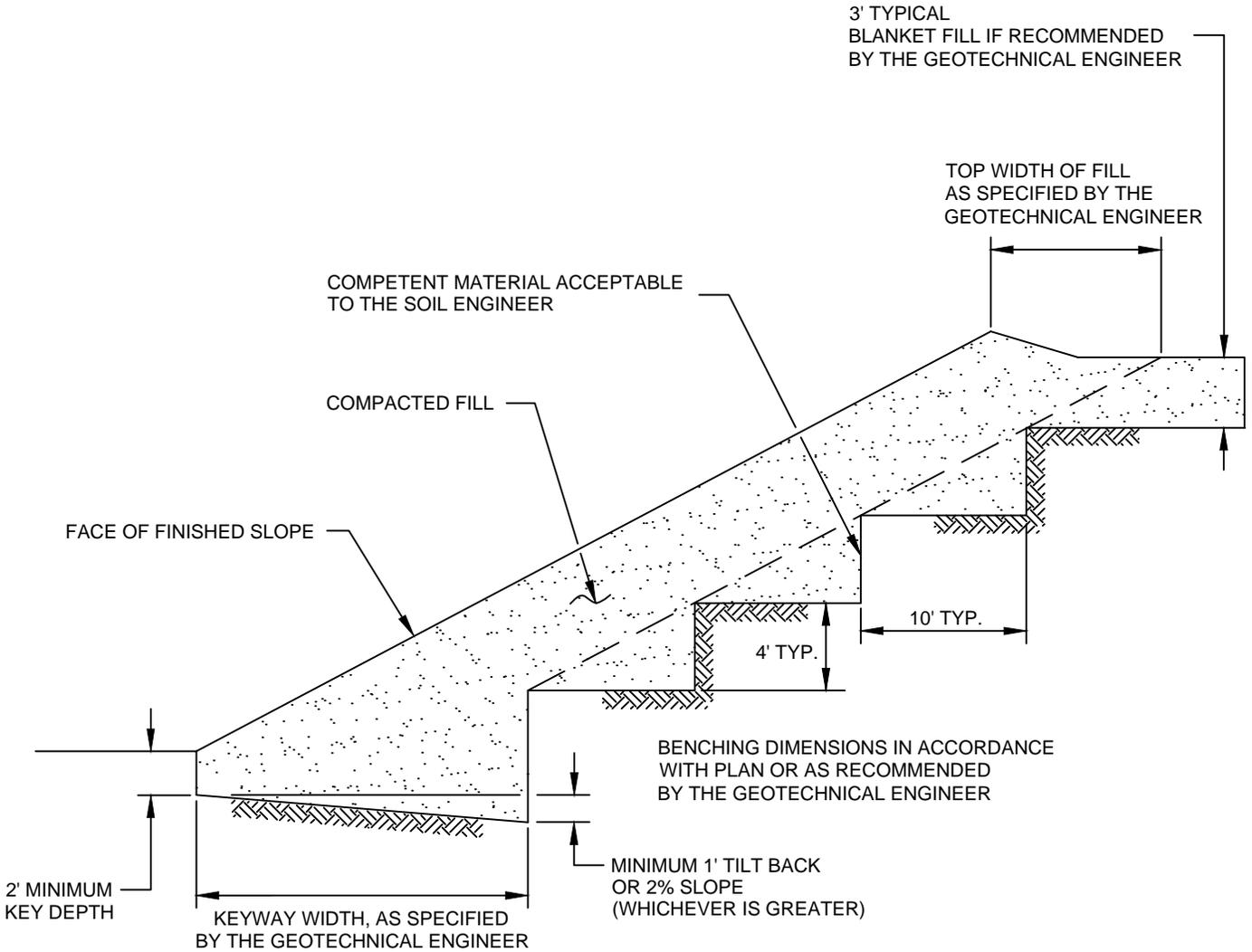
NOT TO SCALE

DRAWN: JAS  
 CHKD: GKM

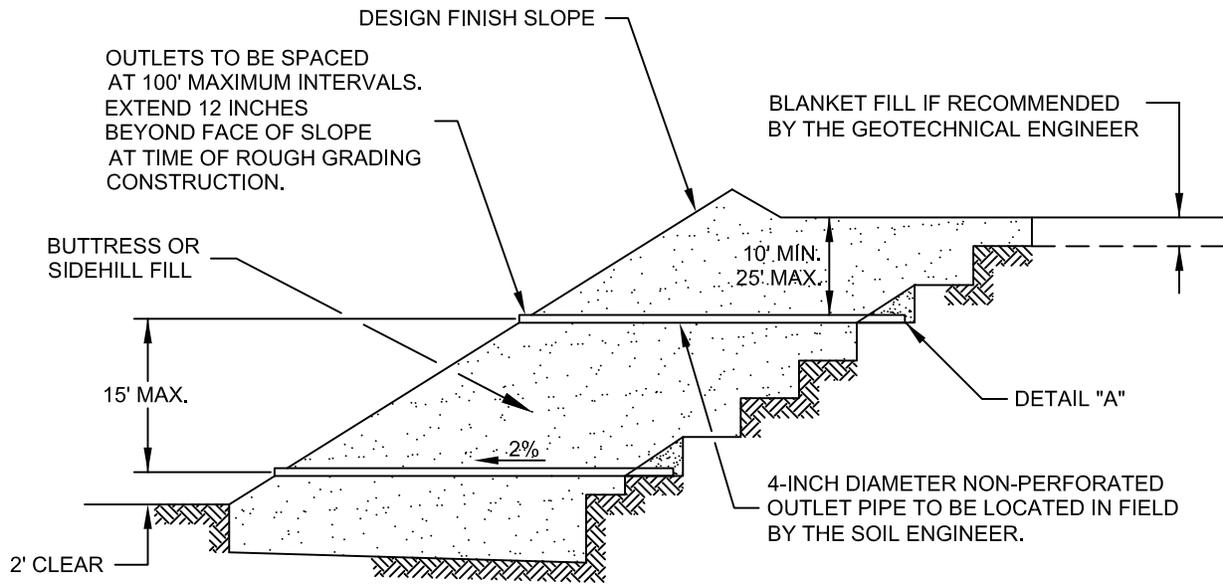
PLATE D-4



**SOUTHERN  
 CALIFORNIA  
 GEOTECHNICAL**



|                                  |   |
|----------------------------------|---|
| <b>STABILIZATION FILL DETAIL</b> |   |
| GRADING GUIDE SPECIFICATIONS     |   |
| NOT TO SCALE                     |  <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: JAS<br>CHKD: GKM          |   |
| <b>PLATE D-5</b>                 |   |



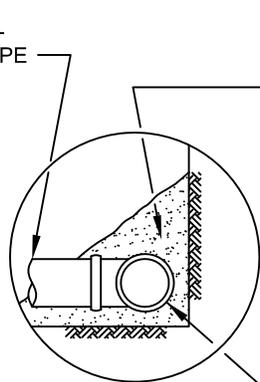
"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

| SIEVE SIZE | PERCENTAGE PASSING |
|------------|--------------------|
| 1"         | 100                |
| 3/4"       | 90-100             |
| 3/8"       | 40-100             |
| NO. 4      | 25-40              |
| NO. 8      | 18-33              |
| NO. 30     | 5-15               |
| NO. 50     | 0-7                |
| NO. 200    | 0-3                |

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

| SIEVE SIZE                      | MAXIMUM PERCENTAGE PASSING |
|---------------------------------|----------------------------|
| 1 1/2"                          | 100                        |
| NO. 4                           | 50                         |
| NO. 200                         | 8                          |
| SAND EQUIVALENT = MINIMUM OF 50 |                            |

OUTLET PIPE TO BE CONNECTED TO SUBDRAIN PIPE WITH TEE OR ELBOW



DETAIL "A"

FILTER MATERIAL - MINIMUM OF FIVE CUBIC FEET PER FOOT OF PIPE. SEE ABOVE FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL FIVE CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE ABOVE FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 12 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

NOTES:

1. TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

| <b>SLOPE FILL SUBDRAINS</b>         |  |
|-------------------------------------|--|
| <b>GRADING GUIDE SPECIFICATIONS</b> |  |
| NOT TO SCALE                        | <br><b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: JAS<br>CHKD: GKM             |  |
| <b>PLATE D-6</b>                    |  |

