AIR QUALITY ANALYSIS

SERRANO SUMMIT

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LSA Project No. LEW0904

LSA

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TABLE OF CONTENTS

APPENDICES

FIGURES AND TABLES

FIGURES

TABLES

INTRODUCTION

This air quality impact analysis evaluates potential air quality impacts that would result from the development and operation of the Serrano Summit project (proposed project) on an approximately 98.9-acre (ac) site in the City of Lake Forest (City), California. This air quality study provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The analysis provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies mitigation measures recommended for potentially significant impacts. Modeled air quality levels are based upon vehicle data and project trip generation included in a traffic study prepared for the proposed project (Austin-Foust Associates, Inc., June 16, 2009).

The evaluation was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the South Coast Air Quality Management District (SCAQMD) *CEQA* [California Environmental Quality Act] *Air Quality Handbook* (SCAQMD, April 1993).

PROJECT DESCRIPTION

Project Location

The proposed project site is located in the City between Lake Forest Drive and Bake Parkway, near Commercentre Drive, as shown on Figure 1. Direct access to the project site is provided along Commercentre Drive at Biscayne Bay Drive and Indian Ocean Drive.

Project Description

The proposed project includes residential uses and public facilities (e.g., a Civic Center). The proposed residential project consists of 150 single-family detached homes and 458 for-sale attached homes, for a total of 608 dwelling units on approximately 43.6 ac. The Civic Center includes 114,000 square feet of public facilities (a 44,000-square-foot City Hall, a 20,000-square-foot community center, and a 50,000-square-foot police center), on approximately 11.9 ac. Public facilities will occupy approximately 8.1 ac. There will be 2.9 ac of land for on-site park use and 3.8 ac for off-site passive park use. In addition, there will be 19.9 ac of land dedicated to open space. The project's Master Land Use Plan is shown on Figure 2.

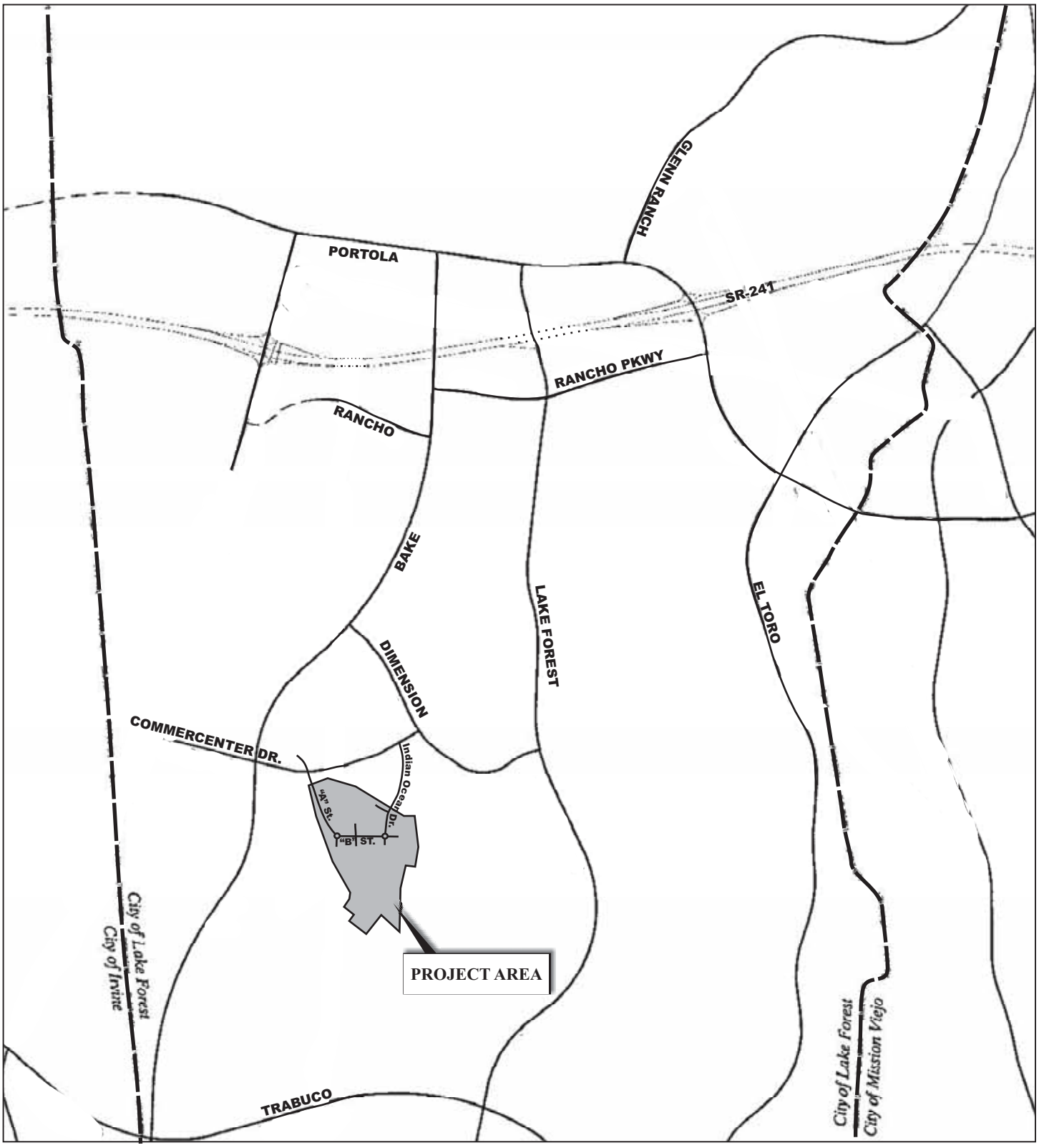

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FIGURE 1

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Not To Scale

SOURCE: Austin-Foust Associates, Inc.

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Serrano Summit

Project Location

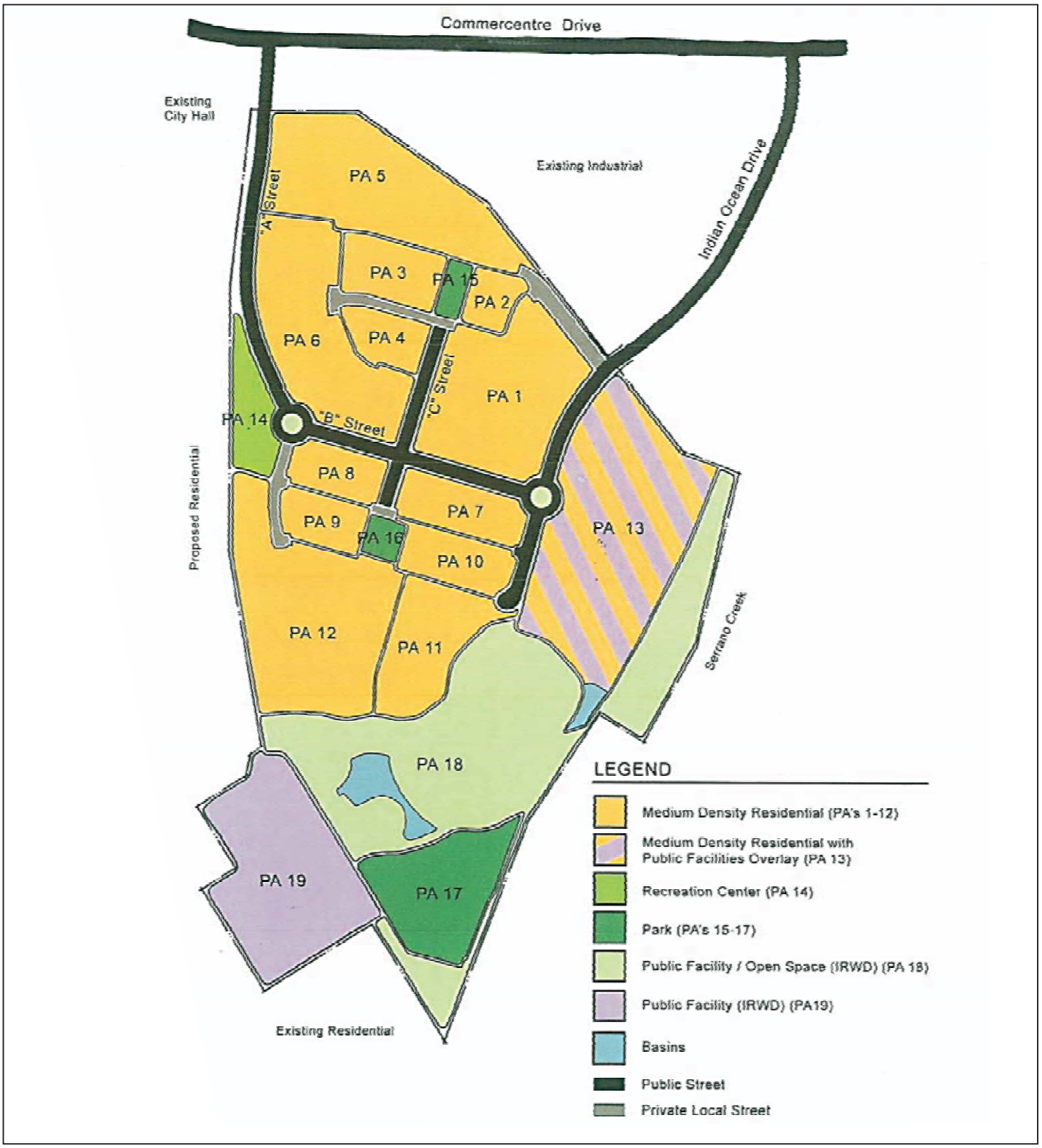

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FIGURE 2

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Serrano Summit

Master Land Use Plan

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SETTING

METHODOLOGY RELATED TO AIR QUALITY IMPACT ASSESSMENT

Evaluation of air quality impacts associated with the proposed project includes the following:

- Determining the short-term construction air quality impacts;
- Determining the long-term air quality impacts resulting from emissions from vehicular traffic and stationary sources on off-site and on-site air quality-sensitive uses;
- Determining mitigation measures required to reduce short-term and long-term, air quality impacts from all sources

EXISTING ENVIRONMENTAL SETTING

The project site is located within the City of Lake Forest, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD. The air quality assessment for the proposed project includes estimating emissions associated with both short-term construction and long-term operation of the proposed project.

A number of air quality modeling tools are available to assess air quality impacts of projects. Moreover, certain air districts, such as the SCAQMD, have created guidelines and requirements for air quality analyses. The SCAQMD's current guidelines, included in its *CEQA Air Quality Handbook* (April 1993), were adhered to in the assessment of air quality impacts for the proposed project.

Regional Air Quality

Both the State of California and the federal government have established health-based Ambient Air Quality Standards (AAQS). As shown in Table A, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM), and lead. PM includes particulate matter with a diameter of 10 microns or less (PM_{10}) and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$). 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.

In addition to setting out primary and secondary AAQS, the State of California has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM_{10}. These criteria refer to episodic levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. Table B lists the health effects of these criteria pollutants and their potential sources.

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6.0 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (338 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		—	—	
Lead[8]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average[9]	—		0.15 µg/m^3		
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: California Air Resources Board, November 17, 2008.

Footnotes:

1 California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; suspended particulate matter - PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25˚C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25˚C and a reference pressure of 760 torr; parts per million in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8 The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

9 National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Table B: Summary of Health and Other Effects of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide (CO)	By-products from incomplete combustion of fuels and other carbon containing substances, such as motor exhaust. Natural events, such as decomposition of organic matter.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Sulfur Dioxide (SO_2)	Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil (e.g., from leaded fuels and lead-based paints).	Impairment of blood function and nerve construction. Behavioral and hearing problems in children.

Source: California Air Resources Board, 2001.

Because the concentration standards were set by the United States Environmental Policy Act (EPA) at a level that protects public health with an adequate margin of safety, these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are more stringent than federal AAQS. Among the pollutants, O_3, $PM_{2.5}$, and PM_{10} are considered regional pollutants, while the others have more localized effects.

The California Clean Air Act (CCAA) provides the SCAQMD with the authority to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this are the motor vehicles at an intersection, a mall, and on highways. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the California Air Resources Board (ARB).

Climate/Meteorology. Air quality in the planning area is not only affected by various emission sources (mobile, industry, etc.) but also by atmospheric conditions like wind speed, wind direction, temperature, and rainfall. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin. The Basin lies in the semi-permanent, high-pressure zone of the eastern Pacific; the resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, 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 climatological station closest to the site is the Tustin Irvine Ranch Station.[1] The monthly average maximum temperature recorded at this station from January 1902 to June 2003 ranged from 66.8°F in January to 85.2°F in August, with an annual average maximum of 75.4°F. The monthly average minimum temperature recorded at this station ranged from 40.2°F in January to 59.1°F in August, with an annual average minimum of 49.4°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

Most rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Tustin Irvine Ranch Station monitored precipitation from January 1902 to June 2003. Average monthly rainfall during that period varied from 2.67 inches in February to 0.45 inch or less between May and October, with an annual total of 12.86 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

[1] Western Regional Climate Center, www.wrcc.dri.edu.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid- to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning.

Winds in the Basin are predominantly low velocity. Wind speeds in the Basin average about 4 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north, or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen, because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Global Climate Change. Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2 degrees Celsius (°C) (1.1 ± 0.4°F) in the 20th century. The prevailing scientific opinion on climate change is that "most of the warming observed over the last 50 years is attributable to human activities."[1] The increased amounts of CO_2 and other greenhouse gases (GHGs) are the primary causes of the human-induced component of warming. They are released by the burning of fossil fuels, land clearing, agriculture, etc., and lead to an increase in the GHG effect.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, enhancing the natural greenhouse effect, which is believed to be causing global warming. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere.

Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants and evaporation from the oceans. Together, these natural sources release approximately 150 billion

[1] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: The Physical Science Basis*, http://www.ipcc.ch.

tonnes[1] of CO_2 each year, far outweighing the 7 billion tonnes of human-made emissions from fossil fuel burning, waste incineration, deforestation, and cement manufacture. Nevertheless, natural removal processes such as photosynthesis by land- and ocean-dwelling plant species cannot keep pace with this extra input of human-made CO_2, and consequently the gas is building up in the atmosphere.[2]

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Human-made sources include the mining and burning of fossil fuels; digestive processes in ruminant animals such as cattle; rice paddies; and the burying of waste in landfills. Total annual emissions of CH_4 are approximately 500 million tonnes, with human-made emissions accounting for the majority. As for CO_2, the major removal process of atmospheric CH_4—chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

California is the fifteenth largest emitter of GHGs on the planet, representing approximately 2 percent of the worldwide emissions. In December 2007, ARB approved a GHG target for 2020 equivalent to the State's calculated GHG level in 1990. ARB developed the 2020 target after extensive technical work and a series of stakeholder meetings. The 2020 target of 427 million metric tons of carbon dioxide equivalent ($MMTCO_2E$) requires the reduction of 169 $MMTCO_2E$, or approximately 30 percent, from the State's projected 2020 emissions of 596 $MMTCO_2E$ (business as usual) and the reduction of 42 $MMTCO_2E$, or almost 10 percent, from 2002–2004 average emissions. Table C shows the current emissions and projected 2020 emissions of GHGs for the State.[3]

Table C: California GHG Emissions – Current and Projected ($MMTCO_2E$)

Sector	2002–2004 Average Emissions	Projected 2020 Emissions (BAU)
Transportation	179.3	225.4
Electricity	109.0	139.2
Commercial and Residential	41.0	46.7
Industry	95.9	100.5
Recycling and Waste	5.6	7.7
High GWP	14.8	46.9
Agriculture	27.7	29.8
Forest Net Emissions	-4.7	0.0
Emissions Total	**469.0**	**596.0**

Source: California Air Resources Board. Greenhouse Gas Inventory.
http://www.arb.ca.gov/cc/inventory/inventory.htm
BAU = Business as Usual GWP = Global Warming Potential
GHG = Greenhouse Gas $MMTCO_2E$ = million metric tons of carbon dioxide equivalent

1 A tonne means a ton in the metric unit system; it is also called a metric ton. A tonne is 1,000 kilograms, or approximately 2,204 pounds.
2 Enviropedia, http://www.enviropedia.org.uk/Global_Warming/Emissions.php.
3 ARB Climate Change Scoping Plan, December 2008.

Air Pollution Constituents and Attainment Status. The following describes the six criteria air pollutants and their attainment status in the Basin based on ARB's Area Designations (Activities and Maps).[1] Both the State of California and the federal government have established health-based AAQS for these criteria air pollutants. Areas that meet AAQSs are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Table D summarizes the attainment status in the Basin for the major criteria pollutants.

Table D: Attainment Status for Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	Revoked June 2005
O_3 8-hour	Nonattainment	Severe 17 Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment[1]
$PM_{2.5}$	Nonattainment	Nonattainment[2]
CO	Attainment	Attainment/Maintenance[3]
NO_2	Attainment	Attainment/Maintenance
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, 2009 (http://www.arb.ca.gov/desig/desig.htm).

1 In October 2006, the EPA, in its final rule revision, eliminated the annual PM_{10} standard.

2 The $PM_{2.5}$ nonattainment designation is based on the 1997 standard. In 2006, the EPA revised the 24-hour standard. The 2006 $PM_{2.5}$ new standard of 35 $\mu g/m^3$ applies 1 year after the effective date of the new designation (April 2010).

3 Effective June 11, 2007, the South Coast Air Basin was redesignated as attainment/maintenance for the federal CO standard.

CO = carbon monoxide
EPA = Environmental Protection Agency
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

Ozone. O_3 (smog) is formed by photochemical reactions between nitrogen oxides (NO_X) and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. Effective June 15, 2005, the EPA revoked in full the federal 1-hour O_3 ambient air quality standard, including associated designations and classifications, in all areas except 14 early action compacts[2] all outside California. The entire Basin is designated as a nonattainment area[3] for the State 1-hour O_3 standard. The EPA has designated the status in the Basin for the 8-hour O_3 standard as "Severe 17," which means the Basin has until 2021 to attain the federal 8-hour O_3 standard. SCAQMD has requested that the Basin's federal designation be changed from severe to extreme nonattainment. This change would extend the attainment deadline to 2023.

1 http://www.arb.ca.gov/desig/desig.htm.

2 Early Action Compacts are agreements entered into between the EPA and communities that are working to get clean air as soon as possible by reducing ground-level O_3 pollution.

3 The EPA defines a nonattainment area as a locality where air pollution levels persistently exceed or fail to meet standards.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is designated as attainment/maintenance[1] for the federal standard and attainment for the State CO standard.

Nitrogen Oxides. NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin has not exceeded both federal and State standards for NO_2 in the past five years with published monitoring data. It is designated a maintenance area under federal standards and an attainment area under State standards.

Sulfur Dioxide. SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for federal and State lead standards.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles, PM_{10}, derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle, $PM_{2.5}$, levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by current PM_{10} 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 (in 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. The entire Basin is a nonattainment area for federal and State PM_{10} and federal $PM_{2.5}$ standards. The $PM_{2.5}$ nonattainment designation is effective from April 5, 2005, and the conformity determination requirements are effective from April 5, 2006. In the 2007

[1] An area in attainment of federal standards and required to test for maintenance of those standards.

Air Quality Management Plan (AQMP), SCAQMD anticipated that the Basin will be in attainment for the $PM_{2.5}$ annual average federal air quality standard by the April 5, 2015, deadline.

Reactive Organic Compounds. Reactive organic compounds (ROCs) are formed from the combustion of fuels and evaporation of organic solvents. ROCs are not defined criteria pollutants but are a prime component of the photochemical smog reaction. Consequently, ROCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower. ROCs are also referred to as volatile organic compounds (VOCs).

Local Air Quality

The SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Mission Viejo station, and its air quality trends are representative of the ambient air quality in the project area. As the Mission Viejo Station does not monitor No_2 and SO_2 concentrations, the data from the Costa Mesa Station was used for this analysis. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2, and SO_2.[1]

The ambient air quality data in Table E show that NO_2, SO_2, and CO levels are below the applicable State and federal standards. The State 1-hour O_3 standard was exceeded 5 to 13 times per year in the past 3 years. The federal 8-hour O_3 standard was exceeded 5 to 15 times per year in the past 3 years, and the State 8-hour O_3 standard was exceeded 10 to 25 times per year in the past 3 years. The State 24-hour PM_{10} standard was exceeded 0 to 3 times in the past 3 years, but the federal 24-hour standard was not exceeded. The federal 24-hour $PM_{2.5}$ standard was exceeded 0 to 2 days per year in the past 3 years. The State annual average $PM_{2.5}$ standard has not been exceeded in the past 3 years.

REGULATORY SETTINGS

Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS) for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas have additional restrictions imposed by the EPA.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring the Basin's compliance with the CAA.

[1] Air quality data, 2006–2008; EPA and ARB Web sites.