MINIMUM ONE FOOT THICK LAYER OF LOW PERMEABILITY SOIL IF NOT COVERED WITH AN IMPERMEABLE SURFACE

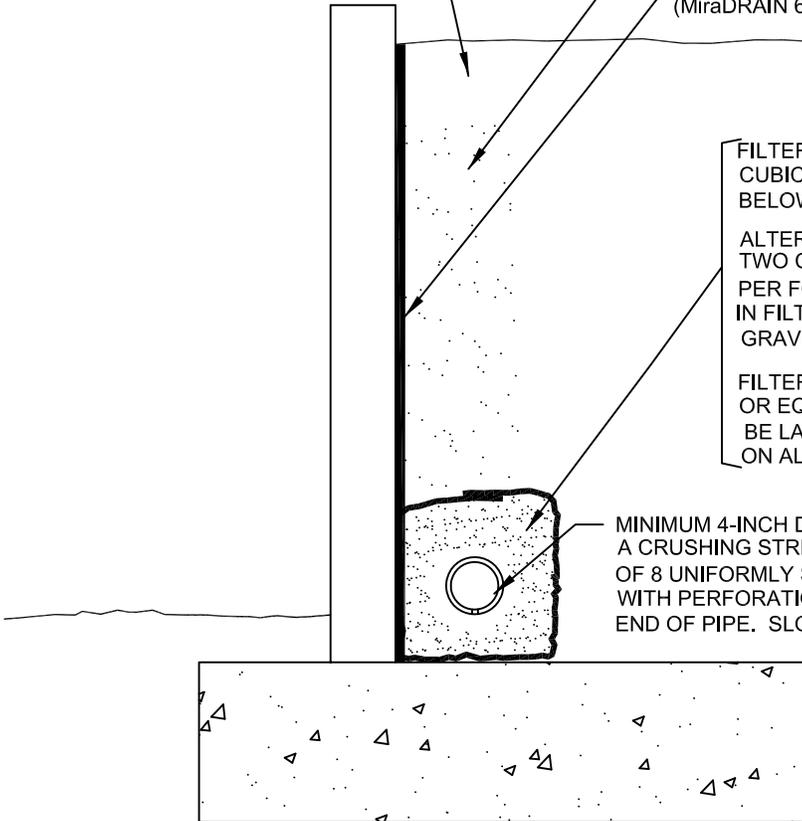
MINIMUM ONE FOOT WIDE LAYER OF FREE DRAINING MATERIAL (LESS THAN 5% PASSING THE #200 SIEVE) OR PROPERLY INSTALLED PREFABRICATED DRAINAGE COMPOSITE (MiraDRAIN 6000 OR APPROVED EQUIVALENT).

FILTER MATERIAL - MINIMUM OF TWO CUBIC FEET PER FOOT OF PIPE. SEE BELOW FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL TWO CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE BELOW FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFAI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 6 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.



"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

| SIEVE SIZE | PERCENTAGE PASSING |
|------------|--------------------|
| 1"         | 100                |
| 3/4"       | 90-100             |
| 3/8"       | 40-100             |
| NO. 4      | 25-40              |
| NO. 8      | 18-33              |
| NO. 30     | 5-15               |
| NO. 50     | 0-7                |
| NO. 200    | 0-3                |

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

| SIEVE SIZE                      | MAXIMUM PERCENTAGE PASSING |
|---------------------------------|----------------------------|
| 1 1/2"                          | 100                        |
| NO. 4                           | 50                         |
| NO. 200                         | 8                          |
| SAND EQUIVALENT = MINIMUM OF 50 |                            |

**RETAINING WALL BACKDRAINS  
GRADING GUIDE SPECIFICATIONS**

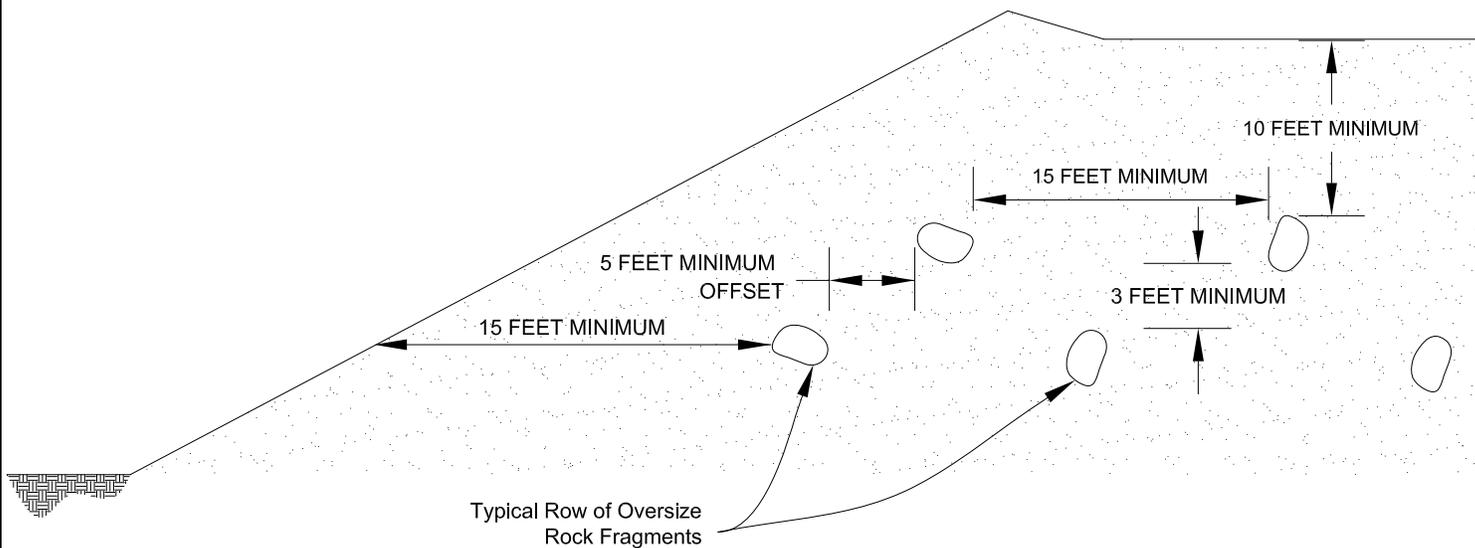
NOT TO SCALE

DRAWN: JAS  
CHKD: GKM

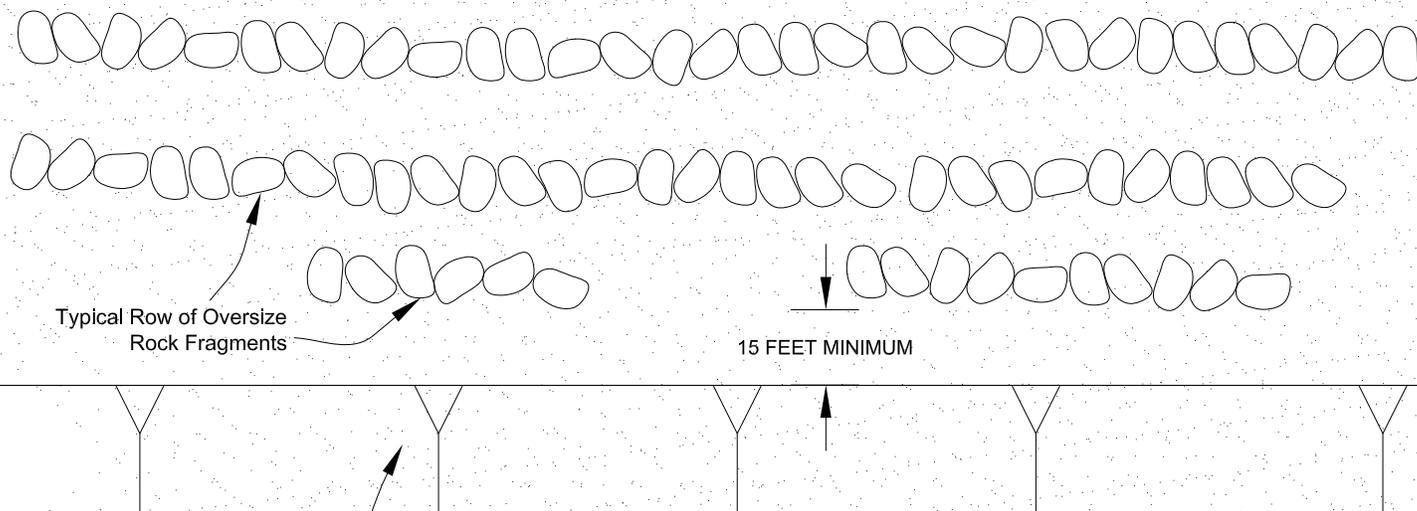
PLATE D-7



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**



**Section View**



**Plan View**

**PLACEMENT OF OVERSIZED MATERIAL  
GRADING GUIDE SPECIFICATIONS**

NOT TO SCALE

DRAWN: PM  
CHKD: GKM

PLATE D-8

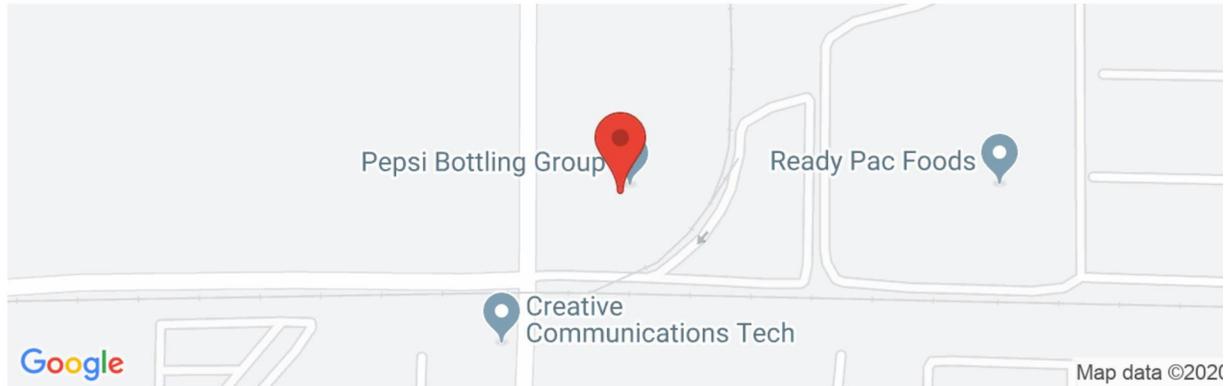


**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**

# APPENDIX E



Latitude, Longitude: 34.093405, -117.941965



|                                |                      |
|--------------------------------|----------------------|
| Date                           | 2/4/2020, 1:54:27 PM |
| Design Code Reference Document | ASCE7-16             |
| Risk Category                  | III                  |
| Site Class                     | D - Stiff Soil       |

| Type     | Value                    | Description                                    |
|----------|--------------------------|--|
| $S_S$    | 1.659                    | $MCE_R$ ground motion. (for 0.2 second period) |
| $S_1$    | 0.615                    | $MCE_R$ ground motion. (for 1.0s period)       |
| $S_{MS}$ | 1.659                    | Site-modified spectral acceleration value      |
| $S_{M1}$ | null -See Section 11.4.8 | Site-modified spectral acceleration value      |
| $S_{DS}$ | 1.106                    | Numeric seismic design value at 0.2 second SA  |
| $S_{D1}$ | null -See Section 11.4.8 | Numeric seismic design value at 1.0 second SA  |

| Type      | Value                    | Description   |
|-----------|--------------------------|---|
| SDC       | null -See Section 11.4.8 | Seismic design category   |
| $F_a$     | 1                        | Site amplification factor at 0.2 second   |
| $F_v$     | null -See Section 11.4.8 | Site amplification factor at 1.0 second   |
| PGA       | 0.703                    | $MCE_G$ peak ground acceleration  |
| $F_{PGA}$ | 1.1                      | Site amplification factor at PGA  |
| $PGA_M$   | 0.774                    | Site modified peak ground acceleration  |
| $T_L$     | 8                        | Long-period transition period in seconds  |
| $SsRT$    | 1.659                    | Probabilistic risk-targeted ground motion. (0.2 second)                                   |
| $SsUH$    | 1.814                    | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration  |
| $SsD$     | 1.981                    | Factored deterministic acceleration value. (0.2 second)                                   |
| $S1RT$    | 0.615                    | Probabilistic risk-targeted ground motion. (1.0 second)                                   |
| $S1UH$    | 0.68                     | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration. |
| $S1D$     | 0.621                    | Factored deterministic acceleration value. (1.0 second)                                   |
| $PGA_d$   | 0.794                    | Factored deterministic acceleration value. (Peak Ground Acceleration)                     |
| $C_{RS}$  | 0.914                    | Mapped value of the risk coefficient at short periods                                     |
| $C_{R1}$  | 0.905                    | Mapped value of the risk coefficient at a period of 1 s                                   |

SOURCE: SEAOC/OSHPD Seismic Design Maps Tool  
<https://seismicmaps.org/>



|  |  |
|--|--|
| <b>SEISMIC DESIGN PARAMETERS - 2019 CBC</b>                            |  |
| PROPOSED WAREHOUSE   |  |
| IRWINDALE, CALIFORNIA  |  |
| DRAWN: JAH<br>CHKD: RGT<br>SCG PROJECT<br>20G105-1<br><b>PLATE E-1</b> | <br><b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |

February 13, 2020

Rexford Industrial  
11620 Wilshire Boulevard, 10<sup>th</sup> floor  
Los Angeles, California 90025



SOUTHERN  
CALIFORNIA  
GEOTECHNICAL  
*A California Corporation*

Attention: Mr. Ricardo Rivas  
Construction Manager

Project No.: **20G105-2**

Subject: **Results of Infiltration Testing**  
Proposed Warehouse - Infiltration  
4416 Azusa Canyon Road  
Irwindale, California

Reference: Geotechnical Investigation and Infiltration Testing, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, prepared for Rexford Industrial, by Southern California Geotechnical, Inc. (SCG), SCG Project No. 20G105-1.

Dear Mr. Rivas:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

### **Scope of Services**

The scope of services performed for this project was in general accordance with our Proposal No. 19P370, dated September 25, 2019. The scope of services included site reconnaissance, subsurface exploration, obtaining representative soil samples, laboratory testing, review of relevant geological literature, analysis to determine the infiltration rates of the onsite soils, and preparation of a geotechnical report documenting our findings. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

### **Site and Project Description**

The subject site is located at the northeast corner of Azusa Canyon Road and Los Angeles Street in Irwindale, California. The site is bounded to the north by the Big Dalton Wash, to the west by Azusa Canyon Road, to the south by Los Angeles Street, and to the southeast and east by an existing railroad easement. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of an irregular-shaped parcel, 5.89± acres in size. The site is presently developed with one warehouse, 64,535± ft<sup>2</sup> in size, in the western half of the site. The warehouse is currently occupied by Pepsi Bottling Group. The building is a single-story structure of concrete tilt-up construction and is assumed to be supported on conventional shallow foundations with a concrete slab-on-grade floor. A loading dock is located along a portion of the northeast building

wall. A modular building, about  $1,000 \pm \text{ft}^2$  in size is present in the east-central portion of the site. This modular building appears to be supported directly on the pavements. The buildings are surrounded by asphaltic concrete pavements in the parking and drive areas, Portland cement concrete pavements in the loading dock areas, and concrete flatwork in limited areas throughout the site. The southeastern area of the site is vacant and undeveloped. The ground surface cover in this area consists of exposed soil with moderate to extensive native grass and weed growth.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevation data obtained from Google Earth, the overall site topography generally slopes downward to the southwest at a gradient of 1 to  $2 \pm$  percent.

### **Proposed Development**

A site plan, prepared by GAA Architects, has been provided to our office by the client. Based on this plan, a new warehouse,  $130,540 \pm \text{ft}^2$  in size, will be constructed in the central area of the site. Dock-high doors will be constructed along a portion of the south building wall. The building will be surrounded by asphaltic concrete pavements in the parking and drive lanes, Portland cement concrete pavements in the loading dock areas, concrete flatwork and landscape planters throughout.

Detailed structural information has not been provided. It is assumed that the new building will be a single-story structure of tilt-up concrete construction, typically supported on conventional shallow foundations with a concrete slab-on-grade floor. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 3 to 5 kips per linear foot, respectively.

Grading plans for the proposed development were not available at the time of this report. The proposed development is not expected to include any significant amounts of below-grade construction such as basements or crawl spaces. Based on the existing topography, and assuming a relatively balanced site, cuts and fills of 2 to  $3 \pm$  feet are expected to be necessary to achieve the proposed site grades.

### **Concurrent Study**

Southern California Geotechnical, Inc. (SCG) concurrently conducted a geotechnical investigation at the subject site. As part of this study, four (4) trenches were excavated to depths of 6 to  $9 \pm$  feet below the existing site grades. Artificial fill soils were encountered beneath the pavements at all trench locations, extending to depths of 3 to  $7\frac{1}{2} \pm$  feet below the existing site grades. At Trench Nos. T-1 and T-4, the fill soils contain occasional clay nodules. The artificial fill soils generally consist of medium dense fine sands, silty sands with varying fine to coarse gravel content and occasional Cobbles. The fill soils possess a disturbed appearance and some samples contain debris, such as glass fragments, resulting in their classification as artificial fill. Native alluvial soils were encountered at all of the trench locations, extending to at least the maximum depth explored of  $9 \pm$  feet below the existing site grades. The native alluvial soils generally consist of gravelly well-graded sands, with some cobbles and occasional boulders.

## Groundwater

Free water was not encountered during the drilling of any of the trench locations. Based on the lack of any water within the trenches, and the moisture contents of the recovered soil samples, the static groundwater is considered to have existed at a depth in excess of 10± feet at the time of the subsurface exploration.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources website, <http://www.water.ca.gov/waterdatalibrary/>. The nearest monitoring well in this database is located approximately 300 feet West of the site. Water level readings within this monitoring well indicate groundwater levels of 194± feet below the ground surface in April 2017.

## **Subsurface Exploration**

### Scope of Exploration

The subsurface exploration conducted for this project consisted of two (2) backhoe-excavated infiltration trenches to depths of 9 to 10± feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as I-1 and I-2) are included in this report as Plate 2.

### Geotechnical Conditions

Artificial fill soils were encountered at the two (2) infiltration test locations and extend to depths of 4 to 6± feet. At Infiltration No. I-1, the fill extends to 6 feet below the existing site grades. The fill soils at this location consist of loose and dry silty fine sands with trace to occasional medium to coarse sand and trace gravel. These soils are underlain by a 1-foot-thick soft and damp silty clay layer between 3 and 4 feet below ground surface. At Infiltration No. I-2, the fill consists of loose and damp silty fine sand with trace gravel. At 1½± feet, little to some soft and damp clay was encountered to the maximum fill depth of 4± feet. The artificial fill soils possess a disturbed appearance and metal fragments were observed within the fill at Infiltration No. I-1.