Table E: Ambient Air Quality at the Mission Viejo and Costa Mesa Air Monitoring Stations

Pollutant	Standard	2008	2007	2006
Carbon Monoxide (CO)				
Maximum 1-hr concentration (ppm)		1.5	2.9	1.9
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		1.1	2.2	1.6
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hr concentration (ppm)		0.118	0.108	0.123
Number of days exceeded:	State: > 0.09 ppm	9	5	13
Maximum 8-hr concentration (ppm)		0.104	0.090	0.105
Number of days exceeded:	Federal: > 0.075 ppm	15	5	12
Number of days exceeded:	State: > 0.070 ppm	25	10	23
Coarse Particulates (PM_{10})				
Maximum 24-hr concentration ($\mu g/m^3$)		42	74	57
Number of days exceeded:	State: > 50 $\mu g/m^3$	0	3	1
	Federal: > 150 $\mu g/m^3$	0	0	0
Annual arithmetic average concentration ($\mu g/m^3$)		22.6	23.0	21.1
Exceeded for the year:	State: > 20 $\mu g/m^3$	Y	Y	Y
	Federal: > 50 $\mu g/m^3$	N	N	N
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hr concentration ($\mu g/m^3$)		31.9	46.8	46.9
	Federal: > 35 $\mu g/m^3$	0	2	1
Annual arithmetic average concentration ($\mu g/m^3$)		ND	11	11
Exceeded for the year:	State: > 12 $\mu g/m^3$	ND	N	N
	Federal: > 15 $\mu g/m^3$	ND	N	N
Nitrogen Dioxide (NO_2)				
Maximum 1-hr concentration (ppm)		0.081	0.074	0.101
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.013	0.013	0.015
Number of days exceeded:	Federal: > 0.053 ppm	N	N	N
Sulfur Dioxide (SO_2)				
Maximum 1-hr concentration (ppm)		0.009	0.029	0.012
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 3-hr concentration (ppm)		0.006	0.017	0.009
Number of days exceeded:	Federal: > 0.5 ppm	0	0	0
Maximum 24-hr concentration (ppm)		0.003	0.004	0.005
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.001	0.000	0.001
Exceeded for the year:	Federal: > 0.030 ppm	N	N	N

Source: Environmental Protection Agency and California Air Resources Board, 2009.
ND = No data available
hr = hour
ppm = parts per million
$\mu g/m^3$ = microgram of pollutant per cubic meter of air

The EPA established new national air quality standards for ground-level O_3 and $PM_{2.5}$ in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and PM $_{2.5}$, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the United States Supreme Court upheld the way the government sets air quality standards under the CAA. The court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took lawmaking power from Congress when it set tougher standards for O_3 and particulate matter in 1997. Nevertheless, the court threw out the EPA's policy for implementing new O_3 rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the 8-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the 8-hour O_3 standard in April 2003. The EPA completed final 8-hour nonattainment status on April 15, 2004. The EPA revoked the 1-hour O_3 standard on June 15, 2005.

The EPA issued the final $PM_{2.5}$ implementation rule in Fall 2004. The EPA issued final designations on December 14, 2004. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 to 35 micrograms per cubic meter ($\mu g/m^3$) and revoked the annual average PM_{10} standard in December 2006.

State Regulations/Standards

In 1967, the California Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus, the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board, to establish the ARB. Since its formation, the ARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems.

In a response to the transportation sector's significant contribution to California's CO_2 emissions, Assembly Bill (AB) 1493 (Pavley) was enacted on July 22, 2002. AB 1493 requires the ARB to set GHG emission standards for passenger vehicles and light-duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. In setting these standards, the ARB considered cost effectiveness, technological feasibility, and economic impacts. The ARB adopted the standards in September 2004. When fully phased in, the near-term (2009 to 2012) standards would result in a reduction in GHG emissions of approximately 22 percent compared to the emissions from the 2002 fleet, while the midterm (2013 to 2016) standards would result in a reduction of approximately 30 percent. To set its own GHG emissions limits on motor vehicles, California must receive a waiver from the EPA. However, in December 2007, the EPA denied the request from California for the waiver. In January 2008, the California Attorney General filed a petition for review of the EPA's decision in the Ninth Circuit Court of Appeals; however, no decision on that petition has been published as of January 2009. On January 26, 2009, President Obama issued an Executive Memorandum directing the EPA to reassess its decision to deny the waiver and to initiate any appropriate action.[1] On May 18, 2009, the President announced the enactment of a 35.5-miles-per-gallon (mpg) fuel economy standard for automobiles and light-duty trucks, which will begin to take effect in 2012. This is approximately the

[1] Obama, President Barack. 2009. Memorandum for the Administrator of the Environmental Protection Agency. State of California Request for Waiver Under 42 U.S.C. 7543(b), the Clean Air Act. January 26.

same standard that was proposed by California, and the California waiver request has been shelved as a result.

The ARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as toxic air contaminants (TACs) in August 1998. Following the identification process, the ARB was required by law to determine whether there is a need for further control. In September 2000, the ARB adopted the Diesel Risk Reduction Plan (Diesel RRP), which recommends many control measures to reduce the risks associated with DPM and achieve a goal of 75 percent DPM reduction by 2010 and 85 percent by 2020.

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals for the State of California: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

California's major initiative for reducing GHG emissions is outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006. This effort aims to reduce GHG emissions to 1990 levels by 2020. The ARB has established the level of GHG emissions in 1990 at 427 $MMTCO_2E$. The emissions target of 427 $MMTCO_2E$ requires the reduction of 169 $MMTCO_2E$ from the State's projected business-as-usual 2020 emissions of 596 $MMTCO_2E$. AB 32 requires ARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures.[1] Emission reductions that are projected to result from the recommended measures in the Scoping Plan are expected to total 174 $MMTCO_2E$, which would allow California to attain the emissions goal of 427 $MMTCO_2E$ by 2020. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan, even after ARB approval, remains a recommendation. The measures in the Scoping Plan will not be binding until after they are adopted through the normal rulemaking process. The ARB rulemaking process includes preparation and release of each of the draft measures, public input through workshops, and a public comment period, followed by an ARB Board hearing and rule adoption.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed ARB and the newly created Climate Action Team (CAT)[2] to identify a list of "discrete early action GHG reduction measures" that can be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed Executive Order S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard. The Executive Order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the ARB to consider the Low Carbon Fuel Standard as a discrete early action measure.

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1 California Air Resources Board. 2008. *Climate Change Proposed Scoping Plan: a framework for change*. October.

2 CAT is a consortium of representatives from State agencies who have been charged with coordinating and implementing GHG emission reduction programs that fall outside of the ARB's jurisdiction.

In June 2007, the ARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on High Global Warming Potential Refrigerants, and Landfill Methane Capture). [1] Discrete early action measures are measures that are required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code (HSC) Section 38560.5. The ARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of perfluorocarbons (PFCs) from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and sulfur hexafluoride (SF_6) reduction from the nonelectricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 million metric tons.[2]

To assist public agencies in the mitigation of GHG emissions or analyzing the effects of GHGs under CEQA, including the effects associated with transportation and energy consumption, Senate Bill (SB) 97 (Chapter 185, 2007) requires the Governor's Office of Planning and Research (OPR) to develop CEQA guidelines on how to minimize and mitigate a project's GHG emissions. OPR submitted these guidelines on April 13, 2009, to the Secretary of Natural Resources, and the Agency is required to certify and adopt them by January 1, 2010. Preliminary guidance released by OPR in June 2008 suggests that global climate change analyses in CEQA documents should be conducted for all projects that release GHGs, and that mitigation measures to reduce emissions should be incorporated into projects to the extent feasible. On January 8, 2009, OPR released preliminary draft CEQA guideline amendments, which may be refined through a public process currently underway at the time this document was drafted. The preliminary amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations.

SB 375, signed into law on October 1, 2008, is intended to enhance the ARB's ability to reach AB 32 goals by directing the ARB to develop regional GHG emissions reduction targets to be achieved within the automobile and light truck sectors for 2020 and 2035. The ARB will work with California's 18 MPOs to align their regional transportation, housing, and land use plans and prepare a "Sustainable Communities Strategy" to reduce the number of vehicle miles traveled (VMT) in their respective regions and demonstrate the regions' ability to attain their GHG reduction targets.

Additionally, SB 375 provides incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The bill exempts homebuilders from certain CEQA requirements if they build projects consistent with the new sustainable community strategies. It will also encourage the development of more alternative transportation options to promote healthy lifestyles and reduce traffic congestion.

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the state. The federal CAA Amendments of 1977 required that each state adopt an

1 California Air Resources Board. 2007. Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration. October.

2 California Air Resources Board. 2007. "ARB approves tripling of early action measures required under AB 32." News Release 07-46. http://www.arb.ca.gov/newsrel/nr102507.htm. October 25.

implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB coordinates and oversees both state and federal air pollution control programs in California. It oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. The ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as "attainment" or "nonattainment" with respect to each pollutant and to monitor progress in attaining air quality standards. The ARB has divided the State into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan. The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the Basin. Every 3 years the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The SCAQMD adopted the 2003 AQMP in August 2003 and forwarded it to ARB for review and approval. The ARB approved a modified version of the 2003 AQMP and forwarded it to the EPA in October 2003 for review and approval.

The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard; provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992. The 2003 AQMP proposes policies and measures to achieve federal and State standards for healthful air quality in the Basin.

This revision to the AQMP also addressed several state and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. This AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the O_3 SIP for the Basin for the attainment of the federal O_3 air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/1999 Plan) to offset increased emission estimates from mobile sources and meet all federal criteria pollutant standards within the time frames stipulated under the federal CAA.

The SCAQMD adopted the 2007 AQMP on June 1, 2007, which it describes as a regional and multiagency effort (i.e., the SCAQMD Governing Board, ARB, SCAG, and EPA). State and federal planning requirements will include developing control strategies, attainment demonstration, reasonable further progress, and maintenance plans. The 2007 AQMP also incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The ARB approved the 2007 AQMP on September 27, 2007, and adopted it as part of the 2007 SIP. SCAQMD has forwarded the 2007 AQMP to the EPA for its review and approval.

THRESHOLDS OF SIGNIFICANCE

Based on Guidelines for the Implementation of California Environmental Quality Act, Appendix G, Public Resource Code (PRC) Sections 15000–15387, a project would normally be considered to have a significant effect on air quality if the project would violate any AAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

In addition to the federal and State AAQS, there are daily and quarterly emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its CEQA Air Quality Handbook (SCAQMD, April 1993) are used in this analysis. It should be noted that the emission thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emission thresholds are regarded as conservative and may overstate an individual project's contribution to health risks.

Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established by the SCAQMD for the Basin:

- 75 pounds per day (lbs/day) of ROCs
- 100 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of sulfur oxides (SO_X)

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds will be considered significant under CEQA.

Thresholds for Operational Emissions

The daily operational emissions "significance" thresholds established by the SCAQMD for the Basin are as follows.

Emission Thresholds for Pollutants with Regional Effects. Projects with operations-related emissions that exceed any of the emission thresholds listed below are considered significant under the SCAQMD guidelines.

- 55 lbs/day of ROCs
- 55 lbs/day of NO_X

- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 part per million (ppm) or more, or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

Thresholds for Localized Significance

The SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of the national or state AAQS are previously shown in Table A. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST is the Saddleback Valley area (Area 19). Following the SCAQMD LST methodology, for sites larger than 5 ac, dispersion modeling needs to be conducted for construction activity. Because the project site is larger then 5 ac, the localized significance for project air emissions is determined by performing dispersion modeling to see if the pollutant concentrations would exceed the AAQS, or for particulate matter, if the pollutant concentrations would exceed thresholds presented in SCAQMD Rule 403. The Rule 403 threshold of 10.4 $\mu g/m^3$ applies to construction emissions and may apply to operational emissions at aggregate handling facilities. Since the project is not an aggregate handling facility, operational LSTs are assessed with the SCAQMD screening thresholds. The nearest sensitive receptors are residential uses to the southwest of the project site boundary, approximately 100 feet (ft) (30 meters [m]) from the property line. Based on the SCAQMD LST guidelines, receptors beyond 25 m of the project boundary can be evaluated against the emission thresholds at 25 m as a worst case scenario. Using the LST thresholds for receptors at 25 m from a 5 ac site for this project would result in a conservative analysis because project operational emissions would be emitted over an area much larger than a 5 ac site. Therefore, the following emissions thresholds apply during project operations:

- 197 lbs/day of NO_X
- 1,804 lbs/day of CO

- 3 lbs/day of PM_{10}
- 2 lbs/day of $PM_{2.5}$

Global Warming

The recommended approach for GHG analysis included in OPR's June 2008 release is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact below a level of significance.[1] Neither the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency.

The June 2008 OPR guidance provides some additional direction regarding planning documents, as follows: "CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation…. For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews."

Pursuant to SB 97, OPR is in the process of developing guidelines for analyzing the effects of GHG emissions. As part of this process, OPR has asked ARB technical staff to recommend statewide interim thresholds of significance for GHGs. The ARB released a preliminary draft staff proposal in October 2008 that included initial suggestions for significance criteria related to industrial, commercial, and residential projects. The ARB anticipates adopting the proposal in 2009 to allow coordination with OPR's efforts on global climate change.

In April 2009, proposed CEQA Guidelines amendments released by OPR included the following direction regarding determination of significant impacts from GHG emissions (Section 15064.4):

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> > (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; or

[1] State of California, 2008. Governor's Office of Planning and Research. *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review*. June 19.

> (2) Rely on a qualitative analysis or performance based standards.
>
> (b) A lead agency may consider the following when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas 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 a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas 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.

CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and, further, states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

Some policy makers and regulators suggest that a zero emissions threshold would be appropriate when evaluating GHGs and their potential effect on climate change. Such a rule appears inconsistent with the State's approach to mitigation of climate change impacts. AB 32 does not prohibit all new GHG emissions; rather, it requires a reduction in statewide emissions to a given level. Thus, AB 32 recognizes that GHG emissions will continue to occur; increases will result from certain activities, but reductions must occur elsewhere.

Individual projects incrementally contribute toward the potential for global climate change on a cumulative basis in concert with all other past, present, and probable future projects. While individual projects are unlikely to measurably affect global climate change, each of these projects incrementally contributes toward the potential for global climate change on a cumulative basis, in concert with all other past, present, and probable future projects. This air quality analysis analyzes whether the project's emissions should be considered cumulatively significant. The proposed project would result in a significant global climate change impact if it would:

- Hinder attainment of the State's goals of reducing GHG emissions to 1990 levels by 2020, as stated in the Global Warming Solutions Act of 2006. A project may be considered to help attainment of the State's goals by being consistent with an adopted statewide 2020 GHG emissions limit or the plans, programs, and regulations adopted to implement the Global Warming Solutions Act of 2006.

- Fail to achieve increased energy efficiency or reduce overall GHG emissions from an existing facility.
- Significantly increase the consumption of fuels or other energy resources, especially fossil fuels that contribute to GHG emissions when consumed.

IMPACTS AND MITIGATION

Air pollutant emissions associated with the project would occur over the short term from construction activities such as fugitive dust from site preparation and grading, and emissions from equipment exhaust. There would be long-term regional emissions associated with project-related vehicular trips and stationary source emissions due to energy consumption, such as natural gas and electricity usage by the proposed project.

CONSTRUCTION IMPACTS

Construction activities produce combustion emissions from various sources such as utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities utilized on site would vary daily as construction activity levels change and would result in localized exhaust emissions.

Construction activities associated with new development occurring on site would temporarily increase localized PM_{10}, $PM_{2.5}$, ROC, NO_X, and CO concentrations in the project vicinity. The primary sources of construction-related ROC and NO_X emissions are gasoline- and diesel-powered heavy-duty mobile construction equipment such as scrapers and motor graders. Primary sources of PM_{10} and $PM_{2.5}$ emissions would be clearing activities, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces.

Emissions generated from construction activities are anticipated to cause temporary increases in pollutant concentrations. The frequency and concentrations of such increases would depend on several factors, including the soil composition on site, the amount of soil disturbed, wind speed, the number and type of machinery used, the construction schedule, and the proximity of other construction and demolition projects.

Depending on market conditions, the project is expected to be constructed in phases over a period of six years, starting from 2013 with the public facilities and eight single-family detached homes to 2018 for the completion of the proposed government facilities, as shown below:

2013: public facilities and eight single-family detached homes,
2014: 99 single-family detached homes and 112 single-family attached homes,
2015: 43 single-family detached homes and 217 single-family attached homes,
2016: 106 single-family attached homes,
2017: 23 single-family attached homes, and
2018: government facilities

Tables F through K list the construction emissions estimates for each of these six years. The construction emissions were calculated using the URBEMIS 2007 emissions model. The construction emissions calculations are included in Appendix A.

Table F: 2013 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	14	3.0	25	0.0013	4.5	1.8	2,400
Fine Grading	14	3.0	25	0.0013	4.5	1.8	2,400
Trenching	9.3	2.1	18	0.0013	0.89	0.81	1,800
Paving	9.3	2.4	13	0.0039	1.1	1	1,400
Building	7.8	1.3	9.8	0.0041	0.62	0.56	1,300
Coating	0.093	5.3	0.0054	0.00012	0.0009	0.0005	12
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO - carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table G: 2014 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	17	3.7	30	0.0016	37	8.8	3,200
Fine Grading	17	3.7	30	0.0016	37	8.8	3,200
Trenching	8.9	1.8	15	0.0013	0.74	0.68	1,800
Paving	14	6.0	24	0.018	1.6	1.5	3,100
Building	34	4.1	20	0.039	1.5	1.2	5,400
Coating	0.73	19	0.041	0.0011	0.0081	0.0043	110
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO – carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table H: 2015 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	17	3.5	28	0.0016	26	6.5	3,200
Fine Grading	17	3.5	28	0.0016	26	6.5	3,200
Trenching	8.8	1.7	14	0.0013	0.69	0.63	1,800
Paving	12	4.4	18	0.013	1.4	1.2	2,400
Building	33	3.9	20	0.04	1.4	1.2	5,600
Coating	0.65	18	0.036	0.0011	0.0079	0.0043	100
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO – carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table I: 2016 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	12	2.4	19	0.0013	6.8	2.0	2,400
Fine Grading	12	2.4	19	0.0013	6.8	2.0	2,400
Trenching	8.7	1.6	13	0.0013	0.6	0.55	1,800
Paving	11	2.6	14	0.005	1.1	1.0	1,800
Building	17	3.0	15	0.015	0.98	0.87	3,100
Coating	0.21	6.2	0.011	0.00037	0.0027	0.0015	35
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO - carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table J: 2017 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	11	2.3	18	0.0013	2.1	1.0	2,400
Fine Grading	11	2.3	18	0.0013	2.1	1.0	2,400
Trenching	8.6	1.5	12	0.0013	0.56	0.52	1,800
Paving	8.1	1.6	9.2	0.0028	0.73	0.67	1,300
Building	5.8	0.89	6.4	0.0032	0.38	0.34	1,200
Coating	0.042	1.3	0.0023	0.00008	0.0006	0.0003	7.7
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO - carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table K: 2018 Short-Term Construction Emissions

Phase	Pollutant Emissions, lbs/day						
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Mass Grading	11	2.1	16	0.0013	4.6	1.5	2,400
Fine Grading	11	2.1	16	0.0013	4.6	1.5	2,400
Trenching	8.5	1.4	10	0.0013	0.48	0.43	1,800
Paving	10	2.3	12	0.0045	0.94	0.85	1,700
Building	14	2.4	12	0.0097	0.76	0.67	2,600
Coating	0.14	19	0.0075	0.00029	0.0021	0.0011	27
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**150**	**55**	**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**	**No**	

Source: LSA Associates, Inc., December 2009.

CO – carbon monoxide
CO_2 - carbon dioxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - Reactive Organic Gases
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Tables F through K show that construction equipment/vehicle emissions would not exceed the SCAQMD thresholds for any criteria pollutant during the six-year construction periods.

Fugitive Dust

Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill

operations. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions. Fugitive dust also would be generated as construction equipment or trucks travel on unpaved areas of the construction site.

$PM_{2.5}$ and PM_{10} emissions from grading operations during a peak construction day were calculated using the URBEMIS 2007 model and are included in the emissions listed in Tables F through K. As shown in Tables F through K, $PM_{2.5}$ and PM_{10} emissions from grading operations during a peak construction day are not anticipated to exceed SCAQMD thresholds.

Localized Significance Analysis

Table L lists the construction-related LSTs for the Saddleback Valley area as calculated using AERMOD air dispersion modeling and the ambient pollutant concentrations as shown in Table D, following the SCAQMD LST methodology. These concentrations were calculated at the six existing residences located approximately 100 ft (30 m) to the southwest from the project site, during construction of residential buildings in Planning Area 12 in Phase 1. The emissions included in the dispersion analysis include all on-site construction equipment emissions and a percentage of the haul truck trip emissions. The LST dispersion analysis calculations are included in Appendix B. As shown in Table L, resulting concentrations of PM_{10} and $PM_{2.5}$ would exceed the LST threshold. This is a potentially significant impact. However, LST impacts during other phases of project construction would be less than significant due to larger buffer zone between the active construction area and adjacent sensitive uses.

Table L: Construction Localized Significance Modeling Results

Pollutant	AAQS	Ambient Concentration	Threshold	Maximum Concentration Increase	Over/ (Under)	Adverse Concentration
CO (1-hour)	20 ppm	1.9 ppm	18.1 ppm	0.25 ppm	(17.85 ppm)	No
CO (8-hour)	9 ppm	2.2 ppm	6.8 ppm	0.032 ppm	(6.77 ppm)	No
NO_2 (1-hour)	0.18 ppm	0.1 ppm	0.08 ppm	0.007 ppm	(0.073 ppm)	No
PM_{10} (24-hour)[a]			10.4 µg/m^3	48.4 µg/m3	38 µg/m3	Yes
$PM_{2.5}$ (24-hour)[a]			10.4 µg/m^3	10.7 µg/m3	0.3 µg/m3	Yes

Source : LSA Associates, Inc., December 2009.
a) Since both PM_{10} and $PM_{2.5}$ are in nonattainment, the thresholds are not based on AAQS exceedance, but rather on a violation of SCAQMD Rule 403.
AAQS = ambient air quality standards
CO = carbon monoxide
µg/m^3 = microgram of pollutant per cubic meter of air
NO_2 = nitrogen dioxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SCAQMD = South Coast Air Quality Management Agency

Odors

Some objectionable odors may emanate from the operation of diesel-powered construction equipment during the construction of the proposed project. These odors, however, would be limited to the short-term construction period of the project, are not expected to be substantial, and therefore, would not be significant.

Summary of Construction Emissions

Based on the above information, with implementation of feasible mitigation measures during construction of the proposed project, emissions from construction equipment exhaust and soil disturbance would be minimized, and construction emissions from the project will not exceed the SCAQMD daily emissions thresholds for any criteria pollutants and the LST thresholds will not be exceeded.

The emissions generated during the peak grading period (Tables F through L) are anticipated to be much higher than the emissions generated during the construction of the on-site structures. Therefore, any emissions generated during periods of overlap between project operations and final construction would be lower than those shown in Tables F through L.

LONG-TERM REGIONAL AIR QUALITY IMPACTS

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any changes associated with the proposed project. Long-term regional air quality impacts are based on the daily operational emissions significance thresholds established by the SCAQMD. Operations-related emissions are not to exceed 55 lbs/day of ROCs, 55 lbs/day of NO_X, 550 lbs/day of CO, 150 lbs/day of PM_{10}, 55 lbs/day of $PM_{2.5}$, and 150 lbs/day of SO_X. The proposed development would consist of a total of 608 dwelling units, Civic Center and public facilities, and park facilities. The stationary source emissions from these land uses would come from consumption of natural gas and electricity. Using the URBEMIS 2007 model, emissions associated with project-related stationary sources were calculated.

Based on the traffic study prepared for this project (Austin-Foust Associates, Inc., June 16, 2009), the proposed project would generate 8,770 daily trips after its buildout. Using the default emission factors included in URBEMIS 2007 (Version 9.2.4), and the project's phasing plan described earlier, emissions associated with project-related vehicular trips were calculated and are included in Tables M through R.

As shown in Tables M through R, the project's emissions (both stationary and vehicular sources) would not exceed the SCAQMD daily emissions thresholds for all criteria pollutants from 2013 to 2015. However, after 2016, project-related ROC emissions would exceed the SCAQMD daily emission threshold of 55 pounds. Therefore, the long-term air quality impacts of the proposed project would be significant. There are no feasible mitigation measures that can be used to reduce the ROC emissions to less than the SCAQMD threshold; therefore, the project's air quality impacts would remain significant. The URBEMIS 2007 model runs are included in Appendix A.

Greenhouse Gas Emissions

This section evaluates potentially significant impacts to global climate change that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs. GHG emissions reduction measures are identified as appropriate.

Emissions estimates for the proposed project are discussed below. GHG emissions estimates are provided herein for informational purposes only, as there is no established quantified GHG emissions threshold. Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis below is based on methodologies and information available to the City and the applicant at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered (after energy-efficient technologies have been implemented). While information is presented below to assist the public and the City's decision makers in understanding the project's potential contribution to global climate change impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, or between any particular proposed mitigation measure and any reduction in climate change impacts.

Table M: 2013 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	2.0	0.77	0.29	0	0.01	0.01
Mobile Sources						
Single family housing	5.1	0.47	0.66	0.01	1.0	0.2
Community Facility	49	4.8	6.8	0.06	10.0	2.0
Total Project Emissions	56	6.0	7.8	0.07	11	2.2
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 0.41 of the 0.77 lbs/day ROG emissions.
CO - carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table N: 2014 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	8.9	13	3.9	0.01	0.12	0.12
Mobile Sources						
Single family housing	64	6.0	8.2	0.08	14	2.7
Condo/townhouse general	56	5.3	7.2	0.07	12	2.4
Community Facility	47	4.5	6.3	0.06	10.0	2.0
Total Project Emissions	176	29	26	0.22	36	7.2
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 11 of the 13 lbs/day ROG emissions.
CO - carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table O: 2015 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	12	28	7.7	0.02	0.26	0.26
Mobile Sources						
Single family housing	81	7.5	10.0	0.12	19	3.8
Condo/townhouse general	150	14	19	0.22	35	6.9
Community Facility	42	4.1	5.6	0.06	10.0	2.0
Total Project Emissions	285	54	42	0.42	64	13
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 25 of the 28 lbs/day ROG emissions.
CO - carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table P: 2016 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	12	33	9.1	0.020	0.31	0.3
Mobile Sources						
Single family housing	75	7.0	9.5	0.12	19	3.8
Condo/townhouse general	180	17	23	0.29	47	9.1
Community Facility	39	3.8	5.2	0.060	10	2.0
Total Project Emissions	306	61	47	0.49	76	15
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 30 of the 33 lbs/day ROG emissions.
CO - carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table Q: 2017 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	12	35	9.4	0.020	0.32	0.31
Mobile Sources						
Single family housing	70	6.5	8.7	0.12	19	3.8
Condo/townhouse general	180	17	22	0.30	49	9.6
Community Facility	36	3.5	4.7	0.060	10	2.0
Total Project Emissions	298	62	45	0.50	78	16
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 31 of the 35 lbs/day ROG emissions.
CO – carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Table R: 2018 Long-Term Regional Operational Emissions

Emissions Sources	Pollutant Emissions, lbs/day					
	CO	**ROC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	14	35	9.9	0.020	0.32	0.31
Mobile Sources						
Single family housing	66	6.2	8.1	0.12	19	3.8
Condo/townhouse general	170	16	21	0.30	49	9.6
Government office building	76	8.5	9.7	0.13	22	4.3
Community Facility	34	3.4	4.4	0.060	10	2.0
Total Project Emissions	360	69	53	0.63	100	20
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009
Note: Residential consumer products comprise 31 of the 35 lbs/day ROG emissions.
CO - carbon monoxide
NO_X - nitrous oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROC - Reactive Organic Compounds
SCAQMD - South Coast Air Quality Management District
SO_X - sulfur oxides

Construction and operation of project development would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.[1] As of yet, there is no study that quantitatively assesses all the GHG emissions associated with each phase of the construction and use of an individual development.

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Removal of Vegetation:** The net removal of vegetation for construction results in a loss of the carbon sequestration in plants. However, planting of additional vegetation would result in additional carbon sequestration and would lower the carbon footprint of the project.
- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electricity, and Water Use:** Natural gas use results in the emissions of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy intensive. Preliminary estimates indicate that the

[1] United Nations Environment Programme, 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

total energy used to pump and treat this water exceeds 6.5 percent of the total electricity used in the State per year.[1]

- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related vehicular trips and stationary source emissions, such as natural gas used for heating. Preliminary guidance from OPR and recent letters from the Attorney General critical of CEQA documents that have taken different approaches indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. The calculation presented below includes construction emissions in terms of CO_2 and annual CO_2e, GHG emissions from increased energy consumption, water usage, solid waste disposal, and estimated GHG emissions from vehicular traffic that would result from implementation of the project.

GHG emissions generated by the proposed project would predominantly consist of CO_2. In comparison to criteria air pollutants such as O_3 and PM_{10}, CO_2 emissions persist in the atmosphere for a substantially longer period of time. While emissions of other GHGs, such as CH_4, are important with respect to global climate change, emission levels of other GHGs are less dependent on the land use and circulation patterns associated with the proposed land use development project than are levels of CO_2.

Construction activities produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The only GHG with well-studied emissions characteristics and published emissions factors for construction equipment is CO_2. The URBEMIS modeling lists a peak daily CO_2 emissions rate of 5,600 pounds during building construction in 2015. An annual construction emissions rate of CO_2 ranges from 110 tons of CO_2 in 2018 and 640 tons of CO_2 in 2014, as shown in Table S.

The project would be required to implement the construction exhaust control measures listed in Section 5.6, including minimization of construction equipment idling and implementation of proper engine tuning and exhaust controls. Both of these measures would reduce GHG emissions during the

[1] California Energy Commission, 2004. *Water Energy Use in California* (online information sheet) Sacramento, CA, August 24. Website: energy.ca.gov/pier/iaw/industry/water.html. Accessed July 24, 2007.

construction period, but other measures would be required to reduce GHG emissions to a less than significant level.

Table S: Annual Construction Greenhouse Gas Emissions

	Total (tons/yr)			
Year	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
2013	400	0.026	0.00062	400
2014	640	0.042	0.0010	640
2015	500	0.033	0.00078	500
2016	310	0.020	0.00048	310
2017	280	0.018	0.00044	280
2018	110	0.0072	0.00017	110

Source: LSA Associates, Inc., December 2009

CH_4 = methane CO_2e = carbon dioxide equivalent

CO_2 = carbon dioxide N_2O = nitrous oxide

Architectural coatings used in construction of the project may contain VOCs that are similar to ROGs and are part of O_3 precursors. However, there are no significant emissions of GHGs from architectural coatings.

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site residents and visitors/deliveries to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed uses. Because the effects from greenhouse gases would occur over a long time and therefore the project's operational GHG emissions are calculated for the project build out condition only.

The GHG emissions estimates presented in Table T show the emissions associated with the level of development envisioned by the proposed project at build out. Appendix D includes the worksheets for the GHG emissions.

Table T: Project Greenhouse Gas Emissions

Emission Source	Emissions (tons per year)			
	CO_2	CH_4	N_2O	CO_2e
Vehicles[1]	15,000	0.70	1.3	15,000
Electricity Production	2,000	0.022	0.012	2,000
Natural Gas Combustion[1]	1,400	0.025	0.024	1,400
Solid Waste	--	--	--	2,000
Other Area Sources[2]	880	--	--	880
Total Annual Emissions	19,000	0.75	1.3	21,000

Source: LSA Associates, Inc., December 2009.
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.
[1] CO_2 emissions for vehicles and natural gas from URBEMIS 2007 output.
[2] Includes CO_2 emissions for hearth combustion and landscaping equipment from URBEMIS 2007 output.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

As shown in Table T, the project will produce 21,000 tons per year of $CO_{2e.}$ As a comparison, in 2004, the emissions from the entire SCAG region are estimated to be approximately 194.9 million tons of CO_2 per year and approximately 529.2 million tons of CO_2 per year for the entire State.

As described above, project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Consequently, it is speculative to determine how project-related GHG emissions would contribute to global climate change and how global climate change may impact California. Therefore, project-related GHG emissions are not project-specific impacts to global warming but are instead the project's contribution to this cumulative impact. As stated previously, project-related CO_2 emissions and their contribution to global climate change impacts in the State of California are less than significant and less than cumulatively considerable because: (1) the project's impacts alone would not cause or significantly contribute to global climate change, and (2) the net increase in air pollutant emissions would not exceed the SCAQMD thresholds for criteria pollutants.

Energy and Natural Gas Use. Buildings represent 39 percent of the United States' primary energy usage and 70 percent of electricity consumption.[1] The proposed project would increase the demand for electricity and natural gas due to the increased building area and number of employees. The project would indirectly result in increased GHG emissions from off-site electricity generation at power plants (a portion of 3,400 tons of CO_2e/year from electricity production and natural gas combustion).

Water Use. Water-related energy use consumes 19 percent of California's electricity every year.[2] Energy use and related GHG emissions are based on electricity used for water supply and

[1] United States Department of Energy. 2003. *Buildings Energy Data Book.*
[2] California, State of, 2005. California Energy Commission. California's Water-Energy Relationship. November.

conveyance, water treatment, water distribution, and wastewater treatment. The project would indirectly result in increased GHG emissions from the off-site electricity generation at power plants (the remainder of the 3,400 tons of CO_2e/year).

Solid Waste Disposal. The proposed project would also generate solid waste during the operation phase of the project. Average waste generation rates from a variety of sources are available from the California Integrated Waste Management Board.[1] This analysis uses an average waste generation rate of 0.0024 tons per square foot per year for commercial uses. The project would indirectly result in increased GHG emissions from solid waste treatment at treatment plants (approximately 2,000 tons of CO_2e/year).

Mobile Sources. Mobile sources (vehicle trips and associated miles traveled) are one of the largest sources of GHG emissions in California and represent approximately 38 percent of annual CO_2 emissions generated in the State. As with most land use development projects, VMT is the most direct indicator of CO_2 emissions from the proposed project, and associated CO_2 emissions function as the best indicator of total GHG emissions.

Summary. The proposed project would generate up to 21,000 tons of CO_2e per year of new emissions, as shown in Table T. The emissions from solid waste disposal would compose approximately 10 percent of the project's total CO_2e emissions. The emissions from vehicle exhaust would compose approximately 71 percent of the project's total CO_2e emissions. The emissions from vehicle exhaust are controlled by the State and federal governments and are outside the control of the City.

The remaining CO_2e emissions are primarily associated with building heating systems and increased regional power plant electricity generation due to the project's electricity demand. Specific development projects proposed under the project would comply with existing State and federal regulations regarding the energy efficiency of buildings, appliances, and lighting, which would reduce the project's electricity demand. The new buildings constructed in accordance with current energy efficiency standards would be more energy efficient than older buildings. The project could implement supplementary emissions control measures to minimize the obstruction of the implementation of GHG reduction goals under AB 32.

At present, there is a federal ban on CFCs; therefore, it is assumed the project would not generate emissions of CFCs. The project may emit a small amount of hydrofluorocarbon (HFC) emissions from leakage and service of refrigeration and air-conditioning equipment and from disposal at the end of the life of the equipment. However, the details regarding refrigerants to be used at the project site are unknown at this time. PFCs and SF_6 are typically used in industrial applications, none of which would occur on the project site. Therefore, it is not anticipated that the project would contribute significant emissions of these additional GHGs.

[1] California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Residential Developments. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Residential.htm.

The California EPA CAT and ARB have developed several reports to achieve the Governor's GHG targets that rely on voluntary actions of California businesses, local government and community groups, and State incentive and regulatory programs. These include the CAT's 2006 "*Report to Governor Schwarzenegger and the Legislature*," the ARB's 2007 "*Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California,*" and the ARB's "*Climate Change Proposed Scoping Plan: a Framework for Change."*

The reports identify strategies to reduce California's emissions to the levels proposed in Executive Order S-3-05 and AB 32 that are applicable to proposed project. The Proposed Scoping Plan is the most recent document, and the strategies included in the Scoping Plan that apply to the project are contained in Table U, which also summarizes the extent to which the project would comply with the strategies to help California reach the emissions reduction targets. The Scoping Plan includes Measure 11, Industrial Emissions; however, this measure is for major industrial facilities (defined as those emitting more than 0.5 $MMTCO_2E$ per year). Table T shows this project is expected to produce approximately 21,000 tons of CO_2e per year, or 0.02 $MMTCO_2E$ per year; thus, none of Measure 11 applies to this project.

The strategies listed in Table U are either part of the project, required mitigation measures, or requirements under local or State ordinances. With implementation of these strategies/measures, the project's contribution to cumulative GHG emissions would be reduced to a less than significant level.

To ensure that the proposed project complies with and would not conflict with or impede the implementation of reduction goals identified in AB 32, the Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor, the proposed project also adopted in its Area Plan (Serrano Summit, October 1, 2009) Green Builder Program and Sustainability Development Regulations to reduce project-related greenhouse gas emissions.

Table U: Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance
Energy Efficiency Measures	
Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities). **Renewables Portfolio Standard.** Achieve a 33 percent renewable energy mix statewide. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Project Features Accomplishing Compliance.** The proposed project would be required to comply with the updated Title 24 standards for building construction. In addition, the project would implement the Green Builder Program and Sustainability Development Regulations in its adopted Area Plan to incorporate energy-efficient building design features.
Water Conservation and Efficiency Measures	
Water Use Efficiency. Continue efficiency programs and use cleaner energy sources to move and treat water. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	**Project Features Accomplishing Compliance.** The project would implement the Green Builder Program and Sustainability Development Regulations in its adopted Area Plan to increase water use efficiency.
Solid Waste Reduction Measures	
Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero-Waste. Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials. Composting and commercial recycling could have substantial GHG reduction benefits. In the long term, zero-waste policies that would require manufacturers to design products to be fully recyclable may be necessary.	**Project Features Accomplishing Compliance.** Data available from the California Integrated Waste Management Board indicates that the City of Lake Forest has not achieved the 50 percent diversion rate. The proposed project would implement the Green Builder Program and Sustainability Development Regulations in its adopted Area Plan, including measures to increase solid waste diversion, composting, and recycling.
Transportation and Motor Vehicle Measures	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light duty trucks. Regulations were adopted by ARB in September 2004. **Light-Duty Vehicle Efficiency Measures.** Implement additional measures that could reduce light-duty GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency. **Adopt Heavy- and Medium-Duty Fuel and Engine Efficiency Measures.** Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.	**Compliant.** The project does not involve the manufacture, sale, or purchase of vehicles. However, vehicles that operate within and access the project site would comply with any vehicle and fuel standards that the ARB adopts.

Table U: Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance
Low Carbon Fuel Standard. ARB identified this measure as a Discrete Early Action Measure. This measure would reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.	
Regional Transportation-Related Greenhouse Gas Targets. Develop regional GHG emissions reduction targets for passenger vehicles. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.	**Compliant.** Specific regional emissions targets for transportation emissions do not directly apply to this project; regional GHG reduction target development is outside the scope of this project. The project will comply with any plans developed by the City.
Measures to Reduce High GWP Gases. ARB has identified Discrete Early Action measures to reduce GHG emissions from the refrigerants used in car air conditioners, semiconductor manufacturing, and consumer products. ARB has also identified potential reduction opportunities for future commercial and industrial refrigeration, changing the refrigerants used in auto air conditioning systems, and ensuring that existing car air conditioning systems do not leak.	**Compliant.** New products used or serviced on the project site (after implementation of the reduction of GHGs) would comply with future ARB rules and regulations.

Source: LSA Associates, Inc., December 2009.
AB = Assembly Bill
ARB = California Air Resources Board
GHG = greenhouse gas
GWP = Global Warming Potential

LONG-TERM MICROSCALE (CO HOT SPOT) ANALYSIS

The long-term microscale analysis is based on the California State 1-hour CO emission concentration standard of 20.0 ppm and the California State 8-hour CO emission concentration standard of 9.0 ppm.

Vehicular trips associated with the proposed project would contribute to the overall ADTs in the City. Localized air quality effects would occur when emissions from vehicular traffic increase in local areas as a result of the proposed project. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Neither of these conditions will exist within the project, and LFTM improvements will eliminate unacceptable levels of service at intersections outside of the project. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

The intersection vehicle turn volumes were used in the California Department of Transportation (Caltrans) CALINE4 model to evaluate local CO concentrations at one intersection most affected by project traffic. Per EPA guidelines, the highest concentrations of CO measured within the past 3 years were used as the background levels. At the Mission Viejo Station, the background concentrations

were 2.9 ppm for the 1-hour period and 2.2 ppm for the 8-hour period. Two other intersections in the project area were designed to be roundabouts and would not have stop-and-go traffic; therefore, no CO hot spot analysis was warranted.

The traffic analysis prepared by Austin-Foust Associates, Inc. (June 16, 2009) evaluated build-out traffic conditions in the project vicinity. To determine the proposed project's impact on local air quality, the CO levels were modeled at one intersection in the project vicinity. This intersection represents the one with the highest traffic volumes in the project area. Table V lists the CO concentrations that would result at this intersection for the build-out condition. The CALINE4 model printouts are included in Appendix C.

Table V: Build-Out CO Concentrations with Project

Intersection	Distance from Road Centerline to Maximum CO Concentration (Meters)	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr (20 ppm)	8-Hr (9 ppm)
C Street and B Street	8	2.8	2.1	No	No
	8	2.8	2.1	No	No
	8	2.8	2.1	No	No
	8	2.8	2.1	No	No

Source: LSA Associates, Inc., December 2009.
Note: Includes ambient 1-hour concentration of 2.7 ppm and ambient 8-hour concentration of 2.0 ppm. Measured at the 26081 Via Pera, Mission Viejo, California AQ Station in Orange County.
CO = carbon monoxide Hr = hour ppm = parts per million

As shown in Table V, the intersection analyzed would not have an 8-hour CO concentration exceeding federal and State standards of 9 ppm. The 1-hour CO concentration at this intersection would also be below the State standard of 20.0 ppm and below the federal standard of 35 ppm. The proposed project would not have a significant impact on local air quality for CO, and no mitigation measures are required.

LOCALIZED SIGNIFICANCE

The following analysis was performed per the SCAQMD *Final Localized Significance Threshold Methodology* (June 2003). The closest sensitive receptor to the proposed site is located to the southwest at a distance of approximately 100 ft (30 m). Thus, the following LST thresholds for 25 m were used as a worst case scenario: 197 lbs/day of NO_X, 1,804 lbs/day of CO, 3 lbs/day of PM_{10}, and 2 lbs/day of $PM_{2.5}$.

Table W shows the calculated emissions for the proposed operational activities (fully described above) compared to the LSTs for the Saddleback Valley area. The LST analysis is only supposed to include on-site sources; therefore, the emissions shown include all stationary and 2 percent of the proposed project's mobile sources.

Table W: Operational Localized Significance Emissions (lbs/day)

Emissions sources	CO	NO_X	PM_{10}	$PM_{2.5}$
On-site emissions	15	10	0.52	0.35
LST Thresholds	**1,804**	**197**	**3.0**	**2.0**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., December 2009.
Note: Assumes a 5-acre site, a 25-meter distance, and that 2 percent of the project traffic occurs on site. (URBEMIS average trip lengths are 13.3 miles for commute, 7.4 for nonwork and 8.9 for customers. On-site travel distances average approximately 1,000 feet, or 2 percent.)
CO = carbon monoxide $PM_{2.5}$ = particulate matter less than 2.5 microns in size
NO_2 = nitrogen dioxide PM_{10} = particulate matter less than 10 microns in size

Table W shows that all operational emissions rates are below the LST thresholds at 25 m. Therefore, the proposed operational activity would not result in any localized significant air quality impacts.

AIR QUALITY MANAGEMENT PLAN CONSISTENCY

An AQMP describes air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. CEQA requires that certain proposed projects be analyzed for consistency with the AQMP. For a project to be consistent with the AQMP adopted by SCAQMD, the pollutants emitted from operation of the project should not exceed SCAQMD daily thresholds or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. As shown earlier under the discussion of operational impacts, the proposed project emissions would exceed the emissions thresholds established in the SCAQMD CEQA Handbook. Therefore, the project would potentially conflict with the AQMP, and significant impact will result with respect to implementation of the AQMP.