Native alluvium was encountered beneath the artificial fill soils at all of the infiltration locations, extending to at least the maximum depth explored of 10± feet below existing site grades. The alluvial soils beneath the artificial fill consist of loose and damp gravelly fine to coarse sand with some cobble content at both infiltration test locations. At Infiltration Trench No. I-2, cobble content varies within the alluvium, with extensive cobble content between 5 and 7 feet, and occasional cobbles between 9½ and 10± feet. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are presented on plates B-1 and B-2 of this report.

## **Infiltration Testing**

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration systems that will be used at the subject site. As previously mentioned, the infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At each test location, a trench was excavated to the proposed depth of the infiltration system and the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

### Infiltration Testing Procedure

Infiltration testing was performed at both of the infiltration trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 1-minute increments at I-1, and 4-minute increments at I-2. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

| <b><u>Infiltration Test No.</u></b> | <b><u>Depth (feet)</u></b> | <b><u>Soil Description</u></b>   | <b><u>Infiltration Rate (inches/hour)</u></b> |
|-------------------------------------|----------------------------|--|---|
| I-1                                 | 9                          | Light Gray Sandy fine to coarse Gravel, some Cobble content, trace Silt        | 19.4  |
| I-2                                 | 10                         | Light Gray Gravelly fine to coarse Sand, occasional Cobble content, trace Silt | 10.5  |

### **Laboratory Testing**

#### Moisture Content

The moisture contents for selected soil samples within the trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

## Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test trench has been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of the grainsize analysis are presented on Plates C-1 and C-2 of this report.

## Design Recommendations

Two (2) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations are 19.1 and 10.5 inches per hour. **Based on the results of Infiltration Test Nos. I-1 and I-2, we recommend an infiltration rate of 10 inches per hour be used for the design of the proposed below-grade chamber system located in the east-central region and for the proposed chamber system located in the southwestern region of the site.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each chamber system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

The design of the proposed storm water infiltration systems should be performed by the project civil engineer, in accordance with the City of Irwindale and/or County of Los Angeles guidelines. However, it is recommended that the systems be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the system. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rates recommended above are based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rates.** It should be noted that the recommended infiltration rates are based on infiltration testing at two (2) discrete locations, and the overall infiltration rates of the storm water infiltration systems could vary considerably.

## Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

## Infiltration versus Permeability

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the

saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. The infiltration rates presented herein were determined in accordance with the ASTM Test Method D-3385-03 standard and are considered valid for the time and place of the actual test. Changes in soil moisture content will affect these infiltration rates. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

### **Location of Infiltration Systems**

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration areas could potentially be damaged due to saturation of subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration systems at least 25 feet from the buildings, it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

### **General Comments**

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

### **Closure**

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

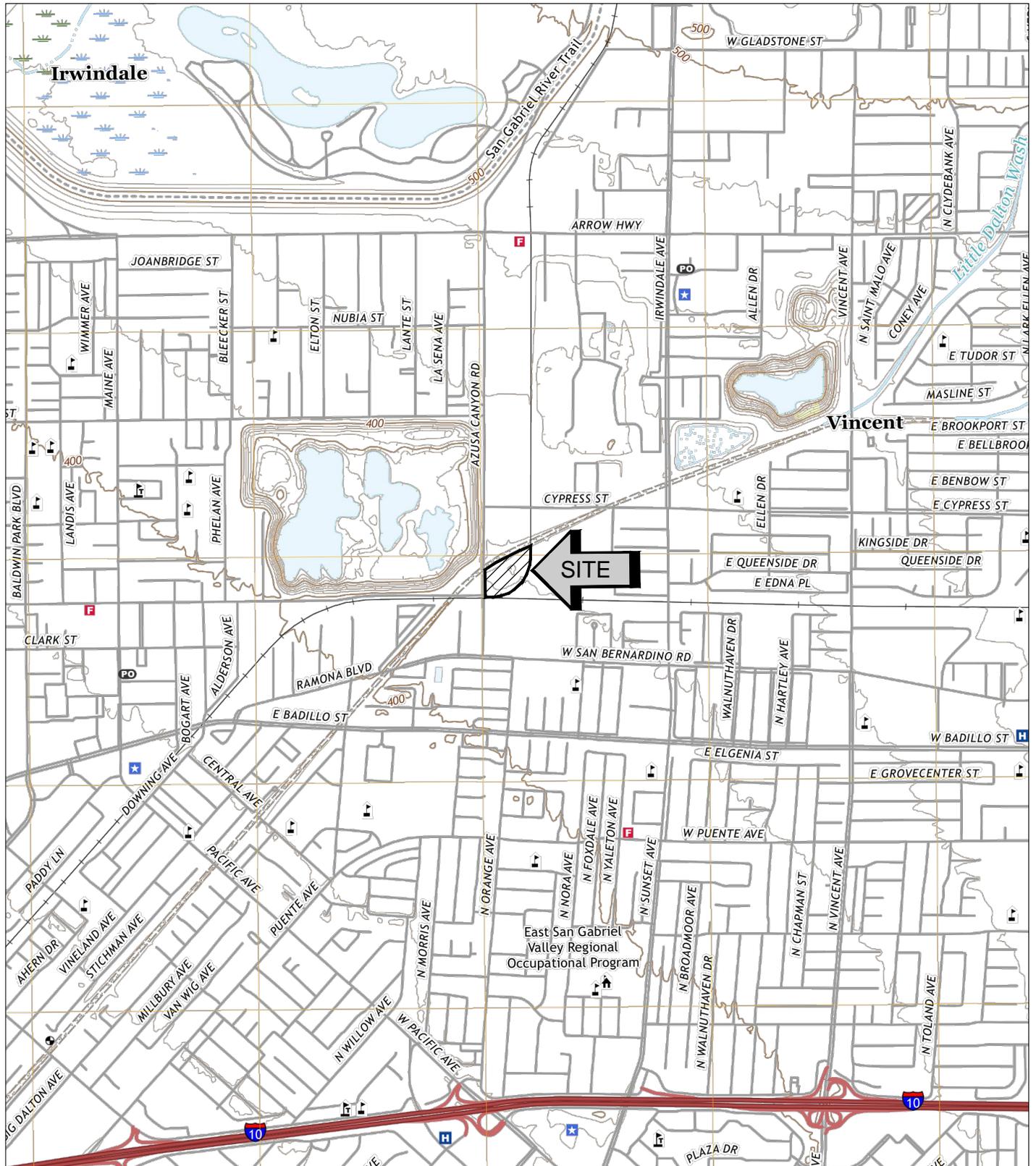
Ryan Bremer  
Staff Geologist

Robert G. Trazo, GE 2655  
Principal Engineer



Distribution: (1) Addressee

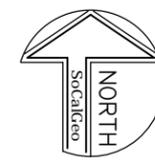
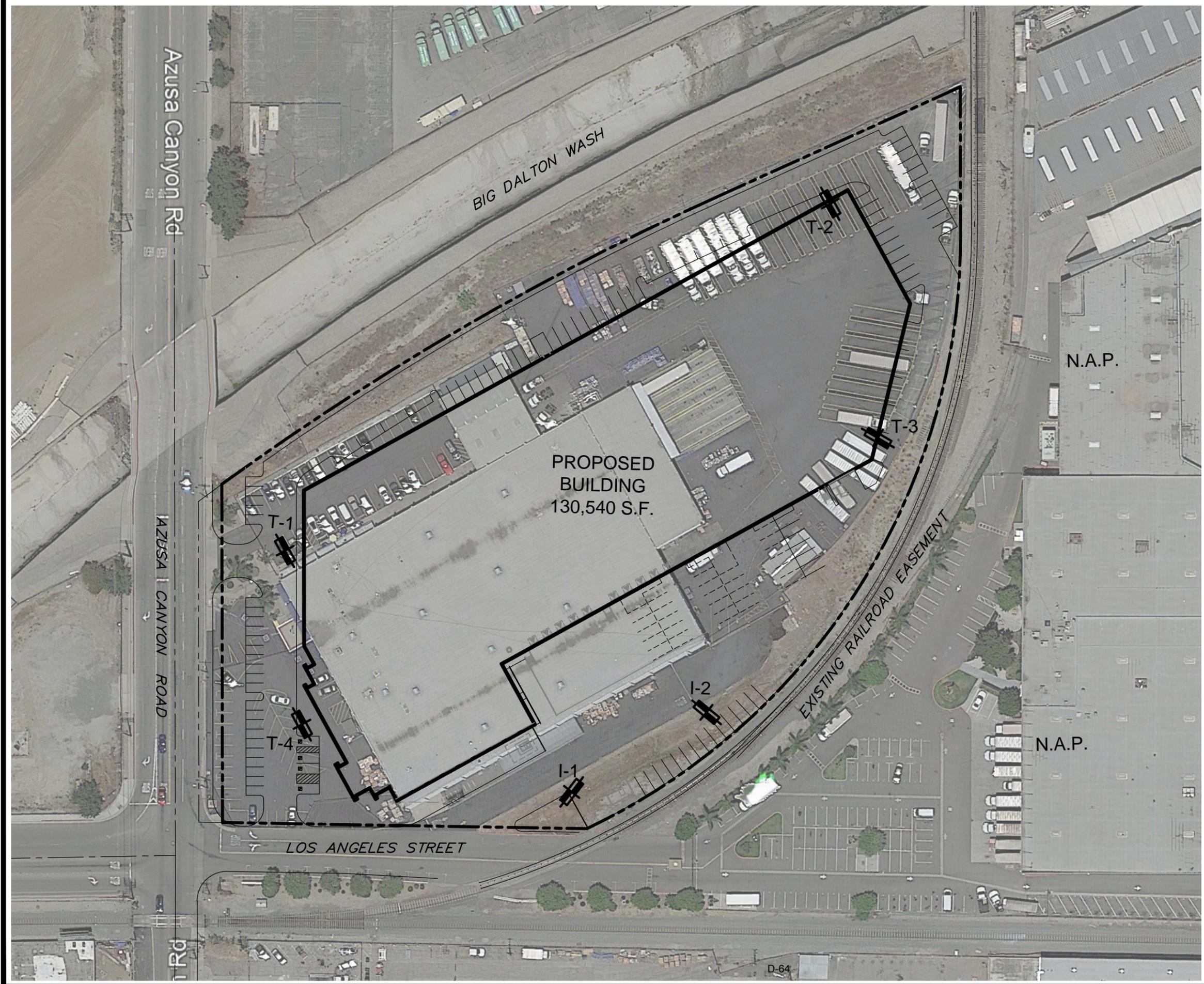
Enclosures: Plate 1 - Site Location Map  
Plate 2 - Infiltration Test Location Plan  
Trench Logs (2 pages)  
Infiltration Test Results Spreadsheets (2 pages)  
Grain Size Distribution Graphs (2 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE BALDWIN PARK QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA, 2018.