CUMULATIVE IMPACT

The proposed project area is currently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The project's contribution to local and regional air pollutants related to construction emissions would be less than significant. However, project-related long-term operational emissions would exceed the SCAQMD daily emission thresholds for CO, ROCs, and NO_x. Therefore, implementation of the proposed project would contribute to significant cumulative air quality impacts, and mitigation will be required. Even with implementation of all available mitigation measures, the project's contribution to cumulative air quality impacts would remain significant.

MITIGATION MEASURES

Standard Conditions. The project must comply with the following standard conditions. Therefore, implementation of these measures was included in the analysis above.

Construction Impacts. The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

The following are the applicable Rule 403 Measures:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials coming to or leaving the site are to be covered or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Pave construction access roads at least 100 ft onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

Mitigation Measures.

A. Additional dust suppression measures in the SCAQMD CEQA Air Quality Handbook are included as part of the project's mitigation. These measures include the following:

- Revegetate disturbed areas with native vegetation as soon as possible.
- Increase active site watering to three times daily.
- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- When visible soil materials are carried to adjacent streets, those streets shall be swept once per day to the extent necessary to remove the visible soil material (recommend water sweepers with reclaimed water).
- All on-site roads shall be paved as soon as feasible, watered periodically, or chemically stabilized.
- The area disturbed by clearing, grading, earthmoving, or excavation operations shall be minimized at all times.

B. The Construction Contractor shall select the construction equipment used on site based on low-emission factors and high-energy efficiency. The Construction Contractor shall ensure that

construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.

C. The Construction Contractor shall utilize electric or alternative fuel-powered equipment in lieu of gasoline- or diesel-powered engines where feasible.

D. The Construction Contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.

E. The Construction Contractor shall time the construction activities so that construction trucks, to the extent feasible, shall avoid using the streets during peak hour; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.

F. The Construction Contractor shall support and encourage ridesharing and transit incentives for the construction crew.

G. Compliance with the SCAQMD Rule 1113 on the use of architectural coatings should be implemented. Emissions associated with architectural coatings would be reduced by complying with these rules and regulations, which include using pre-coated/natural-colored building materials, using water-based or low-VOC coating, and using coating transfer or spray equipment with high transfer efficiency.

Global Climate Change Impacts

GHG Control Measure. Since any new GHG emissions would conflict with implementation of the GHG reduction goals under AB 32 or other State regulations, implementation of the project will impact achievement of AB 32 goals. Any measures that reduce project GHG emissions will reduce the project's impact to AB 32 goals.

The proposed project has adopted an Area Plan (Serrano Summit, October 1, 2009) that contains a Green Builder Program. This program establishes guidelines and programs for the Serrano Summit community to achieve energy conservation through building design and reduction of non-renewable resources, and implement California-appropriate landscape practices. This program will be enforced by the project master developer. Details of the program are included in Appendix E.

The proposed project in its adopted Area Plan also establishes sustainability development regulations for the structures and site development and increases the landscape sustainability throughout the community. These regulations will also be enforced by the project master developer. Details of the regulations are included in Appendix F.

In addition, the project would also be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. After implementation of the project's Green Builder Program and Sustainability Development Regulations and application of regulatory requirements, the project would implement appropriate GHG reduction strategies and would not conflict with or impede

implementation of reduction goals identified in AB 32, the Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. Therefore, the project's contribution to cumulative GHG emissions would be reduced to a less than significant level.

IMPACTS AFTER MITIGATION

Implementation of the standard conditions and mitigation measures provided above would reduce the operational impacts to the extent feasible; however, project and cumulative air quality impacts would remain significant and unavoidable.

IMPACTS TO THE PROPOSED PROJECT FROM GLOBAL CLIMATE CHANGE

Local temperatures could increase in time as a result of global climate change, with or without development as envisioned by the project. This increase in temperature could lead to other climate effects including, but not limited to, increased flooding due to increased precipitation and runoff. At present, the extent of climate change impacts is uncertain, and more extensive monitoring of runoff is necessary for greater understanding of changes in hydrologic patterns. Studies indicate that increased temperatures could result in a greater portion of peak stream flows occurring earlier in the spring, with decreases in the late spring and early summer. These changes could have implications for water supply, flood management, and ecosystem health. In addition, there is a potential for sea level rising due to global warming. However, based on the location of the project site, the proposed project is not expected to be significantly affected by global climate change.

REFERENCES

California Air Resources Board website: http://www.arb.ca.gov.

California Department of Transportation, Air Quality Technical Analysis Notes, 1988.

California Department of Transportation,, Transportation Project-Level Carbon Monoxide Protocol, 1997.

Austin-Foust Associates, Inc., IRWD Site Traffic Impact Analysis, June 16, 2009.

South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

South Coast Air Quality Management District, Air Quality Management Plan, 2003 and 2007.

Western Regional Climate Center website: http://www.wrcc.dri.edu.

APPENDIX A

URBEMIS 2007 MODEL PRINTOUTS

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2013 - P1.urb924

Project Name: Serrano Summit - Phase 1 - 2013

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	3.04	25.05	13.51	0.00	9.21	1.25	10.46	1.92	1.15	3.08	2,371.71
2010 TOTALS (lbs/day mitigated)	3.04	25.05	13.51	0.00	3.26	1.25	4.51	0.68	1.15	1.83	2,371.71
2011 TOTALS (lbs/day unmitigated)	5.30	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45
2011 TOTALS (lbs/day mitigated)	5.30	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.77	0.29	2.08	0.00	0.01	0.01	341.74
TOTALS (lbs/day, mitigated)	0.77	0.24	2.04	0.00	0.01	0.01	274.07
Percent Reduction	0.00	17.24	1.92	#######	0.00	0.00	19.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.21	7.02	61.91	0.08	12.88	2.51	7,721.68
TOTALS (lbs/day, mitigated)	4.61	6.18	54.51	0.07	11.34	2.21	6,798.62
Percent Reduction	11.52	11.97	11.95	12.50	11.96	11.95	11.95

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.98	7.31	63.99	0.08	12.89	2.52	8,063.42
TOTALS (lbs/day, mitigated)	5.38	6.42	56.55	0.07	11.35	2.22	7,072.69
Percent Reduction	10.03	12.18	11.63	12.50	11.95	11.90	12.29

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	3.04	**25.05**	**13.51**	0.00	**9.21**	**1.25**	**10.46**	**1.92**	**1.15**	**3.08**	**2,371.71**
Mass Grading 03/24/2010-06/20/2010	3.04	25.05	13.51	0.00	9.21	1.25	10.46	1.92	1.15	3.08	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	9.20	0.00	9.20	1.92	0.00	1.92	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/23/2010-7/30/2010 Active Days: 28	3.04	**25.05**	**13.51**	0.00	**9.21**	**1.25**	**10.46**	**1.92**	**1.15**	**3.08**	**2,371.71**
Fine Grading 06/23/2010-08/01/2010	3.04	25.05	13.51	0.00	9.21	1.25	10.46	1.92	1.15	3.08	2,371.71
Fine Grading Dust	0.00	0.00	0.00	0.00	9.20	0.00	9.20	1.92	0.00	1.92	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	2.41	13.29	9.31	0.00	0.02	1.09	1.10	0.01	1.00	1.00	1,371.88
Asphalt 08/18/2010-08/29/2010	2.41	13.29	9.31	0.00	0.02	1.09	1.10	0.01	1.00	1.00	1,371.88
Paving Off-Gas	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.95	11.89	6.98	0.00	0.00	1.03	1.03	0.00	0.94	0.94	979.23
Paving On Road Diesel	0.10	1.29	0.49	0.00	0.01	0.05	0.06	0.00	0.05	0.05	174.97
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 9/1/2010-12/31/2010 Active Days: 88	1.33	9.76	7.81	**0.00**	0.02	0.60	0.62	0.01	0.55	0.56	1,289.52
Building 09/01/2010-04/24/2011	1.33	9.76	7.81	0.00	0.02	0.60	0.62	0.01	0.55	0.56	1,289.52
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39
Building Vendor Trips	0.04	0.44	0.35	0.00	0.00	0.02	0.02	0.00	0.02	0.02	81.66
Building Worker Trips	0.08	0.16	2.65	0.00	0.01	0.01	0.02	0.01	0.01	0.01	314.47
Time Slice 1/3/2011-4/22/2011 Active Days: 80	1.22	9.04	7.46	**0.00**	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45
Building 09/01/2010-04/24/2011	1.22	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45

Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.03	0.39	0.32	0.00	0.00	0.02	0.02	0.00	0.01	0.02	81.66
Building Worker Trips	0.08	0.14	2.47	0.00	0.01	0.01	0.02	0.01	0.01	0.01	314.40
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**5.30**	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90
Coating 04/27/2011-09/22/2011	5.30	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90
Architectural Coating	5.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 3.66

Maximum Daily Acreage Disturbed: 0.92

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.66

Maximum Daily Acreage Disturbed: 0.92

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/21/2009 02:24:49 PM

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 0.92

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	3.04	**25.05**	**13.51**	0.00	3.26	**1.25**	4.51	0.68	**1.15**	1.83	**2,371.71**
Mass Grading 03/24/2010-06/20/2010	3.04	25.05	13.51	0.00	3.26	1.25	4.51	0.68	1.15	1.83	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	3.26	0.00	3.26	0.68	0.00	0.68	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 6/23/2010-7/30/2010 Active Days: 28	3.04	**25.05**	**13.51**	0.00	3.26	**1.25**	4.51	0.68	**1.15**	1.83	**2,371.71**
Fine Grading 06/23/2010-08/01/2010	3.04	25.05	13.51	0.00	3.26	1.25	4.51	0.68	1.15	1.83	2,371.71
Fine Grading Dust	0.00	0.00	0.00	0.00	3.26	0.00	3.26	0.68	0.00	0.68	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

12/21/2009 02:24:49 PM

Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	2.41	13.29	9.31	0.00	0.02	1.09	1.10	0.01	1.00	1.00	1,371.88
Asphalt 08/18/2010-08/29/2010	2.41	13.29	9.31	0.00	0.02	1.09	1.10	0.01	1.00	1.00	1,371.88
Paving Off-Gas	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.95	11.89	6.98	0.00	0.00	1.03	1.03	0.00	0.94	0.94	979.23
Paving On Road Diesel	0.10	1.29	0.49	0.00	0.01	0.05	0.06	0.00	0.05	0.05	174.97
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 9/1/2010-12/31/2010 Active Days: 88	1.33	9.76	7.81	**0.00**	0.02	0.60	0.62	0.01	0.55	0.56	1,289.52
Building 09/01/2010-04/24/2011	1.33	9.76	7.81	0.00	0.02	0.60	0.62	0.01	0.55	0.56	1,289.52
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39
Building Vendor Trips	0.04	0.44	0.35	0.00	0.00	0.02	0.02	0.00	0.02	0.02	81.66
Building Worker Trips	0.08	0.16	2.65	0.00	0.01	0.01	0.02	0.01	0.01	0.01	314.47
Time Slice 1/3/2011-4/22/2011 Active Days: 80	1.22	9.04	7.46	**0.00**	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45
Building 09/01/2010-04/24/2011	1.22	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.03	0.39	0.32	0.00	0.00	0.02	0.02	0.00	0.01	0.02	81.66
Building Worker Trips	0.08	0.14	2.47	0.00	0.01	0.01	0.02	0.01	0.01	0.01	314.40
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**5.30**	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90
Coating 04/27/2011-09/22/2011	5.30	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90
Architectural Coating	5.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

12/21/2009 02:24:49 PM

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.27	0.18	0.00	0.00	0.00	338.36
Hearth - No Summer Emissions							
Landscape	0.19	0.02	1.90	0.00	0.01	0.01	3.38
Consumer Products	0.41						
Architectural Coatings	0.15						
TOTALS (lbs/day, unmitigated)	0.77	0.29	2.08	0.00	0.01	0.01	341.74

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.22	0.14	0.00	0.00	0.00	270.69
Hearth - No Summer Emissions							
Landscape	0.19	0.02	1.90	0.00	0.01	0.01	3.38
Consumer Products	0.41						
Architectural Coatings	0.15						
TOTALS (lbs/day, mitigated)	0.77	0.24	2.04	0.00	0.01	0.01	274.07

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:24:49 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.49	0.63	5.77	0.01	1.17	0.23	706.06
Community Facility	4.72	6.39	56.14	0.07	11.71	2.28	7,015.62
TOTALS (lbs/day, unmitigated)	5.21	7.02	61.91	0.08	12.88	2.51	7,721.68

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.44	0.55	5.08	0.01	1.03	0.20	621.65
Community Facility	4.17	5.63	49.43	0.06	10.31	2.01	6,176.97
TOTALS (lbs/day, mitigated)	4.61	6.18	54.51	0.07	11.34	2.21	6,798.62

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:24:49 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

12/21/2009 02:24:49 PM

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2.67	9.57	dwelling units	8.00	76.56	677.17
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					1,054.38	7,453.41

12/21/2009 02:24:49 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 02:24:56 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2013 - P1.urb924

Project Name: Serrano Summit - Phase 1 - 2013

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	3.04	25.05	13.51	0.00	9.21	1.25	10.46	1.92	1.15	3.08	2,371.71
2010 TOTALS (lbs/day mitigated)	3.04	25.05	13.51	0.00	3.26	1.25	4.51	0.68	1.15	1.83	2,371.71
2011 TOTALS (lbs/day unmitigated)	5.30	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45
2011 TOTALS (lbs/day mitigated)	5.30	9.04	7.46	0.00	0.02	0.57	0.59	0.01	0.52	0.53	1,289.45

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.58	0.34	0.21	0.00	0.01	0.01	423.07
TOTALS (lbs/day, mitigated)	0.58	0.29	0.17	0.00	0.01	0.01	355.40
Percent Reduction	0.00	14.71	19.05	########	0.00	0.00	15.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.91	8.42	60.02	0.07	12.88	2.51	6,992.41
TOTALS (lbs/day, mitigated)	5.22	7.41	52.85	0.06	11.34	2.21	6,156.53
Percent Reduction	11.68	12.00	11.95	14.29	11.96	11.95	11.95

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.49	8.76	60.23	0.07	12.89	2.52	7,415.48
TOTALS (lbs/day, mitigated)	5.80	7.70	53.02	0.06	11.35	2.22	6,511.93
Percent Reduction	10.63	12.10	11.97	14.29	11.95	11.90	12.18

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.27	0.18	0.00	0.00	0.00	338.36
Hearth	0.00	0.07	0.03	0.00	0.01	0.01	84.71
Landscaping - No Winter Emissions							
Consumer Products	0.41						
Architectural Coatings	0.15						
TOTALS (lbs/day, unmitigated)	0.58	0.34	0.21	0.00	0.01	0.01	423.07

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.22	0.14	0.00	0.00	0.00	270.69
Hearth	0.00	0.07	0.03	0.00	0.01	0.01	84.71
Landscaping - No Winter Emissions							
Consumer Products	0.41						
Architectural Coatings	0.15						
TOTALS (lbs/day, mitigated)	0.58	0.29	0.17	0.00	0.01	0.01	355.40

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:24:56 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.53	0.75	5.52	0.01	1.17	0.23	639.80
Community Facility	5.38	7.67	54.50	0.06	11.71	2.28	6,352.61
TOTALS (lbs/day, unmitigated)	5.91	8.42	60.02	0.07	12.88	2.51	6,992.41

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.47	0.66	4.86	0.01	1.03	0.20	563.32
Community Facility	4.75	6.75	47.99	0.05	10.31	2.01	5,593.21
TOTALS (lbs/day, mitigated)	5.22	7.41	52.85	0.06	11.34	2.21	6,156.53

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:24:56 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 02:24:56 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2.67	9.57	dwelling units	8.00	76.56	677.17
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					1,054.38	7,453.41

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2013 - P1.urb924

Project Name: Serrano Summit - Phase 1 - 2013

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.21	1.69	1.03	0.00	0.42	0.09	0.51	0.09	0.08	0.17	177.50
2010 TOTALS (tons/year mitigated)	0.21	1.69	1.03	0.00	0.15	0.09	0.24	0.03	0.08	0.12	177.50
Percent Reduction	0.00	0.00	0.00	0.00	64.43	0.00	52.91	64.30	0.00	32.87	0.00
2011 TOTALS (tons/year unmitigated)	0.33	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	52.21
2011 TOTALS (tons/year mitigated)	0.33	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	52.21
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.13	0.05	0.38	0.00	0.00	0.00	62.41
TOTALS (tons/year, mitigated)	0.13	0.04	0.38	0.00	0.00	0.00	50.06
Percent Reduction	0.00	20.00	0.00	########	############	############	19.79

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.99	1.36	11.19	0.01	2.35	0.46	1,364.84
TOTALS (tons/year, mitigated)	0.88	1.21	9.84	0.01	2.07	0.41	1,201.68
Percent Reduction	11.11	11.03	12.06	0.00	11.91	10.87	11.95

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.12	1.41	11.57	0.01	2.35	0.46	1,427.25
TOTALS (tons/year, mitigated)	1.01	1.25	10.22	0.01	2.07	0.41	1,251.74
Percent Reduction	9.82	11.35	11.67	0.00	11.91	10.87	12.30

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.21	1.69	1.03	0.00	0.42	0.09	0.51	0.09	0.08	0.17	177.50
Mass Grading 03/24/2010-06/20/2010	0.10	0.79	0.43	0.00	0.29	0.04	0.33	0.06	0.04	0.10	74.71
Mass Grading Dust	0.00	0.00	0.00	0.00	0.29	0.00	0.29	0.06	0.00	0.06	0.00
Mass Grading Off Road Diesel	0.09	0.79	0.39	0.00	0.00	0.04	0.04	0.00	0.04	0.04	70.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Fine Grading 06/23/2010-08/01/2010	0.04	0.35	0.19	0.00	0.13	0.02	0.15	0.03	0.02	0.04	33.20
Fine Grading Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	0.04	0.35	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.46
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.49
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Building 09/01/2010-04/24/2011	0.06	0.43	0.34	0.00	0.00	0.03	0.03	0.00	0.02	0.02	56.74
Building Off Road Diesel	0.05	0.40	0.21	0.00	0.00	0.03	0.03	0.00	0.02	0.02	39.31
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.84
2011	0.33	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	52.21

Building 09/01/2010-04/24/2011	0.05	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	51.58
Building Off Road Diesel	0.04	0.34	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	35.74
Building Vendor Trips	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Building Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.58
Coating 04/27/2011-09/22/2011	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Architectural Coating	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description
Total Acres Disturbed: 3.66
Maximum Daily Acreage Disturbed: 0.92
Fugitive Dust Level of Detail: Default
10 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 3.66
Maximum Daily Acreage Disturbed: 0.92
Fugitive Dust Level of Detail: Default
10 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description
Off-Road Equipment:
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/21/2009 02:25:07 PM

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 0.92

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.21	1.69	1.03	0.00	0.15	0.09	0.24	0.03	0.08	0.12	177.50
Mass Grading 03/24/2010-06/20/2010	0.10	0.79	0.43	0.00	0.10	0.04	0.14	0.02	0.04	0.06	74.71
Mass Grading Dust	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.02	0.00	0.02	0.00
Mass Grading Off Road Diesel	0.09	0.79	0.39	0.00	0.00	0.04	0.04	0.00	0.04	0.04	70.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Fine Grading 06/23/2010-08/01/2010	0.04	0.35	0.19	0.00	0.05	0.02	0.06	0.01	0.02	0.03	33.20
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.04	0.35	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.46
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36

Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.49
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Building 09/01/2010-04/24/2011	0.06	0.43	0.34	0.00	0.00	0.03	0.03	0.00	0.02	0.02	56.74
Building Off Road Diesel	0.05	0.40	0.21	0.00	0.00	0.03	0.03	0.00	0.02	0.02	39.31
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.84
2011	0.33	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	52.21
Building 09/01/2010-04/24/2011	0.05	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.02	0.02	51.58
Building Off Road Diesel	0.04	0.34	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	35.74
Building Vendor Trips	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Building Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.58
Coating 04/27/2011-09/22/2011	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Architectural Coating	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

12/21/2009 02:25:07 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.05	0.03	0.00	0.00	0.00	61.75
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Landscape	0.03	0.00	0.35	0.00	0.00	0.00	0.62
Consumer Products	0.07						
Architectural Coatings	0.03						
TOTALS (tons/year, unmitigated)	0.13	0.05	0.38	0.00	0.00	0.00	62.41

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.04	0.03	0.00	0.00	0.00	49.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Landscape	0.03	0.00	0.35	0.00	0.00	0.00	0.62
Consumer Products	0.07						
Architectural Coatings	0.03						
TOTALS (tons/year, mitigated)	0.13	0.04	0.38	0.00	0.00	0.00	50.06

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:25:07 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.09	0.12	1.04	0.00	0.21	0.04	124.82
Community Facility	0.90	1.24	10.15	0.01	2.14	0.42	1,240.02
TOTALS (tons/year, unmitigated)	0.99	1.36	11.19	0.01	2.35	0.46	1,364.84

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.08	0.11	0.91	0.00	0.19	0.04	109.90
Community Facility	0.80	1.10	8.93	0.01	1.88	0.37	1,091.78
TOTALS (tons/year, mitigated)	0.88	1.21	9.84	0.01	2.07	0.41	1,201.68

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:25:07 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 02:25:07 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2.67	9.57	dwelling units	8.00	76.56	677.17
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					1,054.38	7,453.41

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.3	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	53.6	46.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 04:06:57 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2014 - P2.urb924

Project Name: Serrano Summit - Phase 2 - 2014

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	7.64	33.75	42.27	0.04	109.21	2.13	111.01	22.81	1.96	24.46	5,910.99
2010 TOTALS (lbs/day mitigated)	7.64	33.75	42.27	0.04	38.66	2.13	40.46	8.07	1.96	9.73	5,910.99
2011 TOTALS (lbs/day unmitigated)	24.09	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
2011 TOTALS (lbs/day mitigated)	24.09	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.27	3.08	9.20	0.00	0.03	0.03	3,812.11
TOTALS (lbs/day, mitigated)	13.22	2.49	8.93	0.00	0.02	0.02	3,052.35
Percent Reduction	0.38	19.16	2.93	########	33.33	33.33	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	16.47	20.62	191.23	0.26	41.33	8.08	24,897.76
TOTALS (lbs/day, mitigated)	14.58	18.01	167.03	0.21	36.10	7.05	21,745.99
Percent Reduction	11.48	12.66	12.65	19.23	12.65	12.75	12.66

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	29.74	23.70	200.43	0.26	41.36	8.11	28,709.87
TOTALS (lbs/day, mitigated)	27.80	20.50	175.96	0.21	36.12	7.07	24,798.34
Percent Reduction	6.52	13.50	12.21	19.23	12.67	12.82	13.62

Construction Unmitigated Detail Report:

12/21/2009 04:06:57 PM

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	4.21	**33.75**	18.79	0.00	**109.21**	1.80	**111.01**	**22.81**	1.65	**24.46**	3,162.97
Mass Grading 03/24/2010-06/20/2010	4.21	33.75	18.79	0.00	109.21	1.80	111.01	22.81	1.65	24.46	3,162.97
Mass Grading Dust	0.00	0.00	0.00	0.00	109.20	0.00	109.20	22.81	0.00	22.81	0.00
Mass Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/23/2010-7/30/2010 Active Days: 28	4.21	**33.75**	18.79	0.00	**109.21**	1.80	**111.01**	**22.81**	1.65	**24.46**	3,162.97
Fine Grading 06/23/2010-08/01/2010	4.21	33.75	18.79	0.00	109.21	1.80	111.01	22.81	1.65	24.46	3,162.97
Fine Grading Dust	0.00	0.00	0.00	0.00	109.20	0.00	109.20	22.81	0.00	22.81	0.00
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	7.64	32.46	16.55	0.02	0.08	**2.13**	2.21	0.03	**1.96**	1.98	3,504.67
Asphalt 08/18/2010-08/29/2010	7.64	32.46	16.55	0.02	0.08	2.13	2.21	0.03	1.96	1.98	3,504.67
Paving Off-Gas	3.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	1.17	15.26	5.86	0.02	0.07	0.62	0.69	0.02	0.57	0.60	2,076.77
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	5.11	25.12	**42.27**	**0.04**	0.18	1.57	1.76	0.07	1.44	1.50	**5,910.99**
Building 09/01/2010-04/24/2011	5.11	25.12	42.27	0.04	0.18	1.57	1.76	0.07	1.44	1.50	5,910.99
Building Off Road Diesel	3.79	17.78	11.73	0.00	0.00	1.25	1.25	0.00	1.15	1.15	1,746.33
Building Vendor Trips	0.50	5.81	4.49	0.01	0.04	0.24	0.28	0.01	0.22	0.23	1,073.70
Building Worker Trips	0.82	1.54	26.05	0.03	0.15	0.08	0.23	0.05	0.07	0.12	3,090.96
Time Slice 1/3/2011-4/22/2011 Active Days: 80	4.72	23.45	39.76	**0.04**	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
Building 09/01/2010-04/24/2011	4.72	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
Building Off Road Diesel	3.51	16.81	11.35	0.00	0.00	1.19	1.19	0.00	1.09	1.09	1,746.33

Building Vendor Trips	0.46	5.23	4.17	0.01	0.04	0.22	0.25	0.01	0.20	0.21	1,073.72
Building Worker Trips	0.75	1.40	24.24	0.03	0.15	0.08	0.23	0.05	0.07	0.12	3,090.29
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**24.09**	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15
Coating 04/27/2011-09/22/2011	24.09	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15
Architectural Coating	24.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 43.66

Maximum Daily Acreage Disturbed: 10.92

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 43.66

Maximum Daily Acreage Disturbed: 10.92

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 10.92

12/21/2009 04:06:57 PM

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 7 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	4.21	**33.75**	18.79	0.00	38.66	1.80	40.46	8.07	1.65	9.73	3,162.97
Mass Grading 03/24/2010-06/20/2010	4.21	33.75	18.79	0.00	38.66	1.80	40.46	8.07	1.65	9.73	3,162.97
Mass Grading Dust	0.00	0.00	0.00	0.00	38.65	0.00	38.65	8.07	0.00	8.07	0.00
Mass Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/23/2010-7/30/2010 Active Days: 28	4.21	**33.75**	18.79	0.00	38.66	1.80	40.46	8.07	1.65	9.73	3,162.97
Fine Grading 06/23/2010-08/01/2010	4.21	33.75	18.79	0.00	38.66	1.80	40.46	8.07	1.65	9.73	3,162.97
Fine Grading Dust	0.00	0.00	0.00	0.00	38.65	0.00	38.65	8.07	0.00	8.07	0.00
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49

12/21/2009 04:06:57 PM

Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	7.64	32.46	16.55	0.02	0.08	**2.13**	2.21	0.03	**1.96**	1.98	3,504.67
Asphalt 08/18/2010-08/29/2010	7.64	32.46	16.55	0.02	0.08	2.13	2.21	0.03	1.96	1.98	3,504.67
Paving Off-Gas	3.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	1.17	15.26	5.86	0.02	0.07	0.62	0.69	0.02	0.57	0.60	2,076.77
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	5.11	25.12	**42.27**	**0.04**	0.18	1.57	1.76	0.07	1.44	1.50	**5,910.99**
Building 09/01/2010-04/24/2011	5.11	25.12	42.27	0.04	0.18	1.57	1.76	0.07	1.44	1.50	5,910.99
Building Off Road Diesel	3.79	17.78	11.73	0.00	0.00	1.25	1.25	0.00	1.15	1.15	1,746.33
Building Vendor Trips	0.50	5.81	4.49	0.01	0.04	0.24	0.28	0.01	0.22	0.23	1,073.70
Building Worker Trips	0.82	1.54	26.05	0.03	0.15	0.08	0.23	0.05	0.07	0.12	3,090.96
Time Slice 1/3/2011-4/22/2011 Active Days: 80	4.72	23.45	39.76	**0.04**	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
Building 09/01/2010-04/24/2011	4.72	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
Building Off Road Diesel	3.51	16.81	11.35	0.00	0.00	1.19	1.19	0.00	1.09	1.09	1,746.33
Building Vendor Trips	0.46	5.23	4.17	0.01	0.04	0.22	0.25	0.01	0.20	0.21	1,073.72
Building Worker Trips	0.75	1.40	24.24	0.03	0.15	0.08	0.23	0.05	0.07	0.12	3,090.29
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**24.09**	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15
Coating 04/27/2011-09/22/2011	24.09	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15
Architectural Coating	24.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.93	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.15

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

12/21/2009 04:06:57 PM

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.23	2.98	1.33	0.00	0.01	0.01	3,798.82
Hearth - No Summer Emissions							
Landscape	1.11	0.10	7.87	0.00	0.02	0.02	13.29
Consumer Products	11.23						
Architectural Coatings	0.70						
TOTALS (lbs/day, unmitigated)	13.27	3.08	9.20	0.00	0.03	0.03	3,812.11

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.18	2.39	1.06	0.00	0.00	0.00	3,039.06
Hearth - No Summer Emissions							
Landscape	1.11	0.10	7.87	0.00	0.02	0.02	13.29
Consumer Products	11.23						
Architectural Coatings	0.70						
TOTALS (lbs/day, mitigated)	13.22	2.49	8.93	0.00	0.02	0.02	3,052.35

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:06:57 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.27	7.77	73.02	0.10	15.66	3.06	9,451.30
Condo/townhouse general	5.69	6.92	65.10	0.09	13.96	2.73	8,425.03
Community Facility	4.51	5.93	53.11	0.07	11.71	2.29	7,021.43
TOTALS (lbs/day, unmitigated)	16.47	20.62	191.23	0.26	41.33	8.08	24,897.76

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	5.60	6.84	64.30	0.08	13.79	2.69	8,321.49
Condo/townhouse general	4.99	5.95	55.96	0.07	12.00	2.35	7,242.42
Community Facility	3.99	5.22	46.77	0.06	10.31	2.01	6,182.08
TOTALS (lbs/day, mitigated)	14.58	18.01	167.03	0.21	36.10	7.05	21,745.99

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 04:06:57 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 04:06:57 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	35.67	9.57	dwelling units	107.00	1,023.99	9,057.19
Condo/townhouse general	7.00	8.15	dwelling units	112.00	912.80	8,073.72
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					2,914.61	23,907.15

12/21/2009 04:06:57 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.1	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.8	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 04:07:08 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2014 - P2.urb924

Project Name: Serrano Summit - Phase 2 - 2014

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	7.64	33.75	42.27	0.04	109.21	2.13	111.01	22.81	1.96	24.46	5,910.99
2010 TOTALS (lbs/day mitigated)	7.64	33.75	42.27	0.04	38.66	2.13	40.46	8.07	1.96	9.73	5,910.99
2011 TOTALS (lbs/day unmitigated)	24.09	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34
2011 TOTALS (lbs/day mitigated)	24.09	23.45	39.76	0.04	0.18	1.49	1.67	0.07	1.36	1.43	5,910.34

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	12.25	4.49	1.97	0.01	0.13	0.13	5,722.35
TOTALS (lbs/day, mitigated)	12.20	3.90	1.70	0.01	0.12	0.12	4,962.59
Percent Reduction	0.41	13.14	13.71	0.00	7.69	7.69	13.28

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	17.96	24.80	183.59	0.21	41.33	8.08	22,556.11
TOTALS (lbs/day, mitigated)	15.78	21.66	160.34	0.18	36.10	7.05	19,700.75
Percent Reduction	12.14	12.66	12.66	14.29	12.65	12.75	12.66

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	30.21	29.29	185.56	0.22	41.46	8.21	28,278.46
TOTALS (lbs/day, mitigated)	27.98	25.56	162.04	0.19	36.22	7.17	24,663.34
Percent Reduction	7.38	12.73	12.68	13.64	12.64	12.67	12.78

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.23	2.98	1.33	0.00	0.01	0.01	3,798.82
Hearth	0.09	1.51	0.64	0.01	0.12	0.12	1,923.53
Landscaping - No Winter Emissions							
Consumer Products	11.23						
Architectural Coatings	0.70						
TOTALS (lbs/day, unmitigated)	12.25	4.49	1.97	0.01	0.13	0.13	5,722.35

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.18	2.39	1.06	0.00	0.00	0.00	3,039.06
Hearth	0.09	1.51	0.64	0.01	0.12	0.12	1,923.53
Landscaping - No Winter Emissions							
Consumer Products	11.23						
Architectural Coatings	0.70						
TOTALS (lbs/day, mitigated)	12.20	3.90	1.70	0.01	0.12	0.12	4,962.59

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:07:08 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.75	9.34	69.81	0.08	15.66	3.06	8,564.17
Condo/townhouse general	6.06	8.33	62.23	0.07	13.96	2.73	7,634.23
Community Facility	5.15	7.13	51.55	0.06	11.71	2.29	6,357.71
TOTALS (lbs/day, unmitigated)	17.96	24.80	183.59	0.21	41.33	8.08	22,556.11

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	5.98	8.23	61.46	0.07	13.79	2.69	7,540.41
Condo/townhouse general	5.26	7.16	53.49	0.06	12.00	2.35	6,562.63
Community Facility	4.54	6.27	45.39	0.05	10.31	2.01	5,597.71
TOTALS (lbs/day, mitigated)	15.78	21.66	160.34	0.18	36.10	7.05	19,700.75

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 04:07:08 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 04:07:08 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	35.67	9.57	dwelling units	107.00	1,023.99	9,057.19
Condo/townhouse general	7.00	8.15	dwelling units	112.00	912.80	8,073.72
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					2,914.61	23,907.15

12/21/2009 04:07:08 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.1	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.8	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/22/2009 10:40:17 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2014 - P2-Const.urb924

Project Name: Serrano Summit - Phase 2 - 2014 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	6.00	29.68	34.33	0.04	100.01	1.57	101.55	20.89	1.44	22.31	5,388.68
2012 TOTALS (lbs/day mitigated)	6.00	29.68	34.33	0.04	35.40	1.57	36.95	7.39	1.44	8.81	5,388.68
2013 TOTALS (lbs/day unmitigated)	18.97	18.78	32.30	0.04	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38
2013 TOTALS (lbs/day mitigated)	18.97	18.78	32.30	0.04	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	12.50	2.78	7.11	0.00	0.03	0.03	3,470.36
TOTALS (lbs/day, mitigated)	12.46	2.24	6.88	0.00	0.02	0.02	2,778.27
Percent Reduction	0.32	19.42	3.23	########	33.33	33.33	19.94

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.49	14.10	132.67	0.18	28.45	5.56	17,169.69
TOTALS (lbs/day, mitigated)	10.17	12.28	115.45	0.15	24.76	4.84	14,941.74
Percent Reduction	11.49	12.91	12.98	16.67	12.97	12.95	12.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	23.99	16.88	139.78	0.18	28.48	5.59	20,640.05
TOTALS (lbs/day, mitigated)	22.63	14.52	122.33	0.15	24.78	4.86	17,720.01
Percent Reduction	5.67	13.98	12.48	16.67	12.99	13.06	14.15

12/22/2009 10:40:17 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/26/2012-6/20/2012 Active Days: 63	3.74	**29.68**	17.37	0.00	**100.01**	1.54	**101.55**	**20.89**	1.42	**22.31**	3,162.91
Mass Grading 03/24/2012-06/20/2012	3.74	29.68	17.37	0.00	100.01	1.54	101.55	20.89	1.42	22.31	3,162.91
Mass Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Mass Grading Off Road Diesel	3.71	29.61	16.24	0.00	0.00	1.54	1.54	0.00	1.42	1.42	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Time Slice 6/25/2012-8/1/2012 Active Days: 28	3.74	**29.68**	17.37	0.00	**100.01**	1.54	**101.55**	**20.89**	1.42	**22.31**	3,162.91
Fine Grading 06/23/2012-08/01/2012	3.74	29.68	17.37	0.00	100.01	1.54	101.55	20.89	1.42	22.31	3,162.91
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.71	29.61	16.24	0.00	0.00	1.54	1.54	0.00	1.42	1.42	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Time Slice 8/6/2012-8/15/2012 Active Days: 8	1.83	15.29	8.92	0.00	0.01	0.74	0.74	0.00	0.68	0.68	1,838.98
Trenching 08/04/2012-08/15/2012	1.83	15.29	8.92	0.00	0.01	0.74	0.74	0.00	0.68	0.68	1,838.98
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/20/2012-8/29/2012 Active Days: 8	6.00	23.54	13.75	0.02	0.07	**1.57**	1.64	0.02	**1.44**	1.46	3,071.10
Asphalt 08/18/2012-08/29/2012	6.00	23.54	13.75	0.02	0.07	1.57	1.64	0.02	1.44	1.46	3,071.10
Paving Off-Gas	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.23	13.48	8.10	0.00	0.00	1.17	1.17	0.00	1.07	1.07	1,131.92
Paving On Road Diesel	0.80	9.96	3.84	0.02	0.06	0.39	0.45	0.02	0.36	0.38	1,690.49
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 9/3/2012-12/31/2012 Active Days: 86	4.14	20.29	**34.33**	**0.04**	0.17	1.29	1.46	0.06	1.18	1.24	**5,388.68**
Building 09/01/2012-04/24/2013	4.14	20.29	34.33	0.04	0.17	1.29	1.46	0.06	1.18	1.24	5,388.68
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.39	4.32	3.55	0.01	0.03	0.18	0.21	0.01	0.16	0.17	992.08
Building Worker Trips	0.61	1.16	20.26	0.03	0.13	0.08	0.21	0.05	0.06	0.11	2,775.41
Time Slice 1/1/2013-4/24/2013 Active Days: 82	3.79	18.78	32.30	**0.04**	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38
Building 09/01/2012-04/24/2013	3.79	18.78	32.30	0.04	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38

Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.36	3.82	3.27	0.01	0.03	0.16	0.19	0.01	0.14	0.15	992.11
Building Worker Trips	0.56	1.06	18.83	0.03	0.13	0.08	0.21	0.05	0.06	0.11	2,775.07
Time Slice 4/29/2013-9/20/2013 Active Days: 105	**18.97**	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23
Coating 04/27/2013-09/22/2013	18.97	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23
Architectural Coating	18.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23

Phase Assumptions

Phase: Fine Grading 6/23/2012 - 8/1/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2012 - 6/20/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2012 - 8/15/2012 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:40:17 AM

Phase: Paving 8/18/2012 - 8/29/2012 - Default Paving Description

Acres to be Paved: 10

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 9/1/2012 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2013 - 9/22/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/26/2012-6/20/2012 Active Days: 63	3.74	**29.68**	17.37	0.00	35.40	1.54	36.95	7.39	1.42	8.81	3,162.91
Mass Grading 03/24/2012-06/20/2012	3.74	29.68	17.37	0.00	35.40	1.54	36.95	7.39	1.42	8.81	3,162.91
Mass Grading Dust	0.00	0.00	0.00	0.00	35.40	0.00	35.40	7.39	0.00	7.39	0.00
Mass Grading Off Road Diesel	3.71	29.61	16.24	0.00	0.00	1.54	1.54	0.00	1.42	1.42	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Time Slice 6/25/2012-8/1/2012 Active Days: 28	3.74	**29.68**	17.37	0.00	35.40	1.54	36.95	7.39	1.42	8.81	3,162.91
Fine Grading 06/23/2012-08/01/2012	3.74	29.68	17.37	0.00	35.40	1.54	36.95	7.39	1.42	8.81	3,162.91
Fine Grading Dust	0.00	0.00	0.00	0.00	35.40	0.00	35.40	7.39	0.00	7.39	0.00
Fine Grading Off Road Diesel	3.71	29.61	16.24	0.00	0.00	1.54	1.54	0.00	1.42	1.42	3,007.48

Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Time Slice 8/6/2012-8/15/2012 Active Days: 8	1.83	15.29	8.92	0.00	0.01	0.74	0.74	0.00	0.68	0.68	1,838.98
Trenching 08/04/2012-08/15/2012	1.83	15.29	8.92	0.00	0.01	0.74	0.74	0.00	0.68	0.68	1,838.98
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/20/2012-8/29/2012 Active Days: 8	6.00	23.54	13.75	0.02	0.07	**1.57**	1.64	0.02	**1.44**	1.46	3,071.10
Asphalt 08/18/2012-08/29/2012	6.00	23.54	13.75	0.02	0.07	1.57	1.64	0.02	1.44	1.46	3,071.10
Paving Off-Gas	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.23	13.48	8.10	0.00	0.00	1.17	1.17	0.00	1.07	1.07	1,131.92
Paving On Road Diesel	0.80	9.96	3.84	0.02	0.06	0.39	0.45	0.02	0.36	0.38	1,690.49
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 9/3/2012-12/31/2012 Active Days: 86	4.14	20.29	**34.33**	**0.04**	0.17	1.29	1.46	0.06	1.18	1.24	**5,388.68**
Building 09/01/2012-04/24/2013	4.14	20.29	34.33	0.04	0.17	1.29	1.46	0.06	1.18	1.24	5,388.68
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.39	4.32	3.55	0.01	0.03	0.18	0.21	0.01	0.16	0.17	992.08
Building Worker Trips	0.61	1.16	20.26	0.03	0.13	0.08	0.21	0.05	0.06	0.11	2,775.41
Time Slice 1/1/2013-4/24/2013 Active Days: 82	3.79	18.78	32.30	**0.04**	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38
Building 09/01/2012-04/24/2013	3.79	18.78	32.30	0.04	0.17	1.16	1.33	0.06	1.06	1.12	5,388.38
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.36	3.82	3.27	0.01	0.03	0.16	0.19	0.01	0.14	0.15	992.11
Building Worker Trips	0.56	1.06	18.83	0.03	0.13	0.08	0.21	0.05	0.06	0.11	2,775.07
Time Slice 4/29/2013-9/20/2013 Active Days: 105	**18.97**	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23
Coating 04/27/2013-09/22/2013	18.97	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23
Architectural Coating	18.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	108.23

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2012 - 8/1/2012 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

12/22/2009 10:40:17 AM

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2012 - 6/20/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.21	2.71	1.15	0.00	0.01	0.01	3,460.46
Hearth - No Summer Emissions							
Landscape	0.92	0.07	5.96	0.00	0.02	0.02	9.90
Consumer Products	10.82						
Architectural Coatings	0.55						
TOTALS (lbs/day, unmitigated)	12.50	2.78	7.11	0.00	0.03	0.03	3,470.36

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.17	2.17	0.92	0.00	0.00	0.00	2,768.37
Hearth - No Summer Emissions							
Landscape	0.92	0.07	5.96	0.00	0.02	0.02	9.90
Consumer Products	10.82						
Architectural Coatings	0.55						
TOTALS (lbs/day, mitigated)	12.46	2.24	6.88	0.00	0.02	0.02	2,778.27

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/22/2009 10:40:17 AM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	5.80	7.18	67.57	0.09	14.49	2.83	8,744.66
Condo/townhouse general	5.69	6.92	65.10	0.09	13.96	2.73	8,425.03
TOTALS (lbs/day, unmitigated)	11.49	14.10	132.67	0.18	28.45	5.56	17,169.69

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	5.18	6.33	59.49	0.08	12.76	2.49	7,699.32
Condo/townhouse general	4.99	5.95	55.96	0.07	12.00	2.35	7,242.42
TOTALS (lbs/day, mitigated)	10.17	12.28	115.45	0.15	24.76	4.84	14,941.74

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

12/22/2009 10:40:17 AM

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 80 Season: Summer

12/22/2009 10:40:17 AM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	33.00	9.57	dwelling units	99.00	947.43	8,380.02
Condo/townhouse general	7.00	8.15	dwelling units	112.00	912.80	8,073.72
					1,860.23	16,453.74