|                              |  |
|------------------------------|--|
| <b>SITE LOCATION MAP</b>     |  |
| <b>PROPOSED WAREHOUSE</b>    |  |
| <b>IRWINDALE, CALIFORNIA</b> |  |
| SCALE: 1" = 2000'            | <br><b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: RB                    |  |
| CHKD: RGT                    |  |
| SCG PROJECT 20G105-2         |  |
| <b>PLATE 1</b>               |  |



**GEOTECHNICAL LEGEND**

 APPROXIMATE TRENCH LOCATION

NOTE: CONCEPTUAL SITE PLAN PREPARED BY GAA ARCHITECTS.

|  |   |
|--|---|
| <b>TRENCH AND INFILTRATION LOCATION PLAN</b> |   |
| PROPOSED WAREHOUSE                           |   |
| IRWINDALE, CALIFORNIA                        |   |
| SCALE: 1" = 80'                              |  <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b> |
| DRAWN: RB                                    |   |
| CHKD: RGT                                    |   |
| SCG PROJECT 20G105-2                         |   |
| <b>PLATE 2</b>                               |   |

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
I-1**

JOB NO.: 20G105-2

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Proposed Warehouse

LOGGED BY: Ryan Bremer

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: S 55 W

READINGS TAKEN: At Completion

DATE: 1/31/20

| DEPTH  | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%) | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION |
|--|--------|-------------------|--------------|--|------------------------|
| <div style="text-align: center;">5</div> <div style="text-align: center;">10</div> <div style="text-align: center;">15</div> | b      |                   | 3            | <p>A: FILL: Brown Silty fine Sand, trace medium to coarse Sand, trace fine to coarse Gravel, abundant fine root fibers, mottled, loose-dry</p> <p>B: FILL: Dark brown Silty Clay, occasional fine Sand, trace fine root fibers, soft-damp</p> <p>C: FILL: Brown Silty fine Sand, some medium to coarse Sand, some fine root fibers, loose-damp</p> <p>D: ALLUVIUM: Light gray Sandy fine to coarse Gravel, some Cobble content, trace Silt, loose-damp</p> <p style="text-align: center;">Trench Terminated @ 9 feet</p> | <p>SCALE: 1" = 5'</p>  |

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-1**

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
I-2**

JOB NO.: 20G105-2

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Proposed Warehouse

LOGGED BY: Ryan Bremer

SEEPAGE DEPTH: Dry

LOCATION: Irwindale, CA

ORIENTATION: N 45 W

READINGS TAKEN: At Completion

DATE: 1/28/20

| DEPTH | SAMPLE | DRY DENSITY (PCF) | MOISTURE (%)   | EARTH MATERIALS DESCRIPTION  | GRAPHIC REPRESENTATION |
|-------|--------|-------------------|--|--|------------------------|
|       |        |                   |  | <p>A: FILL: Brown Silty fine Sand, trace fine to coarse Gravel, trace Cobble content, some fine root fragments, trace metal, loose-damp</p> <p>B: FILL: @ 1.5 feet little to some Clay</p> |                        |
| 5     |        |                   | <p>C: ALLUVIUM: Light gray Gravelly fine to coarse Sand, some Cobble content, trace Silt, loose-damp</p> <p>@ 5 to 7 feet Cobbly fine to coarse Sand, some fine to coarse Gravel</p> |  |                        |
| 10    | b      |                   | <p>@ 9.5 feet occasional Cobble content</p>  |  |                        |
| 15    | b      |                   | <p>Trench Terminated @ 10 feet</p>   |  |                        |

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**INFILTRATION CALCULATIONS**

|                  |                    |
|------------------|--------------------|
| Project Name     | Proposed Warehouse |
| Project Location | Irwindale, CA      |
| Project Number   | 20G105-2           |
| Engineer         | Ryan Bremer        |

Infiltration Test No I-1

| Constants  |               |                         |                         |
|------------|---------------|-------------------------|-------------------------|
|            | Diameter (ft) | Area (ft <sup>2</sup> ) | Area (cm <sup>2</sup> ) |
| Inner      | 1             | 0.79                    | 730                     |
| Anlr. Spac | 2             | 2.36                    | 2189                    |

\*Note: The infiltration rate was calculated based on current time interval

| Test Interval |         | Time (hr) | Interval Elapsed (min) | Flow Readings   |                              |                   |                               | Infiltration Rates  |                        |                     |                        |
|---------------|---------|-----------|------------------------|-----------------|------------------------------|-------------------|-------------------------------|---------------------|------------------------|---------------------|------------------------|
|               |         |           |                        | Inner Ring (ml) | Ring Flow (cm <sup>3</sup> ) | Annular Ring (ml) | Space Flow (cm <sup>3</sup> ) | Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
| 1             | Initial | 9:30 AM   | 0                      | 0               | 700                          | 0                 | 5500                          | 140.02              | 366.71                 | 55.13               | 144.38                 |
|               | Final   | 9:31 AM   | <b>1</b>               | 700             | 700                          | 5500              |                               |                     |                        |                     |                        |
| 2             | Initial | 9:33 AM   | 1                      | 0               | 600                          | 0                 | 5400                          | 49.34               | 148.02                 | 19.43               | 58.28                  |
|               | Final   | 9:34 AM   | <b>4</b>               | 600             | 600                          | 5400              |                               |                     |                        |                     |                        |
| 3             | Initial | 9:37 AM   | 1                      | 0               | 600                          | 0                 | 4400                          | 49.34               | 120.61                 | 19.43               | 47.48                  |
|               | Final   | 9:38 AM   | <b>8</b>               | 600             | 600                          | 4400              |                               |                     |                        |                     |                        |
| 4             | Initial | 9:40 AM   | 1                      | 0               | 600                          | 0                 | 4600                          | 49.34               | 126.09                 | 19.43               | 49.64                  |
|               | Final   | 9:41 AM   | <b>11</b>              | 600             | 600                          | 4600              |                               |                     |                        |                     |                        |
| 5             | Initial | 9:43 AM   | 1                      | 0               | 550                          | 0                 | 4500                          | 45.23               | 123.35                 | 17.81               | 48.56                  |
|               | Final   | 9:44 AM   | <b>14</b>              | 550             | 550                          | 4500              |                               |                     |                        |                     |                        |
| 6             | Initial | 9:46 AM   | 1                      | 0               | 600                          | 0                 | 4400                          | 49.34               | 120.61                 | 19.43               | 47.48                  |
|               | Final   | 9:47 AM   | <b>17</b>              | 600             | 600                          | 4400              |                               |                     |                        |                     |                        |
| 7             | Initial | 9:49 AM   | 1                      | 0               | 600                          | 0                 | 4500                          | 49.34               | 123.35                 | 19.43               | 48.56                  |
|               | Final   | 9:50 AM   | <b>20</b>              | 600             | 600                          | 4500              |                               |                     |                        |                     |                        |
| 8             | Initial | 9:51 AM   | 1                      | 0               | 600                          | 0                 | 4600                          | 49.34               | 126.09                 | 19.43               | 49.64                  |
|               | Final   | 9:52 AM   | <b>22</b>              | 600             | 600                          | 4600              |                               |                     |                        |                     |                        |
| 9             | Initial | 9:54 AM   | 1                      | 0               | 550                          | 0                 | 4600                          | 45.23               | 126.09                 | 17.81               | 49.64                  |
|               | Final   | 9:55 AM   | <b>25</b>              | 550             | 550                          | 4600              |                               |                     |                        |                     |                        |
| 10            | Initial | 9:56 AM   | 1                      | 0               | 600                          | 0                 | 4400                          | 49.34               | 120.61                 | 19.43               | 47.48                  |
|               | Final   | 9:57 AM   | <b>27</b>              | 600             | 600                          | 4400              |                               |                     |                        |                     |                        |