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.1	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.8	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/22/2009 10:40:49 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2014 - P2-Const.urb924

Project Name: Serrano Summit - Phase 2 - 2014 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.38	2.38	2.36	0.00	4.56	0.13	4.69	0.95	0.12	1.08	395.27
2012 TOTALS (tons/year mitigated)	0.38	2.38	2.36	0.00	1.62	0.13	1.75	0.34	0.12	0.46	395.27
Percent Reduction	0.00	0.00	0.00	0.00	64.49	0.00	62.64	64.42	0.00	57.01	0.00
2013 TOTALS (tons/year unmitigated)	1.15	0.77	1.36	0.00	0.01	0.05	0.05	0.00	0.04	0.05	226.61
2013 TOTALS (tons/year mitigated)	1.15	0.77	1.36	0.00	0.01	0.05	0.05	0.00	0.04	0.05	226.61
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.29	0.50	1.30	0.00	0.00	0.00	634.26
TOTALS (tons/year, mitigated)	2.28	0.41	1.26	0.00	0.00	0.00	507.96
Percent Reduction	0.44	18.00	3.08	########	############	############	19.91

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.15	2.75	23.86	0.03	5.19	1.02	3,035.43
TOTALS (tons/year, mitigated)	1.90	2.39	20.76	0.02	4.52	0.88	2,641.55
Percent Reduction	11.63	13.09	12.99	33.33	12.91	13.73	12.98

12/22/2009 10:40:49 AM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.44	3.25	25.16	0.03	5.19	1.02	3,669.69
TOTALS (tons/year, mitigated)	4.18	2.80	22.02	0.02	4.52	0.88	3,149.51
Percent Reduction	5.86	13.85	12.48	33.33	12.91	13.73	14.18

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012	0.38	2.38	2.36	0.00	4.56	0.13	4.69	0.95	0.12	1.08	395.27
Mass Grading 03/24/2012-06/20/2012	0.12	0.93	0.55	0.00	3.15	0.05	3.20	0.66	0.04	0.70	99.63
Mass Grading Dust	0.00	0.00	0.00	0.00	3.15	0.00	3.15	0.66	0.00	0.66	0.00
Mass Grading Off Road Diesel	0.12	0.93	0.51	0.00	0.00	0.05	0.05	0.00	0.04	0.04	94.74
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90
Fine Grading 06/23/2012-08/01/2012	0.05	0.42	0.24	0.00	1.40	0.02	1.42	0.29	0.02	0.31	44.28
Fine Grading Dust	0.00	0.00	0.00	0.00	1.40	0.00	1.40	0.29	0.00	0.29	0.00
Fine Grading Off Road Diesel	0.05	0.41	0.23	0.00	0.00	0.02	0.02	0.00	0.02	0.02	42.10
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18
Trenching 08/04/2012-08/15/2012	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2012-08/29/2012	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.28
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.53
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.76
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Building 09/01/2012-04/24/2013	0.18	0.87	1.48	0.00	0.01	0.06	0.06	0.00	0.05	0.05	231.71
Building Off Road Diesel	0.13	0.64	0.45	0.00	0.00	0.04	0.04	0.00	0.04	0.04	69.71
Building Vendor Trips	0.02	0.19	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	42.66
Building Worker Trips	0.03	0.05	0.87	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.34
2013	1.15	0.77	1.36	0.00	0.01	0.05	0.05	0.00	0.04	0.05	226.61

Building 09/01/2012-04/24/2013	0.16	0.77	1.32	0.00	0.01	0.05	0.05	0.00	0.04	0.05	220.92
Building Off Road Diesel	0.12	0.57	0.42	0.00	0.00	0.04	0.04	0.00	0.04	0.04	66.47
Building Vendor Trips	0.01	0.16	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	40.68
Building Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.00	113.78
Coating 04/27/2013-09/22/2013	1.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68
Architectural Coating	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68

Phase Assumptions

Phase: Fine Grading 6/23/2012 - 8/1/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2012 - 6/20/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2012 - 8/15/2012 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:40:49 AM

Phase: Paving 8/18/2012 - 8/29/2012 - Default Paving Description

Acres to be Paved: 10

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 9/1/2012 - 4/24/2013 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2013 - 9/22/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012	0.38	2.38	2.36	0.00	1.62	0.13	1.75	0.34	0.12	0.46	395.27
Mass Grading 03/24/2012-06/20/2012	0.12	0.93	0.55	0.00	1.12	0.05	1.16	0.23	0.04	0.28	99.63
Mass Grading Dust	0.00	0.00	0.00	0.00	1.11	0.00	1.11	0.23	0.00	0.23	0.00
Mass Grading Off Road Diesel	0.12	0.93	0.51	0.00	0.00	0.05	0.05	0.00	0.04	0.04	94.74
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90
Fine Grading 06/23/2012-08/01/2012	0.05	0.42	0.24	0.00	0.50	0.02	0.52	0.10	0.02	0.12	44.28
Fine Grading Dust	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.10	0.00	0.10	0.00
Fine Grading Off Road Diesel	0.05	0.41	0.23	0.00	0.00	0.02	0.02	0.00	0.02	0.02	42.10
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18
Trenching 08/04/2012-08/15/2012	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2012-08/29/2012	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.28
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.53
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.76
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Building 09/01/2012-04/24/2013	0.18	0.87	1.48	0.00	0.01	0.06	0.06	0.00	0.05	0.05	231.71
Building Off Road Diesel	0.13	0.64	0.45	0.00	0.00	0.04	0.04	0.00	0.04	0.04	69.71
Building Vendor Trips	0.02	0.19	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	42.66
Building Worker Trips	0.03	0.05	0.87	0.00	0.01	0.00	0.01	0.00	0.00	0.00	119.34
2013	1.15	0.77	1.36	0.00	0.01	0.05	0.05	0.00	0.04	0.05	226.61
Building 09/01/2012-04/24/2013	0.16	0.77	1.32	0.00	0.01	0.05	0.05	0.00	0.04	0.05	220.92
Building Off Road Diesel	0.12	0.57	0.42	0.00	0.00	0.04	0.04	0.00	0.04	0.04	66.47
Building Vendor Trips	0.01	0.16	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	40.68
Building Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.00	113.78
Coating 04/27/2013-09/22/2013	1.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68
Architectural Coating	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2012 - 8/1/2012 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2012 - 6/20/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

12/22/2009 10:40:49 AM

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.49	0.21	0.00	0.00	0.00	631.53
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Landscape	0.17	0.01	1.09	0.00	0.00	0.00	1.81
Consumer Products	1.98						
Architectural Coatings	0.10						
TOTALS (tons/year, unmitigated)	2.29	0.50	1.30	0.00	0.00	0.00	634.26

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.40	0.17	0.00	0.00	0.00	505.23
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Landscape	0.17	0.01	1.09	0.00	0.00	0.00	1.81
Consumer Products	1.98						
Architectural Coatings	0.10						
TOTALS (tons/year, mitigated)	2.28	0.41	1.26	0.00	0.00	0.00	507.96

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/22/2009 10:40:49 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.09	1.40	12.15	0.02	2.64	0.52	1,545.97
Condo/townhouse general	1.06	1.35	11.71	0.01	2.55	0.50	1,489.46
TOTALS (tons/year, unmitigated)	2.15	2.75	23.86	0.03	5.19	1.02	3,035.43

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.97	1.23	10.70	0.01	2.33	0.45	1,361.16
Condo/townhouse general	0.93	1.16	10.06	0.01	2.19	0.43	1,280.39
TOTALS (tons/year, mitigated)	1.90	2.39	20.76	0.02	4.52	0.88	2,641.55

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

12/22/2009 10:40:49 AM

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	33.00	9.57	dwelling units	99.00	947.43	8,380.02
Condo/townhouse general	7.00	8.15	dwelling units	112.00	912.80	8,073.72
					1,860.23	16,453.74

12/22/2009 10:40:49 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.1	0.4	99.4	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.8	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/21/2009 02:23:31 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2015 - P3.urb924

Project Name: Serrano Summit - Phase 3 - 2015

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	10.67	43.70	72.83	0.08	178.91	2.53	181.44	37.37	2.33	39.69	10,360.16
2010 TOTALS (lbs/day mitigated)	10.67	43.70	72.83	0.08	63.33	2.53	65.86	13.23	2.33	15.55	10,360.16
2011 TOTALS (lbs/day unmitigated)	42.10	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94
2011 TOTALS (lbs/day mitigated)	42.10	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	27.71	5.93	12.32	0.00	0.04	0.04	7,425.31
TOTALS (lbs/day, mitigated)	27.62	4.77	11.82	0.00	0.04	0.04	5,943.53
Percent Reduction	0.32	19.56	4.06	########	0.00	0.00	19.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	26.92	33.37	310.51	0.46	74.65	14.56	44,986.14
TOTALS (lbs/day, mitigated)	23.79	29.00	269.83	0.40	64.87	12.65	39,093.40
Percent Reduction	11.63	13.10	13.10	13.04	13.10	13.12	13.10

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	54.63	39.30	322.83	0.46	74.69	14.60	52,411.45
TOTALS (lbs/day, mitigated)	51.41	33.77	281.65	0.40	64.91	12.69	45,036.93
Percent Reduction	5.89	14.07	12.76	13.04	13.09	13.08	14.07

12/21/2009 02:23:31 PM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	**43.70**	25.46	0.00	**178.91**	2.53	**181.44**	**37.37**	2.32	**39.69**	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	178.91	2.53	181.44	37.37	2.32	39.69	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	178.90	0.00	178.90	37.36	0.00	37.36	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	**43.70**	25.46	0.00	**178.91**	2.53	**181.44**	**37.37**	2.32	**39.69**	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	178.91	2.53	181.44	37.37	2.32	39.69	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	178.90	0.00	178.90	37.36	0.00	37.36	0.00
Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	10.67	42.21	20.29	0.03	0.12	**2.53**	2.65	0.04	**2.33**	2.37	4,830.23
Asphalt 08/18/2010-08/29/2010	10.67	42.21	20.29	0.03	0.12	2.53	2.65	0.04	2.33	2.37	4,830.23
Paving Off-Gas	5.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	1.92	25.00	9.60	0.03	0.11	1.02	1.14	0.04	0.94	0.98	3,402.33
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	6.69	38.62	**72.83**	**0.08**	0.35	2.35	2.70	0.13	2.14	2.27	**10,360.16**
Building 09/01/2010-04/24/2011	6.69	38.62	72.83	0.08	0.35	2.35	2.70	0.13	2.14	2.27	10,360.16
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.08	12.43	9.60	0.02	0.08	0.52	0.60	0.03	0.48	0.50	2,296.13
Building Worker Trips	1.54	2.89	48.91	0.06	0.27	0.16	0.43	0.10	0.13	0.23	5,804.75
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.16	35.69	68.37	**0.08**	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94
Building 09/01/2010-04/24/2011	6.16	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94

Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	0.99	11.20	8.90	0.02	0.08	0.46	0.54	0.03	0.42	0.45	2,296.16
Building Worker Trips	1.40	2.64	45.53	0.06	0.27	0.16	0.43	0.10	0.13	0.23	5,803.49
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**42.10**	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86
Coating 04/27/2011-09/22/2011	42.10	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86
Architectural Coating	42.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 71.55

Maximum Daily Acreage Disturbed: 17.89

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 71.55

Maximum Daily Acreage Disturbed: 17.89

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

12/21/2009 02:23:31 PM

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 17.89

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	**43.70**	25.46	0.00	63.33	2.53	65.86	13.23	2.32	15.55	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	63.33	2.53	65.86	13.23	2.32	15.55	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	63.32	0.00	63.32	13.22	0.00	13.22	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	**43.70**	25.46	0.00	63.33	2.53	65.86	13.23	2.32	15.55	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	63.33	2.53	65.86	13.23	2.32	15.55	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	63.32	0.00	63.32	13.22	0.00	13.22	0.00

Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	10.67	42.21	20.29	0.03	0.12	**2.53**	2.65	0.04	**2.33**	2.37	4,830.23
Asphalt 08/18/2010-08/29/2010	10.67	42.21	20.29	0.03	0.12	2.53	2.65	0.04	2.33	2.37	4,830.23
Paving Off-Gas	5.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	1.92	25.00	9.60	0.03	0.11	1.02	1.14	0.04	0.94	0.98	3,402.33
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	6.69	38.62	**72.83**	**0.08**	0.35	2.35	2.70	0.13	2.14	2.27	**10,360.16**
Building 09/01/2010-04/24/2011	6.69	38.62	72.83	0.08	0.35	2.35	2.70	0.13	2.14	2.27	10,360.16
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.08	12.43	9.60	0.02	0.08	0.52	0.60	0.03	0.48	0.50	2,296.13
Building Worker Trips	1.54	2.89	48.91	0.06	0.27	0.16	0.43	0.10	0.13	0.23	5,804.75
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.16	35.69	68.37	**0.08**	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94
Building 09/01/2010-04/24/2011	6.16	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	0.99	11.20	8.90	0.02	0.08	0.46	0.54	0.03	0.42	0.45	2,296.16
Building Worker Trips	1.40	2.64	45.53	0.06	0.27	0.16	0.43	0.10	0.13	0.23	5,803.49
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**42.10**	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86
Coating 04/27/2011-09/22/2011	42.10	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86
Architectural Coating	42.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.10	1.74	0.00	0.01	0.01	0.02	0.00	0.01	0.01	221.86

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/21/2009 02:23:31 PM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.45	5.81	2.53	0.00	0.01	0.01	7,408.94
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	24.57						
Architectural Coatings	1.23						
TOTALS (lbs/day, unmitigated)	27.71	5.93	12.32	0.00	0.04	0.04	7,425.31

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.36	4.65	2.03	0.00	0.01	0.01	5,927.16
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	24.57						
Architectural Coatings	1.23						
TOTALS (lbs/day, mitigated)	27.62	4.77	11.82	0.00	0.04	0.04	5,943.53

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/21/2009 02:23:31 PM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.88	9.78	91.70	0.14	21.95	4.28	13,239.74
Condo/townhouse general	15.01	18.26	171.28	0.25	40.99	8.00	24,730.33
Community Facility	4.03	5.33	47.53	0.07	11.71	2.28	7,016.07
TOTALS (lbs/day, unmitigated)	26.92	33.37	310.51	0.46	74.65	14.56	44,986.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.05	8.61	80.74	0.12	19.32	3.77	11,657.06
Condo/townhouse general	13.17	15.70	147.24	0.22	35.24	6.87	21,258.97
Community Facility	3.57	4.69	41.85	0.06	10.31	2.01	6,177.37
TOTALS (lbs/day, mitigated)	23.79	29.00	269.83	0.40	64.87	12.65	39,093.40

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

12/21/2009 02:23:31 PM

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

12/21/2009 02:23:31 PM

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/21/2009 02:23:31 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	20.56	8.15	dwelling units	329.00	2,681.35	23,716.54
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,094.67	43,189.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.8	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 02:23:52 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2015 - P3.urb924

Project Name: Serrano Summit - Phase 3 - 2015

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	10.67	43.70	72.83	0.08	178.91	2.53	181.44	37.37	2.33	39.69	10,360.16
2010 TOTALS (lbs/day mitigated)	10.67	43.70	72.83	0.08	63.33	2.53	65.86	13.23	2.33	15.55	10,360.16
2011 TOTALS (lbs/day unmitigated)	42.10	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94
2011 TOTALS (lbs/day mitigated)	42.10	35.69	68.37	0.08	0.35	2.20	2.55	0.13	2.01	2.13	10,358.94

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	26.43	8.87	3.83	0.02	0.26	0.26	11,319.53
TOTALS (lbs/day, mitigated)	26.34	7.71	3.33	0.02	0.26	0.26	9,837.75
Percent Reduction	0.34	13.08	13.05	0.00	0.00	0.00	13.09

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	28.96	40.12	295.39	0.38	74.65	14.56	40,742.52
TOTALS (lbs/day, mitigated)	25.35	34.86	256.70	0.33	64.87	12.65	35,405.58
Percent Reduction	12.47	13.11	13.10	13.16	13.10	13.12	13.10

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	55.39	48.99	299.22	0.40	74.91	14.82	52,062.05
TOTALS (lbs/day, mitigated)	51.69	42.57	260.03	0.35	65.13	12.91	45,243.33
Percent Reduction	6.68	13.10	13.10	12.50	13.06	12.89	13.10

12/21/2009 02:23:52 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.45	5.81	2.53	0.00	0.01	0.01	7,408.94
Hearth	0.18	3.06	1.30	0.02	0.25	0.25	3,910.59
Landscaping - No Winter Emissions							
Consumer Products	24.57						
Architectural Coatings	1.23						
TOTALS (lbs/day, unmitigated)	26.43	8.87	3.83	0.02	0.26	0.26	11,319.53

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.36	4.65	2.03	0.00	0.01	0.01	5,927.16
Hearth	0.18	3.06	1.30	0.02	0.25	0.25	3,910.59
Landscaping - No Winter Emissions							
Consumer Products	24.57						
Architectural Coatings	1.23						
TOTALS (lbs/day, mitigated)	26.34	7.71	3.33	0.02	0.26	0.26	9,837.75

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:23:52 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.45	11.76	87.02	0.11	21.95	4.28	11,992.20
Condo/townhouse general	15.92	21.96	162.55	0.21	40.99	8.00	22,400.05
Community Facility	4.59	6.40	45.82	0.06	11.71	2.28	6,350.27
TOTALS (lbs/day, unmitigated)	28.96	40.12	295.39	0.38	74.65	14.56	40,742.52

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.49	10.35	76.62	0.10	19.32	3.77	10,558.64
Condo/townhouse general	13.81	18.88	139.73	0.18	35.24	6.87	19,255.79
Community Facility	4.05	5.63	40.35	0.05	10.31	2.01	5,591.15
TOTALS (lbs/day, mitigated)	25.35	34.86	256.70	0.33	64.87	12.65	35,405.58

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:23:52 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 02:23:52 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	20.56	8.15	dwelling units	329.00	2,681.35	23,716.54
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,094.67	43,189.78

12/21/2009 02:23:52 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.8	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 02:24:04 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2015 - P3.urb924

Project Name: Serrano Summit - Phase 3 - 2015

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.60	3.93	4.48	0.00	8.16	0.23	8.39	1.71	0.21	1.92	672.79
2010 TOTALS (tons/year mitigated)	0.60	3.93	4.48	0.00	2.90	0.23	3.13	0.61	0.21	0.82	672.79
Percent Reduction	0.00	0.00	0.00	0.00	64.47	0.00	62.69	64.38	0.00	57.25	0.00
2011 TOTALS (tons/year unmitigated)	2.50	1.43	2.83	0.00	0.01	0.09	0.10	0.01	0.08	0.09	426.23
2011 TOTALS (tons/year mitigated)	2.50	1.43	2.83	0.00	0.01	0.09	0.10	0.01	0.08	0.09	426.23
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.05	1.08	2.25	0.00	0.01	0.01	1,357.08
TOTALS (tons/year, mitigated)	5.04	0.87	2.16	0.00	0.01	0.01	1,086.66
Percent Reduction	0.20	19.44	4.00	########	0.00	0.00	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.03	6.50	55.75	0.07	13.63	2.66	7,951.82
TOTALS (tons/year, mitigated)	4.43	5.65	48.44	0.07	11.84	2.31	6,910.20
Percent Reduction	11.93	13.08	13.11	0.00	13.13	13.16	13.10

12/21/2009 02:24:04 PM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	10.08	7.58	58.00	0.07	13.64	2.67	9,308.90
TOTALS (tons/year, mitigated)	9.47	6.52	50.60	0.07	11.85	2.32	7,996.86
Percent Reduction	6.05	13.98	12.76	0.00	13.12	13.11	14.09

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.60	3.93	4.48	0.00	8.16	0.23	8.39	1.71	0.21	1.92	672.79
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	5.64	0.08	5.72	1.18	0.07	1.25	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	5.64	0.00	5.64	1.18	0.00	1.18	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	2.50	0.04	2.54	0.52	0.03	0.56	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	2.50	0.00	2.50	0.52	0.00	0.52	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.04	0.17	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	19.32
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.61
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.29	1.70	3.20	0.00	0.02	0.10	0.12	0.01	0.09	0.10	455.85
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.05	0.55	0.42	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.03
Building Worker Trips	0.07	0.13	2.15	0.00	0.01	0.01	0.02	0.00	0.01	0.01	255.41
2011	2.50	1.43	2.83	0.00	0.01	0.09	0.10	0.01	0.08	0.09	426.23

Building 09/01/2010-04/24/2011	0.25	1.43	2.73	0.00	0.01	0.09	0.10	0.01	0.08	0.09	414.36
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.04	0.45	0.36	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.85
Building Worker Trips	0.06	0.11	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01	232.14
Coating 04/27/2011-09/22/2011	2.25	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.87
Architectural Coating	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.87

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 71.55

Maximum Daily Acreage Disturbed: 17.89

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 71.55

Maximum Daily Acreage Disturbed: 17.89

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/21/2009 02:24:04 PM

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description
Acres to be Paved: 17.89
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.60	3.93	4.48	0.00	2.90	0.23	3.13	0.61	0.21	0.82	672.79
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	2.00	0.08	2.07	0.42	0.07	0.49	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	1.99	0.00	1.99	0.42	0.00	0.42	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	0.89	0.04	0.92	0.19	0.03	0.22	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	0.89	0.00	0.89	0.19	0.00	0.19	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.04	0.17	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	19.32
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.61
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.29	1.70	3.20	0.00	0.02	0.10	0.12	0.01	0.09	0.10	455.85
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.05	0.55	0.42	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.03
Building Worker Trips	0.07	0.13	2.15	0.00	0.01	0.01	0.02	0.00	0.01	0.01	255.41
2011	2.50	1.43	2.83	0.00	0.01	0.09	0.10	0.01	0.08	0.09	426.23
Building 09/01/2010-04/24/2011	0.25	1.43	2.73	0.00	0.01	0.09	0.10	0.01	0.08	0.09	414.36
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.04	0.45	0.36	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.85
Building Worker Trips	0.06	0.11	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01	232.14
Coating 04/27/2011-09/22/2011	2.25	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.87
Architectural Coating	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.87