## INFILTRATION CALCULATIONS

|                  |                    |
|------------------|--------------------|
| Project Name     | Proposed Warehouse |
| Project Location | Irwindale, CA      |
| Project Number   | 20G105-2           |
| Engineer         | Ryan Bremer        |

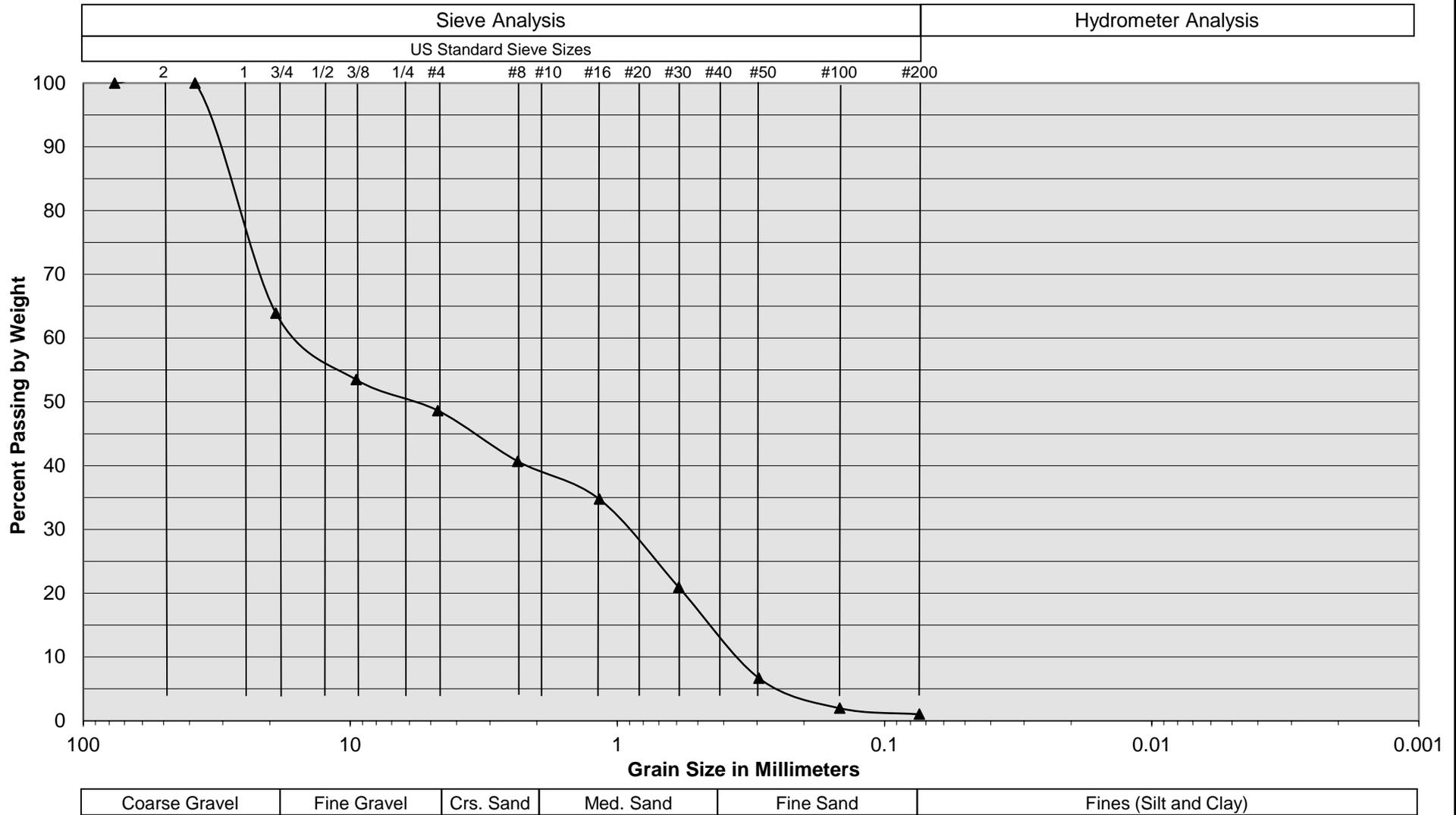
Infiltration Test No I-2

| Constants  |                  |                            |                            |
|------------|------------------|----------------------------|----------------------------|
|            | Diameter<br>(ft) | Area<br>(ft <sup>2</sup> ) | Area<br>(cm <sup>2</sup> ) |
| Inner      | 1                | 0.79                       | 730                        |
| Anlr. Spac | 2                | 2.36                       | 2189                       |

\*Note: The infiltration rate was calculated based on current time interval

| Test Interval |         | Time (hr) | Interval Elapsed (min) | Flow Readings   |                              |                   |                               | Infiltration Rates  |                        |                     |                        |
|---------------|---------|-----------|------------------------|-----------------|------------------------------|-------------------|-------------------------------|---------------------|------------------------|---------------------|------------------------|
|               |         |           |                        | Inner Ring (ml) | Ring Flow (cm <sup>3</sup> ) | Annular Ring (ml) | Space Flow (cm <sup>3</sup> ) | Inner Ring* (cm/hr) | Annular Space* (cm/hr) | Inner Ring* (in/hr) | Annular Space* (in/hr) |
| 1             | Initial | 9:52 AM   | 0                      | 0               | 0                            | 0                 | 8000                          | 210.03              | 533.40                 | 82.69               | 210.00                 |
|               | Final   | 9:56 AM   | 4                      | 1050            | 1050                         | 8000              | 8000                          | 210.03              | 533.40                 | 82.69               | 210.00                 |
| 2             | Initial | 9:57 AM   | 4                      | 0               | 0                            | 0                 | 6500                          | 24.67               | 44.54                  | 9.71                | 17.54                  |
|               | Final   | 10:01 AM  | 9                      | 1200            | 1200                         | 6500              | 6500                          | 24.67               | 44.54                  | 9.71                | 17.54                  |
| 3             | Initial | 10:02 AM  | 4                      | 0               | 0                            | 0                 | 6300                          | 26.73               | 43.17                  | 10.52               | 17.00                  |
|               | Final   | 10:06 AM  | 14                     | 1300            | 1300                         | 6300              | 6300                          | 26.73               | 43.17                  | 10.52               | 17.00                  |
| 4             | Initial | 10:07 AM  | 4                      | 0               | 0                            | 0                 | 6400                          | 26.73               | 43.86                  | 10.52               | 17.27                  |
|               | Final   | 10:11 AM  | 19                     | 1300            | 1300                         | 6400              | 6400                          | 26.73               | 43.86                  | 10.52               | 17.27                  |
| 5             | Initial | 10:12 AM  | 4                      | 0               | 0                            | 0                 | 6300                          | 26.73               | 43.17                  | 10.52               | 17.00                  |
|               | Final   | 10:16 AM  | 24                     | 1300            | 1300                         | 6300              | 6300                          | 26.73               | 43.17                  | 10.52               | 17.00                  |
| 6             | Initial | 10:17 AM  | 4                      | 0               | 0                            | 0                 | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |
|               | Final   | 10:21 AM  | 29                     | 1300            | 1300                         | 6500              | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |
| 7             | Initial | 10:22 AM  | 4                      | 0               | 0                            | 0                 | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |
|               | Final   | 10:26 AM  | 34                     | 1300            | 1300                         | 6500              | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |
| 8             | Initial | 10:28 AM  | 4                      | 0               | 0                            | 0                 | 6400                          | 26.73               | 43.86                  | 10.52               | 17.27                  |
|               | Final   | 10:32 AM  | 40                     | 1300            | 1300                         | 6400              | 6400                          | 26.73               | 43.86                  | 10.52               | 17.27                  |
| 9             | Initial | 10:33 AM  | 4                      | 0               | 0                            | 0                 | 6400                          | 27.75               | 43.86                  | 10.93               | 17.27                  |
|               | Final   | 10:37 AM  | 45                     | 1350            | 1350                         | 6400              | 6400                          | 27.75               | 43.86                  | 10.93               | 17.27                  |
| 10            | Initial | 10:39 AM  | 4                      | 0               | 0                            | 0                 | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |
|               | Final   | 10:43 AM  | 51                     | 1300            | 1300                         | 6500              | 6500                          | 26.73               | 44.54                  | 10.52               | 17.54                  |

# Grain Size Distribution



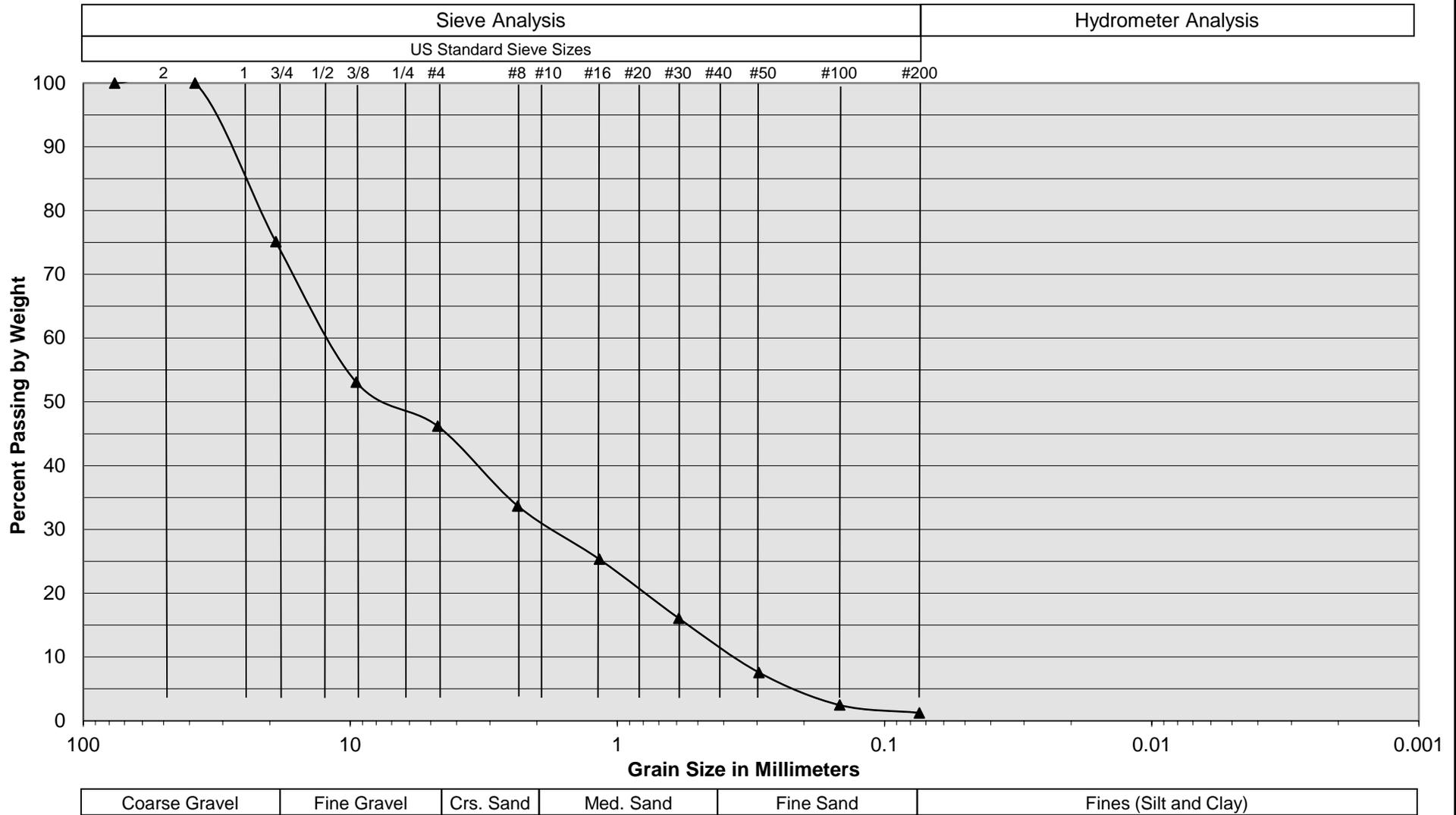
|                     |  |
|---------------------|--|
| Sample Description  | I-1 @ 9 feet   |
| Soil Classification | Light Gray Sandy fine to coarse Gravel, occasional coarse Sand, trace Silt |

Proposed Warehouse  
 Irwindale, California  
 Project No. 20G105-2  
**PLATE C-1**

D-69



# Grain Size Distribution



|                     |  |
|---------------------|--|
| Sample Description  | I-2 @ 9.5 feet   |
| Soil Classification | Light Gray Sandy fine to coarse Gravel, occasional fine Sand |

Proposed Warehouse  
 Irwindale, California  
 Project No. 20G105-2  
**PLATE C-2**

D-70



**SOUTHERN CALIFORNIA GEOTECHNICAL**  
A California Corporation

August 30, 2021

Rexford Industrial Reality, Inc.  
333 City Boulevard West, Suite 705  
Orange, California 92868



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

Attention: Mr. Nick Kreuter, MBA  
Project Manager

Project No.: **20G105-3**

Subject: **Response to Third-Party Geotechnical Review**  
Proposed Warehouse  
4416 Azusa Canyon Road  
Irwindale, California

References: Geotechnical Investigation, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, prepared for Rexford Industrial, by Southern California Geotechnical, Inc. (SCG), SCG Project No. 20G105-1.

Results of Infiltration Testing, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, prepared for Rexford Industrial, prepared by SCG, SCG Project No. 20G105-2, dated February 13, 2020.

Third-Party Review of Southern California Geotechnical Reports Dated February 13 and February 14, 2020, Proposed Industrial Development, 4116 Azusa Canyon Road, Irwindale, California, prepared by LGC, Geotechnical, Inc., LGC Project No. 20249-01, dated May 11, 2021.

Mr. Kreuter:

In accordance with your request, this letter presents our response to the above referenced third-party geotechnical review prepared by LGC Geotechnical, Inc. (LGC). This review was performed for the geotechnical report and infiltration testing report that we have previously prepared for the proposed development and the subject site (Reference Nos. 1 and 2, respectively). We have duplicated each of the comments by LGC below, for the geotechnical and infiltration testing reports followed by our response.

#### Third Party Review Comments for Geotechnical Investigation Report

LGC No. 1: *Subsurface explorations for the geotechnical evaluation and infiltration evaluation were performed via open trench excavations to maximum depths of approximately 9 feet and 10 feet, respectively. It is reasonable to assume the influence of building foundations (e.g., loading dock wall footings, column footings, etc.) will influence/load native soils deeper than 10 feet below existing grade and that the infiltration of stormwater will percolate into soils deeper than 10 feet. The lack of subsurface data to depths to/beyond the anticipated influence of the proposed building foundations should be justified. Additional field work (i.e., deeper borings)*

*and laboratory testing are suggested to confirm the preliminary subsurface assumptions and geotechnical recommendations.*

SCG: The near surface soils at this site consist of gravelly well-graded sands with occasional to extensive cobble and Boulder content. Based on our previous experience with other projects near the subject site, it is not feasible to drill borings using a conventional drilling rig equipped with standard hollow-stem augers in these soils due to the gravel, cobble, and boulder content. For other projects where similar cobble and boulder containing soils were anticipated (for which liquefaction evaluation was required, and/or for larger structures) we have explored to greater depths using an air rotary drill rig equipped with a Becker hammer. However, we did not think that the expense of such a rig was warranted for a job of this size and scope. Based on our knowledge of nearby sites, we understand that similar soils consisting of well-graded gravelly sands with cobbles and boulders are present to depths extending much deeper than the depth of the anticipated foundation influence zones.

Based on our knowledge of nearby sites, we expect that the native alluvium directly beneath the depths explored during our investigation is very similar to the native soils that were explored in our backhoe-excavated test pits. Based on this expectation and the type of structure proposed for this project, we do not plan to perform additional subsurface exploration for this project.

LGC No. 2: *The potential geotechnical restraints or hazards, if any, associated with proximity of the subject site to the deep excavation known as the adjacent Olive Pit mine should be addressed.*

SCG: The proposed structure at this site will consist of a new warehouse building of concrete tilt-up construction, supported on conventional shallow foundations. Based on the anticipated foundation loads, the lateral extent of foundation influence will not significantly extend beyond the area of the proposed structure. Because the proposed structure will be located more than 100 feet from the mine site, we do not anticipate any significant hazard related to the Olive Pit mine.

LGC No. 3: *The potential impacts to adjacent (offsite) properties, structures and improvements as a result of site grading and construction and additional recommendations to protect these offsite improvements should be addressed, as necessary.*

SCG: Grading and foundation plans for the proposed development have not yet been provided to our office. At the time of our grading plan review, we typically provide additional recommendations for new screen walls located along property lines. Where the full lateral extent of the recommended remedial grading cannot be performed, we typically recommend that new screen walls be redesigned for a reduced allowable foundation bearing pressure. Depending on the extent of the remedial grading that can be performed, we would typically recommend that screen wall foundations be redesigned for a maximum allowable bearing pressure of 1,500 to 2,000 pounds per square foot. At the time of our grading and

foundation plan reviews for this project, we will review new screen wall plans and determine if a reduced allowable bearing pressure is warranted.

At the time of our grading plan review, we will also review any available utility and foundation plans to determine if any additional grading or construction recommendations are necessary. Excavations near property lines may require the use of shoring or specialized grading techniques.

LGC No. 4: *The potential for hydro collapse of the dry to damp granular alluvial soils should be addressed.*

SCG: For virtually all new building projects, we attempt to obtain relatively undisturbed samples for consolidation/collapse testing. However, the near-surface soils at this site contain large particles such as coarse gravel, cobbles, and boulders. Therefore, it was not practical to obtain any relatively undisturbed samples of the near-surface native alluvium for collapse testing.

Based on the presence of fine to coarse gravel, cobbles, and boulders, we expect that the near-surface native alluvial soils at this site were deposited during a high energy flow, and possess high relative densities and low void ratios. Furthermore, during subsurface exploration, we did not identify any apparent porosity in the native alluvium encountered in our test pits. Based on these considerations, we expect that the collapse potential of the near surface native alluvium at this site is relatively low.

Any variable density artificial fill materials which may possess some potential for collapse will be removed from the proposed building area and replaced as compacted structural fill.

LGC No. 5: *Expansion potential laboratory testing should be performed at the completion of grading to verify the preliminary assumptions.*

SCG: We concur. However, we do not anticipate that the near surface soils at this site possess significant potential for expansion, as only "trace" or "occasional" clay content was observed in the artificial fill materials at the trenches. The near surface alluvium at this site consists of well graded granular soils which are considered to be non-expansive based on their lack of any appreciable clay content.

#### Third Party Review Comments for Geotechnical Investigation Report

LGC No. 1: *Subsurface explorations for the geotechnical evaluation and infiltration evaluation were performed via open trench excavations to maximum depths of approximately 9 feet and 10 feet, respectively. It is reasonable to assume the influence of building foundations (e.g., loading dock wall footings, column footings, etc.) will influence/load native soils deeper than 10 feet below existing grade and that the infiltration of stormwater will percolate into soils deeper than 10 feet. The lack of subsurface data to depths beyond the proposed bottom of the infiltration system should be justified. Additional field work (i.e., deeper borings) and laboratory*

*testing are suggested to confirm the preliminary subsurface assumptions and geotechnical recommendations.*

SCG: Please see our response to Item No. 1, above.

Additionally, for most projects we would typically drill borings to depths greater than the proposed invert elevation of the stormwater disposal system in order to determine if the conditions below the proposed system are similar to the soils being tested at the system bottom. Such comparison is useful to determine if we can expect the infiltration characteristics to be similar to those soils at the test depths. Deeper borings are also typically performed in order to rule out the presence of groundwater within 10 feet of the bottom of the system. However, as discussed above, it was not feasible to drill borings at this site using conventional drilling equipment, and it was not feasible to excavate deeper trenches at this site without significant benching and the use of larger equipment.

As discussed above, based on our knowledge of other sites in the area, we expect that the native alluvial soils located directly beneath the proposed infiltration system will be very similar to the native alluvial soils encountered in our backhoe-excavated test pits. We expect that the soils located directly below the system bottom will consist of well-graded granular soils with relatively high infiltration rates. Based on our research of historic high groundwater levels (discussed in Section 4.2 of the referenced geotechnical report), we expect that the groundwater table is located more than 100 feet below the bottom of the proposed system.

### **Closure**

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.



Daniel W. Nielsen, GE 3166  
Senior Engineer



Distribution: (1) Addressee

Enclosures: Geotechnical Review Sheet (4 pages)

May 11, 2021

Project No. 20249-01

Ms. Dina El Chammas

**Placeworks**

3 MacArthur Place, Suite 1100  
Santa Ana, CA 92707

**Subject: *Third-Party Review of Southern California Geotechnical Reports Dated February 13, 2020 and February 14, 2020, Proposed Industrial Development, 4116 Azusa Canyon Road, Irwindale, California***

**Introduction**

In accordance with your request, LGC Geotechnical, Inc. has prepared this third-party review of the referenced geotechnical reports for the proposed industrial development located at 4116 Azusa Canyon Road, Irwindale, California. As part of our review, we conducted a site reconnaissance visit on April 15, 2021.

**Project Overview**

The subject site is currently occupied by an existing industrial building, loading docks, parking areas, driveways, landscaping, miscellaneous improvements and a perimeter fence. It is our understanding the site is no longer operational. Vegetation was found throughout the site growing within cracks in the asphalt concrete pavement and unpaved areas. Extensive cracking of the asphalt concrete was observed. The building is a single level structure constructed with masonry block and tilt-up panel walls. The exterior loading dock is partially covered with a roof. Minor to significant cracking of the interior floor slabs was observed.

To the north of the site is a concrete lined open channel known as Big Dalton Wash, to the east of the site are existing railroad tracks, to the south of the site is Los Angeles Street and to the west of the site is Azusa Canyon Road. A few hundred feet east of the site, beyond Azusa Canyon Road and Big Dalton Wash, is the Olive Pit mining quarry. The Olive Pit mining quarry began operations in 1925 and ceased operations in the mid 1970's. The bottom of the Olive Pit excavation is approximately 200 feet below the adjacent street grades and contains side slopes with inclinations ranging from approximately 2:1 (horizontal to vertical) up to approximately 1:1.

Subsurface conditions consist of varying thicknesses of older artificial fill (not documented) overlying native alluvial materials. Artificial fill was found to depths up to 7.5 feet below existing grade. Groundwater is not anticipated to impact development of the site. Historic high groundwater is estimated to be greater than approximately 130 feet below ground surface (CDMG, 1998). No active

faults are mapped as crossing through or nearby to the site. The site is not located in a state mapped liquefaction hazard zone (CDMG, 1999).

Based on the preliminary conceptual grading plans (G4, 2020), site development will consist of one approximately 129,000 square foot industrial building, a loading dock, on-grade parking areas and a water quality system. The proposed industrial building is anticipated to be at-grade concrete tilt-up structure.

**Third Party Review of Southern California Geotechnical Results of Infiltration Testing, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, Project No. 20G105-2, dated February 13, 2020.**

**Comment No. 1** – Subsurface explorations for the geotechnical evaluation and infiltration evaluation were performed via open trench excavations to maximum depths of approximately 9 feet and 10 feet, respectively. It is reasonable to assume the influence of building foundations (e.g., loading dock wall footings, column footings, etc.) will influence/load native soils deeper than 10 feet below existing grade and that the infiltration of stormwater will percolate into soils deeper than 10 feet. The lack of subsurface data to depths beyond the proposed bottom of the infiltration system should be justified. Additional field work (i.e., deeper borings) and laboratory testing are suggested to confirm the preliminary subsurface assumptions and geotechnical recommendations.

**Third Party Review of Southern California Geotechnical, Geotechnical Investigation, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, Project No. 20G105-1, dated February 14, 2020.**

**Comment No. 1** – Subsurface explorations for the geotechnical evaluation and infiltration evaluation were performed via open trench excavations to maximum depths of approximately 9 feet and 10 feet, respectively. It is reasonable to assume the influence of building foundations (e.g., loading dock wall footings, column footings, etc.) will influence/load native soils deeper than 10 feet below existing grade and that the infiltration of stormwater will percolate into soils deeper than 10 feet. The lack of subsurface data to depths to/beyond the anticipated influence of the proposed building foundations should be justified. Additional field work (i.e., deeper borings) and laboratory testing are suggested to confirm the preliminary subsurface assumptions and geotechnical recommendations.

**Comment No. 2** – The potential geotechnical restraints or hazards, if any, associated with proximity of the subject site to the deep excavation known as the adjacent Olive Pit mine should be addressed.

**Comment No. 3** – The potential impacts to adjacent (offsite) properties, structures and improvements as a result of site grading and construction and additional recommendations to protect these offsite improvements should be addressed, as necessary.

**Comment No. 4** – The potential for hydro collapse of the dry to damp granular alluvial soils should be addressed.

**Comment No. 5** – Expansion potential laboratory testing should be performed at the completion of grading to verify the preliminary assumptions.

**Closure**

Please note, this letter is based on our review of the referenced report and limited site visit only.

Our proposed services were performed to the general standard of care of geotechnical consulting in Southern California; no other warranty is expressed or implied. This geotechnical third-party review report has been prepared for the sole use of Placeworks, its subsidiaries and affiliates may be relied upon by any of same.

The opportunity of submitting this third-party review is sincerely appreciated. Should you have any questions, please do not hesitate to contact this office.

Sincerely,

***LGC Geotechnical, Inc.***

  
Ryan Douglas, PE, GE 3147  
Project Engineer



RLD/BPP/amm

Attachment: References

Distribution: (1) Addressee (electronic copy)

## References

- California Division of Mines and Geology (CDMG) 1997, Geologic Map of the Baldwin Park 7.5-Minute Quadrangle, Los Angeles County, California, Open File Report 98-30, dated 1997.
- \_\_\_\_\_, 1998, State of California Seismic Hazard Zone Report for the Baldwin Park 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 98-13, dated 1998.
- \_\_\_\_\_, 1999, State of California Seismic Hazard Zones, Baldwin Park Quadrangle, Official Map, scale: 1:24,000, dated March 25, 1999.
- The G4 Group (G4), 2020, Conceptual Grading and Drainage Plans, 4416 Azusa Canyon Road, Irwindale, California, dated December 7, 2020.
- Historic Aerials, 2021, HistoricAerials.com: Aerial Photographs and Topographic Maps by Netronline, retrieved April 28, 2021.
- Southern California Geotechnical (So Cal Geo), 2020a, Results of Infiltration Testing, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, Project No. 20G105-2, dated February 13, 2020.
- \_\_\_\_\_, 2020b, Geotechnical Investigation, Proposed Warehouse, 4416 Azusa Canyon Road, Irwindale, California, Project No. 20G105-1, dated February 14, 2020.