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/21/2009 02:24:04 PM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.08	1.06	0.46	0.00	0.00	0.00	1,352.13
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	1.96
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	4.48						
Architectural Coatings	0.22						
TOTALS (tons/year, unmitigated)	5.05	1.08	2.25	0.00	0.01	0.01	1,357.08

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.85	0.37	0.00	0.00	0.00	1,081.71
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	1.96
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	4.48						
Architectural Coatings	0.22						
TOTALS (tons/year, mitigated)	5.04	0.87	2.16	0.00	0.01	0.01	1,086.66

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:24:04 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.47	1.90	16.45	0.02	4.01	0.78	2,340.36
Condo/townhouse general	2.79	3.56	30.73	0.04	7.48	1.46	4,371.53
Community Facility	0.77	1.04	8.57	0.01	2.14	0.42	1,239.93
TOTALS (tons/year, unmitigated)	5.03	6.50	55.75	0.07	13.63	2.66	7,951.82

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.31	1.68	14.48	0.02	3.53	0.69	2,060.59
Condo/townhouse general	2.44	3.06	26.41	0.04	6.43	1.25	3,757.90
Community Facility	0.68	0.91	7.55	0.01	1.88	0.37	1,091.71
TOTALS (tons/year, mitigated)	4.43	5.65	48.44	0.07	11.84	2.31	6,910.20

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:24:04 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 02:24:04 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	20.56	8.15	dwelling units	329.00	2,681.35	23,716.54
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,094.67	43,189.78

12/21/2009 02:24:04 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.8	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/22/2009 10:47:55 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2015 - P3-Const.urb924

Project Name: Serrano Summit - Phase 3 - 2015 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	4.43	27.82	32.63	0.04	69.71	1.42	71.12	14.56	1.30	15.86	5,556.11
2013 TOTALS (lbs/day mitigated)	4.43	27.82	32.63	0.04	24.68	1.42	26.09	5.16	1.30	6.46	5,556.11
2014 TOTALS (lbs/day unmitigated)	18.00	18.06	30.74	0.04	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88
2014 TOTALS (lbs/day mitigated)	18.00	18.06	30.74	0.04	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	14.56	2.87	4.66	0.00	0.02	0.02	3,616.01
TOTALS (lbs/day, mitigated)	14.51	2.30	4.42	0.00	0.01	0.01	2,893.99
Percent Reduction	0.34	19.86	5.15	########	50.00	50.00	19.97

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	12.16	14.85	139.26	0.21	33.33	6.50	20,106.88
TOTALS (lbs/day, mitigated)	10.71	12.83	120.26	0.17	28.78	5.61	17,363.56
Percent Reduction	11.92	13.60	13.64	19.05	13.65	13.69	13.64

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	26.72	17.72	143.92	0.21	33.35	6.52	23,722.89
TOTALS (lbs/day, mitigated)	25.22	15.13	124.68	0.17	28.79	5.62	20,257.55
Percent Reduction	5.61	14.62	13.37	19.05	13.67	13.80	14.61

12/22/2009 10:47:55 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/25/2013-6/20/2013 Active Days: 64	3.54	**27.82**	16.74	0.00	**69.71**	**1.42**	**71.12**	**14.56**	**1.30**	**15.86**	3,162.89
Mass Grading 03/24/2013-06/20/2013	3.54	27.82	16.74	0.00	69.71	1.42	71.12	14.56	1.30	15.86	3,162.89
Mass Grading Dust	0.00	0.00	0.00	0.00	69.70	0.00	69.70	14.56	0.00	14.56	0.00
Mass Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Time Slice 6/24/2013-8/1/2013 Active Days: 29	3.54	**27.82**	16.74	0.00	**69.71**	**1.42**	**71.12**	**14.56**	**1.30**	**15.86**	3,162.89
Fine Grading 06/23/2013-08/01/2013	3.54	27.82	16.74	0.00	69.71	1.42	71.12	14.56	1.30	15.86	3,162.89
Fine Grading Dust	0.00	0.00	0.00	0.00	69.70	0.00	69.70	14.56	0.00	14.56	0.00
Fine Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Time Slice 8/5/2013-8/15/2013 Active Days: 9	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 08/04/2013-08/15/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 8/19/2013-8/29/2013 Active Days: 9	4.43	18.44	11.85	0.01	0.05	1.31	1.36	0.02	1.20	1.22	2,441.03
Asphalt 08/18/2013-08/29/2013	4.43	18.44	11.85	0.01	0.05	1.31	1.36	0.02	1.20	1.22	2,441.03
Paving Off-Gas	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.10	12.84	8.03	0.00	0.00	1.09	1.09	0.00	1.00	1.00	1,131.92
Paving On Road Diesel	0.46	5.51	2.14	0.01	0.04	0.21	0.25	0.01	0.20	0.21	1,060.45
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66
Time Slice 9/2/2013-12/31/2013 Active Days: 87	3.86	19.65	**32.63**	**0.04**	0.17	1.20	1.37	0.06	1.09	1.15	**5,556.11**
Building 09/01/2013-04/24/2014	3.86	19.65	32.63	0.04	0.17	1.20	1.37	0.06	1.09	1.15	5,556.11
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.44	4.71	4.03	0.01	0.04	0.19	0.23	0.01	0.17	0.19	1,222.51
Building Worker Trips	0.54	1.03	18.40	0.03	0.13	0.07	0.20	0.05	0.06	0.11	2,712.41
Time Slice 1/1/2014-4/24/2014 Active Days: 82	3.53	18.06	30.74	**0.04**	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88
Building 09/01/2013-04/24/2014	3.53	18.06	30.74	0.04	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88

Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.40	4.13	3.71	0.01	0.04	0.17	0.21	0.01	0.15	0.17	1,222.54
Building Worker Trips	0.50	0.95	17.14	0.03	0.13	0.08	0.21	0.05	0.07	0.11	2,712.14
Time Slice 4/28/2014-9/22/2014 Active Days: 106	**18.00**	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68
Coating 04/27/2014-09/22/2014	18.00	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68
Architectural Coating	17.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68

Phase Assumptions

Phase: Fine Grading 6/23/2013 - 8/1/2013 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 27.89

Maximum Daily Acreage Disturbed: 6.97

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2013 - 6/20/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 27.89

Maximum Daily Acreage Disturbed: 6.97

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2013 - 8/15/2013 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:47:55 AM

Phase: Paving 8/18/2013 - 8/29/2013 - Default Paving Description

Acres to be Paved: 6.97

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 9/1/2013 - 4/24/2014 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2014 - 9/22/2014 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/25/2013-6/20/2013 Active Days: 64	3.54	**27.82**	16.74	0.00	24.68	**1.42**	26.09	5.16	**1.30**	6.46	3,162.89
Mass Grading 03/24/2013-06/20/2013	3.54	27.82	16.74	0.00	24.68	1.42	26.09	5.16	1.30	6.46	3,162.89
Mass Grading Dust	0.00	0.00	0.00	0.00	24.67	0.00	24.67	5.15	0.00	5.15	0.00
Mass Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Time Slice 6/24/2013-8/1/2013 Active Days: 29	3.54	**27.82**	16.74	0.00	24.68	**1.42**	26.09	5.16	**1.30**	6.46	3,162.89
Fine Grading 06/23/2013-08/01/2013	3.54	27.82	16.74	0.00	24.68	1.42	26.09	5.16	1.30	6.46	3,162.89
Fine Grading Dust	0.00	0.00	0.00	0.00	24.67	0.00	24.67	5.15	0.00	5.15	0.00
Fine Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48

Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Time Slice 8/5/2013-8/15/2013 Active Days: 9	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 08/04/2013-08/15/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 8/19/2013-8/29/2013 Active Days: 9	4.43	18.44	11.85	0.01	0.05	1.31	1.36	0.02	1.20	1.22	2,441.03
Asphalt 08/18/2013-08/29/2013	4.43	18.44	11.85	0.01	0.05	1.31	1.36	0.02	1.20	1.22	2,441.03
Paving Off-Gas	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.10	12.84	8.03	0.00	0.00	1.09	1.09	0.00	1.00	1.00	1,131.92
Paving On Road Diesel	0.46	5.51	2.14	0.01	0.04	0.21	0.25	0.01	0.20	0.21	1,060.45
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66
Time Slice 9/2/2013-12/31/2013 Active Days: 87	3.86	19.65	**32.63**	**0.04**	0.17	1.20	1.37	0.06	1.09	1.15	**5,556.11**
Building 09/01/2013-04/24/2014	3.86	19.65	32.63	0.04	0.17	1.20	1.37	0.06	1.09	1.15	5,556.11
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.44	4.71	4.03	0.01	0.04	0.19	0.23	0.01	0.17	0.19	1,222.51
Building Worker Trips	0.54	1.03	18.40	0.03	0.13	0.07	0.20	0.05	0.06	0.11	2,712.41
Time Slice 1/1/2014-4/24/2014 Active Days: 82	3.53	18.06	30.74	**0.04**	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88
Building 09/01/2013-04/24/2014	3.53	18.06	30.74	0.04	0.17	1.07	1.24	0.06	0.98	1.04	5,555.88
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.40	4.13	3.71	0.01	0.04	0.17	0.21	0.01	0.15	0.17	1,222.54
Building Worker Trips	0.50	0.95	17.14	0.03	0.13	0.08	0.21	0.05	0.07	0.11	2,712.14
Time Slice 4/28/2014-9/22/2014 Active Days: 106	**18.00**	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68
Coating 04/27/2014-09/22/2014	18.00	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68
Architectural Coating	17.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2013 - 8/1/2013 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/22/2009 10:47:55 AM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2013 - 6/20/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.22	2.83	1.20	0.00	0.01	0.01	3,610.12
Hearth - No Summer Emissions							
Landscape	0.47	0.04	3.46	0.00	0.01	0.01	5.89
Consumer Products	13.34						
Architectural Coatings	0.53						
TOTALS (lbs/day, unmitigated)	14.56	2.87	4.66	0.00	0.02	0.02	3,616.01

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.17	2.26	0.96	0.00	0.00	0.00	2,888.10
Hearth - No Summer Emissions							
Landscape	0.47	0.04	3.46	0.00	0.01	0.01	5.89
Consumer Products	13.34						
Architectural Coatings	0.53						
TOTALS (lbs/day, mitigated)	14.51	2.30	4.42	0.00	0.01	0.01	2,893.99

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/22/2009 10:47:55 AM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	2.26	2.80	26.29	0.04	6.29	1.23	3,795.39
Condo/townhouse general	9.90	12.05	112.97	0.17	27.04	5.27	16,311.49
TOTALS (lbs/day, unmitigated)	12.16	14.85	139.26	0.21	33.33	6.50	20,106.88

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	2.02	2.47	23.14	0.03	5.54	1.08	3,341.69
Condo/townhouse general	8.69	10.36	97.12	0.14	23.24	4.53	14,021.87
TOTALS (lbs/day, mitigated)	10.71	12.83	120.26	0.17	28.78	5.61	17,363.56

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/22/2009 10:47:55 AM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	14.33	9.57	dwelling units	43.00	411.51	3,639.81
Condo/townhouse general	13.56	8.15	dwelling units	217.00	1,768.55	15,642.83
					2,180.06	19,282.64

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.8	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/22/2009 10:48:09 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2015 - P3-Const.urb924

Project Name: Serrano Summit - Phase 3 - 2015 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.36	2.30	2.29	0.00	3.25	0.13	3.38	0.68	0.12	0.80	408.03
2013 TOTALS (tons/year mitigated)	0.36	2.30	2.29	0.00	1.16	0.13	1.28	0.24	0.12	0.36	408.03
Percent Reduction	0.00	0.00	0.00	0.00	64.44	0.00	62.02	64.33	0.00	54.93	0.00
2014 TOTALS (tons/year unmitigated)	1.10	0.74	1.29	0.00	0.01	0.04	0.05	0.00	0.04	0.04	233.23
2014 TOTALS (tons/year mitigated)	1.10	0.74	1.29	0.00	0.01	0.04	0.05	0.00	0.04	0.04	233.23
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.66	0.53	0.85	0.00	0.00	0.00	660.92
TOTALS (tons/year, mitigated)	2.65	0.42	0.81	0.00	0.00	0.00	529.15
Percent Reduction	0.38	20.75	4.71	########	############	############	19.94

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.26	2.90	24.99	0.04	6.08	1.18	3,554.25
TOTALS (tons/year, mitigated)	1.99	2.50	21.57	0.03	5.25	1.03	3,069.32
Percent Reduction	11.95	13.79	13.69	25.00	13.65	12.71	13.64

12/22/2009 10:48:09 AM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.92	3.43	25.84	0.04	6.08	1.18	4,215.17
TOTALS (tons/year, mitigated)	4.64	2.92	22.38	0.03	5.25	1.03	3,598.47
Percent Reduction	5.69	14.87	13.39	25.00	13.65	12.71	14.63

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013	0.36	2.30	2.29	0.00	3.25	0.13	3.38	0.68	0.12	0.80	408.03
Mass Grading 03/24/2013-06/20/2013	0.11	0.89	0.54	0.00	2.23	0.05	2.28	0.47	0.04	0.51	101.21
Mass Grading Dust	0.00	0.00	0.00	0.00	2.23	0.00	2.23	0.47	0.00	0.47	0.00
Mass Grading Off Road Diesel	0.11	0.89	0.50	0.00	0.00	0.05	0.05	0.00	0.04	0.04	96.24
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.97
Fine Grading 06/23/2013-08/01/2013	0.05	0.40	0.24	0.00	1.01	0.02	1.03	0.21	0.02	0.23	45.86
Fine Grading Dust	0.00	0.00	0.00	0.00	1.01	0.00	1.01	0.21	0.00	0.21	0.00
Fine Grading Off Road Diesel	0.05	0.40	0.23	0.00	0.00	0.02	0.02	0.00	0.02	0.02	43.61
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Trenching 08/04/2013-08/15/2013	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.28
Trenching Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.72
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Asphalt 08/18/2013-08/29/2013	0.02	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.98
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.09
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 09/01/2013-04/24/2014	0.17	0.85	1.42	0.00	0.01	0.05	0.06	0.00	0.05	0.05	241.69
Building Off Road Diesel	0.13	0.60	0.44	0.00	0.00	0.04	0.04	0.00	0.04	0.04	70.52
Building Vendor Trips	0.02	0.20	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.18
Building Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.00	117.99
2014	1.10	0.74	1.29	0.00	0.01	0.04	0.05	0.00	0.04	0.04	233.23

Building 09/01/2013-04/24/2014	0.14	0.74	1.26	0.00	0.01	0.04	0.05	0.00	0.04	0.04	227.79
Building Off Road Diesel	0.11	0.53	0.41	0.00	0.00	0.03	0.03	0.00	0.03	0.03	66.47
Building Vendor Trips	0.02	0.17	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.12
Building Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.20
Coating 04/27/2014-09/22/2014	0.95	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44
Architectural Coating	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44

Phase Assumptions

Phase: Fine Grading 6/23/2013 - 8/1/2013 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 27.89

Maximum Daily Acreage Disturbed: 6.97

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2013 - 6/20/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 27.89

Maximum Daily Acreage Disturbed: 6.97

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2013 - 8/15/2013 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:48:09 AM

Phase: Paving 8/18/2013 - 8/29/2013 - Default Paving Description

Acres to be Paved: 6.97

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 9/1/2013 - 4/24/2014 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2014 - 9/22/2014 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013	0.36	2.30	2.29	0.00	1.16	0.13	1.28	0.24	0.12	0.36	408.03
Mass Grading 03/24/2013-06/20/2013	0.11	0.89	0.54	0.00	0.79	0.05	0.83	0.16	0.04	0.21	101.21
Mass Grading Dust	0.00	0.00	0.00	0.00	0.79	0.00	0.79	0.16	0.00	0.16	0.00
Mass Grading Off Road Diesel	0.11	0.89	0.50	0.00	0.00	0.05	0.05	0.00	0.04	0.04	96.24
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.97
Fine Grading 06/23/2013-08/01/2013	0.05	0.40	0.24	0.00	0.36	0.02	0.38	0.07	0.02	0.09	45.86
Fine Grading Dust	0.00	0.00	0.00	0.00	0.36	0.00	0.36	0.07	0.00	0.07	0.00
Fine Grading Off Road Diesel	0.05	0.40	0.23	0.00	0.00	0.02	0.02	0.00	0.02	0.02	43.61
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Trenching 08/04/2013-08/15/2013	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.28
Trenching Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.72
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Asphalt 08/18/2013-08/29/2013	0.02	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.98
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.09
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 09/01/2013-04/24/2014	0.17	0.85	1.42	0.00	0.01	0.05	0.06	0.00	0.05	0.05	241.69
Building Off Road Diesel	0.13	0.60	0.44	0.00	0.00	0.04	0.04	0.00	0.04	0.04	70.52
Building Vendor Trips	0.02	0.20	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.18
Building Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.00	117.99
2014	1.10	0.74	1.29	0.00	0.01	0.04	0.05	0.00	0.04	0.04	233.23
Building 09/01/2013-04/24/2014	0.14	0.74	1.26	0.00	0.01	0.04	0.05	0.00	0.04	0.04	227.79
Building Off Road Diesel	0.11	0.53	0.41	0.00	0.00	0.03	0.03	0.00	0.03	0.03	66.47
Building Vendor Trips	0.02	0.17	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.12
Building Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.20
Coating 04/27/2014-09/22/2014	0.95	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44
Architectural Coating	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2013 - 8/1/2013 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2013 - 6/20/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/22/2009 10:48:09 AM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.52	0.22	0.00	0.00	0.00	658.85
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Landscape	0.09	0.01	0.63	0.00	0.00	0.00	1.08
Consumer Products	2.43						
Architectural Coatings	0.10						
TOTALS (tons/year, unmitigated)	2.66	0.53	0.85	0.00	0.00	0.00	660.92

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.41	0.18	0.00	0.00	0.00	527.08
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Landscape	0.09	0.01	0.63	0.00	0.00	0.00	1.08
Consumer Products	2.43						
Architectural Coatings	0.10						
TOTALS (tons/year, mitigated)	2.65	0.42	0.81	0.00	0.00	0.00	529.15

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/22/2009 10:48:09 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.42	0.55	4.72	0.01	1.15	0.22	670.90
Condo/townhouse general	1.84	2.35	20.27	0.03	4.93	0.96	2,883.35
TOTALS (tons/year, unmitigated)	2.26	2.90	24.99	0.04	6.08	1.18	3,554.25

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.38	0.48	4.15	0.01	1.01	0.20	590.70
Condo/townhouse general	1.61	2.02	17.42	0.02	4.24	0.83	2,478.62
TOTALS (tons/year, mitigated)	1.99	2.50	21.57	0.03	5.25	1.03	3,069.32

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/22/2009 10:48:09 AM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	14.33	9.57	dwelling units	43.00	411.51	3,639.81
Condo/townhouse general	13.56	8.15	dwelling units	217.00	1,768.55	15,642.83
					2,180.06	19,282.64

12/22/2009 10:48:09 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.8	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/21/2009 04:16:13 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2016 - P4.urb924

Project Name: Serrano Summit - Phase 4 - 2016

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	11.39	44.51	82.91	0.10	195.41	2.62	197.94	40.81	2.41	43.13	11,807.91
2010 TOTALS (lbs/day mitigated)	11.39	44.51	82.91	0.10	69.17	2.62	71.70	14.45	2.41	16.77	11,807.91
2011 TOTALS (lbs/day unmitigated)	48.29	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49
2011 TOTALS (lbs/day mitigated)	48.29	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	33.41	6.97	12.76	0.00	0.04	0.04	8,752.00
TOTALS (lbs/day, mitigated)	33.30	5.60	12.17	0.00	0.04	0.04	7,004.87
Percent Reduction	0.33	19.66	4.62	########	0.00	0.00	19.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	29.74	36.02	341.28	0.54	87.86	17.13	52,976.76
TOTALS (lbs/day, mitigated)	26.26	31.26	296.09	0.47	76.22	14.87	45,962.56
Percent Reduction	11.70	13.21	13.24	12.96	13.25	13.19	13.24

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	63.15	42.99	354.04	0.54	87.90	17.17	61,728.76
TOTALS (lbs/day, mitigated)	59.56	36.86	308.26	0.47	76.26	14.91	52,967.43
Percent Reduction	5.68	14.26	12.93	12.96	13.24	13.16	14.19

12/21/2009 04:16:13 PM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	43.70	25.46	0.00	**195.41**	2.53	**197.94**	**40.81**	2.32	**43.13**	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	195.41	2.53	197.94	40.81	2.32	43.13	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	195.40	0.00	195.40	40.81	0.00	40.81	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	43.70	25.46	0.00	**195.41**	2.53	**197.94**	**40.81**	2.32	**43.13**	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	195.41	2.53	197.94	40.81	2.32	43.13	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	195.40	0.00	195.40	40.81	0.00	40.81	0.00
Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	11.39	**44.51**	21.17	0.04	0.13	**2.62**	2.75	0.04	**2.41**	2.46	5,144.03
Asphalt 08/18/2010-08/29/2010	11.39	44.51	21.17	0.04	0.13	2.62	2.75	0.04	2.41	2.46	5,144.03
Paving Off-Gas	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.10	27.31	10.48	0.03	0.12	1.12	1.24	0.04	1.03	1.07	3,716.13
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.18	41.80	**82.91**	**0.10**	0.42	2.48	2.90	0.15	2.27	2.42	**11,807.91**
Building 09/01/2010-04/24/2011	7.18	41.80	82.91	0.10	0.42	2.48	2.90	0.15	2.27	2.42	11,807.91
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.31	15.13	11.69	0.03	0.10	0.63	0.73	0.03	0.58	0.61	2,794.50
Building Worker Trips	1.79	3.36	56.91	0.07	0.32	0.18	0.50	0.12	0.16	0.27	6,754.13
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.61	38.55	77.75	**0.10**	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49
Building 09/01/2010-04/24/2011	6.61	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49

Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.21	13.63	10.83	0.03	0.10	0.56	0.66	0.03	0.52	0.55	2,794.54
Building Worker Trips	1.63	3.07	52.97	0.07	0.32	0.18	0.50	0.12	0.16	0.27	6,752.67
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**48.29**	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21
Coating 04/27/2011-09/22/2011	48.29	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21
Architectural Coating	48.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 78.18

Maximum Daily Acreage Disturbed: 19.54

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 78.18

Maximum Daily Acreage Disturbed: 19.54

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

12/21/2009 04:16:13 PM

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 19.54

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	43.70	25.46	0.00	69.17	2.53	71.70	14.45	2.32	16.77	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	69.17	2.53	71.70	14.45	2.32	16.77	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	69.16	0.00	69.16	14.44	0.00	14.44	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69

12/21/2009 04:16:13 PM

Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	43.70	25.46	0.00	69.17	2.53	71.70	14.45	2.32	16.77	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	69.17	2.53	71.70	14.45	2.32	16.77	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	69.16	0.00	69.16	14.44	0.00	14.44	0.00
Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	11.39	**44.51**	21.17	0.04	0.13	**2.62**	2.75	0.04	**2.41**	2.46	5,144.03
Asphalt 08/18/2010-08/29/2010	11.39	44.51	21.17	0.04	0.13	2.62	2.75	0.04	2.41	2.46	5,144.03
Paving Off-Gas	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.10	27.31	10.48	0.03	0.12	1.12	1.24	0.04	1.03	1.07	3,716.13
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.18	41.80	**82.91**	**0.10**	0.42	2.48	2.90	0.15	2.27	2.42	**11,807.91**
Building 09/01/2010-04/24/2011	7.18	41.80	82.91	0.10	0.42	2.48	2.90	0.15	2.27	2.42	11,807.91
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.31	15.13	11.69	0.03	0.10	0.63	0.73	0.03	0.58	0.61	2,794.50
Building Worker Trips	1.79	3.36	56.91	0.07	0.32	0.18	0.50	0.12	0.16	0.27	6,754.13
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.61	38.55	77.75	**0.10**	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49
Building 09/01/2010-04/24/2011	6.61	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.21	13.63	10.83	0.03	0.10	0.56	0.66	0.03	0.52	0.55	2,794.54
Building Worker Trips	1.63	3.07	52.97	0.07	0.32	0.18	0.50	0.12	0.16	0.27	6,752.67
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**48.29**	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21
Coating 04/27/2011-09/22/2011	48.29	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21
Architectural Coating	48.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	2.02	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.21

12/21/2009 04:16:13 PM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.53	6.85	2.97	0.00	0.01	0.01	8,735.63
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	30.01						
Architectural Coatings	1.41						
TOTALS (lbs/day, unmitigated)	33.41	6.97	12.76	0.00	0.04	0.04	8,752.00

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.42	5.48	2.38	0.00	0.01	0.01	6,988.50
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	30.01						
Architectural Coatings	1.41						
TOTALS (lbs/day, mitigated)	33.30	5.60	12.17	0.00	0.04	0.04	7,004.87

12/21/2009 04:16:13 PM

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.38	8.97	85.58	0.14	21.95	4.28	13,245.46
Condo/townhouse general	18.58	22.16	211.35	0.33	54.20	10.57	32,712.27
Community Facility	3.78	4.89	44.35	0.07	11.71	2.28	7,019.03
TOTALS (lbs/day, unmitigated)	29.74	36.02	341.28	0.54	87.86	17.13	52,976.76

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.60	7.90	75.35	0.12	19.32	3.77	11,662.09
Condo/townhouse general	16.32	19.05	181.69	0.29	46.59	9.09	28,120.50
Community Facility	3.34	4.31	39.05	0.06	10.31	2.01	6,179.97
TOTALS (lbs/day, mitigated)	26.26	31.26	296.09	0.47	76.22	14.87	45,962.56

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

12/21/2009 04:16:13 PM

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

12/21/2009 04:16:13 PM

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

12/21/2009 04:16:13 PM

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	27.19	8.15	dwelling units	435.00	3,545.25	31,357.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,958.57	50,830.98

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

12/21/2009 04:16:13 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 04:16:26 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2016 - P4.urb924

Project Name: Serrano Summit - Phase 4 - 2016

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	11.39	44.51	82.91	0.10	195.41	2.62	197.94	40.81	2.41	43.13	11,807.91
2010 TOTALS (lbs/day mitigated)	11.39	44.51	82.91	0.10	69.17	2.62	71.70	14.45	2.41	16.77	11,807.91
2011 TOTALS (lbs/day unmitigated)	48.29	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49
2011 TOTALS (lbs/day mitigated)	48.29	38.55	77.75	0.10	0.42	2.32	2.74	0.15	2.12	2.27	11,806.49

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	32.16	10.50	4.52	0.02	0.31	0.30	13,394.45
TOTALS (lbs/day, mitigated)	32.05	9.13	3.93	0.02	0.31	0.30	11,647.32
Percent Reduction	0.34	13.05	13.05	0.00	0.00	0.00	13.04

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	31.92	43.30	323.80	0.45	87.86	17.13	47,965.62
TOTALS (lbs/day, mitigated)	27.91	37.57	280.92	0.39	76.22	14.87	41,614.85
Percent Reduction	12.56	13.23	13.24	13.33	13.25	13.19	13.24

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	64.08	53.80	328.32	0.47	88.17	17.43	61,360.07
TOTALS (lbs/day, mitigated)	59.96	46.70	284.85	0.41	76.53	15.17	53,262.17
Percent Reduction	6.43	13.20	13.24	12.77	13.20	12.97	13.20

12/21/2009 04:16:26 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.53	6.85	2.97	0.00	0.01	0.01	8,735.63
Hearth	0.21	3.65	1.55	0.02	0.30	0.29	4,658.82
Landscaping - No Winter Emissions							
Consumer Products	30.01						
Architectural Coatings	1.41						
TOTALS (lbs/day, unmitigated)	32.16	10.50	4.52	0.02	0.31	0.30	13,394.45

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.42	5.48	2.38	0.00	0.01	0.01	6,988.50
Hearth	0.21	3.65	1.55	0.02	0.30	0.29	4,658.82
Landscaping - No Winter Emissions							
Consumer Products	30.01						
Architectural Coatings	1.41						
TOTALS (lbs/day, mitigated)	32.05	9.13	3.93	0.02	0.31	0.30	11,647.32

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:16:26 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.91	10.79	81.03	0.11	21.95	4.28	11,993.73
Condo/townhouse general	19.70	26.64	200.12	0.28	54.20	10.57	29,620.89
Community Facility	4.31	5.87	42.65	0.06	11.71	2.28	6,351.00
TOTALS (lbs/day, unmitigated)	31.92	43.30	323.80	0.45	87.86	17.13	47,965.62

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.01	9.50	71.34	0.10	19.32	3.77	10,560.00
Condo/townhouse general	17.10	22.90	172.03	0.24	46.59	9.09	25,463.05
Community Facility	3.80	5.17	37.55	0.05	10.31	2.01	5,591.80
TOTALS (lbs/day, mitigated)	27.91	37.57	280.92	0.39	76.22	14.87	41,614.85

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 04:16:26 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 04:16:26 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	27.19	8.15	dwelling units	435.00	3,545.25	31,357.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,958.57	50,830.98

12/21/2009 04:16:26 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 04:16:38 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2016 - P4.urb924

Project Name: Serrano Summit - Phase 4 - 2016

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.63	4.08	4.93	0.00	8.91	0.24	9.15	1.86	0.22	2.08	737.74
2010 TOTALS (tons/year mitigated)	0.63	4.08	4.93	0.00	3.17	0.24	3.40	0.66	0.22	0.88	737.74
Percent Reduction	0.00	0.00	0.00	0.00	64.46	0.00	62.78	64.37	0.00	57.61	0.00
2011 TOTALS (tons/year unmitigated)	2.85	1.55	3.22	0.00	0.02	0.09	0.11	0.01	0.09	0.09	486.02
2011 TOTALS (tons/year mitigated)	2.85	1.55	3.22	0.00	0.02	0.09	0.11	0.01	0.09	0.09	486.02
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.11	1.27	2.33	0.00	0.01	0.01	1,599.57
TOTALS (tons/year, mitigated)	6.09	1.02	2.22	0.00	0.01	0.01	1,280.72
Percent Reduction	0.33	19.69	4.72	########	0.00	0.00	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.56	7.02	61.22	0.09	16.04	3.13	9,363.42
TOTALS (tons/year, mitigated)	4.90	6.09	53.12	0.08	13.91	2.72	8,123.68
Percent Reduction	11.87	13.25	13.23	11.11	13.28	13.10	13.24

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	11.67	8.29	63.55	0.09	16.05	3.14	10,962.99
TOTALS (tons/year, mitigated)	10.99	7.11	55.34	0.08	13.92	2.73	9,404.40
Percent Reduction	5.83	14.23	12.92	11.11	13.27	13.06	14.22

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.63	4.08	4.93	0.00	8.91	0.24	9.15	1.86	0.22	2.08	737.74
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	6.16	0.08	6.23	1.29	0.07	1.36	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	6.16	0.00	6.16	1.29	0.00	1.29	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	2.74	0.04	2.77	0.57	0.03	0.60	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	2.74	0.00	2.74	0.57	0.00	0.57	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.18	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.58
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.86
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.32	1.84	3.65	0.00	0.02	0.11	0.13	0.01	0.10	0.11	519.55
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.67	0.51	0.00	0.00	0.03	0.03	0.00	0.03	0.03	122.96
Building Worker Trips	0.08	0.15	2.50	0.00	0.01	0.01	0.02	0.01	0.01	0.01	297.18
2011	2.85	1.55	3.22	0.00	0.02	0.09	0.11	0.01	0.09	0.09	486.02

Building 09/01/2010-04/24/2011	0.26	1.54	3.11	0.00	0.02	0.09	0.11	0.01	0.08	0.09	472.26
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.55	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	111.78
Building Worker Trips	0.07	0.12	2.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	270.11
Coating 04/27/2011-09/22/2011	2.58	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.76
Architectural Coating	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.76

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 78.18

Maximum Daily Acreage Disturbed: 19.54

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 78.18

Maximum Daily Acreage Disturbed: 19.54

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/21/2009 04:16:38 PM

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description
Acres to be Paved: 19.54
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.63	4.08	4.93	0.00	3.17	0.24	3.40	0.66	0.22	0.88	737.74
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	2.18	0.08	2.26	0.46	0.07	0.53	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	2.18	0.00	2.18	0.45	0.00	0.45	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	0.97	0.04	1.00	0.20	0.03	0.23	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	0.97	0.00	0.97	0.20	0.00	0.20	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.18	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.58
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.86
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.32	1.84	3.65	0.00	0.02	0.11	0.13	0.01	0.10	0.11	519.55
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.67	0.51	0.00	0.00	0.03	0.03	0.00	0.03	0.03	122.96
Building Worker Trips	0.08	0.15	2.50	0.00	0.01	0.01	0.02	0.01	0.01	0.01	297.18
2011	2.85	1.55	3.22	0.00	0.02	0.09	0.11	0.01	0.09	0.09	486.02
Building 09/01/2010-04/24/2011	0.26	1.54	3.11	0.00	0.02	0.09	0.11	0.01	0.08	0.09	472.26
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.55	0.43	0.00	0.00	0.02	0.03	0.00	0.02	0.02	111.78
Building Worker Trips	0.07	0.12	2.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	270.11
Coating 04/27/2011-09/22/2011	2.58	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.76
Architectural Coating	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.76

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/21/2009 04:16:38 PM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.10	1.25	0.54	0.00	0.00	0.00	1,594.25
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.33
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	5.48						
Architectural Coatings	0.26						
TOTALS (tons/year, unmitigated)	6.11	1.27	2.33	0.00	0.01	0.01	1,599.57

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.08	1.00	0.43	0.00	0.00	0.00	1,275.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.33
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	5.48						
Architectural Coatings	0.26						
TOTALS (tons/year, mitigated)	6.09	1.02	2.22	0.00	0.01	0.01	1,280.72

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:16:38 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.38	1.75	15.34	0.02	4.01	0.78	2,341.15
Condo/townhouse general	3.46	4.32	37.89	0.06	9.89	1.93	5,781.93
Community Facility	0.72	0.95	7.99	0.01	2.14	0.42	1,240.34
TOTALS (tons/year, unmitigated)	5.56	7.02	61.22	0.09	16.04	3.13	9,363.42

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.23	1.54	13.51	0.02	3.53	0.69	2,061.29
Condo/townhouse general	3.03	3.71	32.57	0.05	8.50	1.66	4,970.33
Community Facility	0.64	0.84	7.04	0.01	1.88	0.37	1,092.06
TOTALS (tons/year, mitigated)	4.90	6.09	53.12	0.08	13.91	2.72	8,123.68

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 04:16:38 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 04:16:38 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	27.19	8.15	dwelling units	435.00	3,545.25	31,357.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					5,958.57	50,830.98

12/21/2009 04:16:38 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2016 - P4-Const.urb924

Project Name: Serrano Summit - Phase 4 - 2016 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014 TOTALS (lbs/day unmitigated)	2.97	19.12	17.40	0.01	16.61	1.11	17.50	3.47	1.02	4.29	3,068.42
2014 TOTALS (lbs/day mitigated)	2.97	19.12	17.40	0.01	5.88	1.11	6.77	1.23	1.02	2.05	3,068.42
2015 TOTALS (lbs/day unmitigated)	6.19	13.81	16.60	0.01	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36
2015 TOTALS (lbs/day mitigated)	6.19	13.81	16.60	0.01	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.82	1.06	1.99	0.00	0.01	0.01	1,329.49
TOTALS (lbs/day, mitigated)	5.80	0.85	1.90	0.00	0.01	0.01	1,064.16
Percent Reduction	0.34	19.81	4.52	########	0.00	0.00	19.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	4.53	5.40	51.50	0.08	13.21	2.58	7,971.27
TOTALS (lbs/day, mitigated)	3.98	4.64	44.27	0.07	11.35	2.21	6,852.35
Percent Reduction	12.14	14.07	14.04	12.50	14.08	14.34	14.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	10.35	6.46	53.49	0.08	13.22	2.59	9,300.76
TOTALS (lbs/day, mitigated)	9.78	5.49	46.17	0.07	11.36	2.22	7,916.51
Percent Reduction	5.51	15.02	13.68	12.50	14.07	14.29	14.88

12/22/2009 11:24:16 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2014-6/20/2014 Active Days: 65	2.44	**19.12**	11.52	0.00	**16.61**	0.89	**17.50**	**3.47**	0.82	**4.29**	2,371.64
Mass Grading 03/24/2014-06/20/2014	2.44	19.12	11.52	0.00	16.61	0.89	17.50	3.47	0.82	4.29	2,371.64
Mass Grading Dust	0.00	0.00	0.00	0.00	16.60	0.00	16.60	3.47	0.00	3.47	0.00
Mass Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 6/23/2014-8/1/2014 Active Days: 30	2.44	**19.12**	11.52	0.00	**16.61**	0.89	**17.50**	**3.47**	0.82	**4.29**	2,371.64
Fine Grading 06/23/2014-08/01/2014	2.44	19.12	11.52	0.00	16.61	0.89	17.50	3.47	0.82	4.29	2,371.64
Fine Grading Dust	0.00	0.00	0.00	0.00	16.60	0.00	16.60	3.47	0.00	3.47	0.00
Fine Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 8/4/2014-8/15/2014 Active Days: 10	1.63	13.06	8.68	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.96
Trenching 08/04/2014-08/15/2014	1.63	13.06	8.68	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.96
Trenching Off Road Diesel	1.61	13.02	7.89	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 8/18/2014-8/29/2014 Active Days: 10	2.64	14.12	10.87	0.00	0.02	**1.11**	1.13	0.01	**1.02**	1.03	1,773.23
Asphalt 08/18/2014-08/29/2014	2.64	14.12	10.87	0.00	0.02	1.11	1.13	0.01	1.02	1.03	1,773.23
Paving Off-Gas	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.10	1.15	0.45	0.00	0.01	0.04	0.05	0.00	0.04	0.04	252.56
Paving Worker Trips	0.05	0.09	1.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.64
Time Slice 9/1/2014-12/31/2014 Active Days: 88	2.97	14.99	**17.40**	**0.01**	0.06	0.92	0.98	0.02	0.84	0.87	**3,068.42**
Building 09/01/2014-04/24/2015	2.97	14.99	17.40	0.01	0.06	0.92	0.98	0.02	0.84	0.87	3,068.42
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.16	1.69	1.51	0.00	0.02	0.07	0.09	0.01	0.06	0.07	498.42
Building Worker Trips	0.17	0.33	6.00	0.01	0.04	0.03	0.07	0.02	0.02	0.04	948.80
Time Slice 1/1/2015-4/24/2015 Active Days: 82	2.71	13.81	16.60	**0.01**	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36
Building 09/01/2014-04/24/2015	2.71	13.81	16.60	0.01	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36

Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.15	1.47	1.39	0.00	0.02	0.06	0.08	0.01	0.05	0.06	498.44
Building Worker Trips	0.16	0.30	5.58	0.01	0.04	0.03	0.07	0.02	0.02	0.04	948.72
Time Slice 4/27/2015-9/22/2015 Active Days: 107	**6.19**	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33
Coating 04/27/2015-09/22/2015	6.19	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33
Architectural Coating	6.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33

Phase Assumptions

Phase: Fine Grading 6/23/2014 - 8/1/2014 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 6.62

Maximum Daily Acreage Disturbed: 1.66

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2014 - 6/20/2014 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 6.62

Maximum Daily Acreage Disturbed: 1.66

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2014 - 8/15/2014 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 11:24:16 AM

Phase: Paving 8/18/2014 - 8/29/2014 - Default Paving Description

Acres to be Paved: 1.66

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2014 - 4/24/2015 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2015 - 9/22/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2014-6/20/2014 Active Days: 65	2.44	**19.12**	11.52	0.00	5.88	0.89	6.77	1.23	0.82	2.05	2,371.64
Mass Grading 03/24/2014-06/20/2014	2.44	19.12	11.52	0.00	5.88	0.89	6.77	1.23	0.82	2.05	2,371.64
Mass Grading Dust	0.00	0.00	0.00	0.00	5.88	0.00	5.88	1.23	0.00	1.23	0.00
Mass Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 6/23/2014-8/1/2014 Active Days: 30	2.44	**19.12**	11.52	0.00	5.88	0.89	6.77	1.23	0.82	2.05	2,371.64
Fine Grading 06/23/2014-08/01/2014	2.44	19.12	11.52	0.00	5.88	0.89	6.77	1.23	0.82	2.05	2,371.64
Fine Grading Dust	0.00	0.00	0.00	0.00	5.88	0.00	5.88	1.23	0.00	1.23	0.00

Fine Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 8/4/2014-8/15/2014 Active Days: 10	1.63	13.06	8.68	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.96
Trenching 08/04/2014-08/15/2014	1.63	13.06	8.68	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.96
Trenching Off Road Diesel	1.61	13.02	7.89	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.32
Time Slice 8/18/2014-8/29/2014 Active Days: 10	2.64	14.12	10.87	0.00	0.02	**1.11**	1.13	0.01	**1.02**	1.03	1,773.23
Asphalt 08/18/2014-08/29/2014	2.64	14.12	10.87	0.00	0.02	1.11	1.13	0.01	1.02	1.03	1,773.23
Paving Off-Gas	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.10	1.15	0.45	0.00	0.01	0.04	0.05	0.00	0.04	0.04	252.56
Paving Worker Trips	0.05	0.09	1.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.64
Time Slice 9/1/2014-12/31/2014 Active Days: 88	2.97	14.99	**17.40**	**0.01**	0.06	0.92	0.98	0.02	0.84	0.87	**3,068.42**
Building 09/01/2014-04/24/2015	2.97	14.99	17.40	0.01	0.06	0.92	0.98	0.02	0.84	0.87	3,068.42
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.16	1.69	1.51	0.00	0.02	0.07	0.09	0.01	0.06	0.07	498.42
Building Worker Trips	0.17	0.33	6.00	0.01	0.04	0.03	0.07	0.02	0.02	0.04	948.80
Time Slice 1/1/2015-4/24/2015 Active Days: 82	2.71	13.81	16.60	**0.01**	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36
Building 09/01/2014-04/24/2015	2.71	13.81	16.60	0.01	0.06	0.85	0.91	0.02	0.78	0.80	3,068.36
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.15	1.47	1.39	0.00	0.02	0.06	0.08	0.01	0.05	0.06	498.44
Building Worker Trips	0.16	0.30	5.58	0.01	0.04	0.03	0.07	0.02	0.02	0.04	948.72
Time Slice 4/27/2015-9/22/2015 Active Days: 107	**6.19**	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33
Coating 04/27/2015-09/22/2015	6.19	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33
Architectural Coating	6.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2014 - 8/1/2014 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/22/2009 11:24:16 AM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2014 - 6/20/2014 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.08	1.04	0.44	0.00	0.00	0.00	1,326.68
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	5.44						
Architectural Coatings	0.18						
TOTALS (lbs/day, unmitigated)	5.82	1.06	1.99	0.00	0.01	0.01	1,329.49

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.83	0.35	0.00	0.00	0.00	1,061.35
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	5.44						
Architectural Coatings	0.18						
TOTALS (lbs/day, mitigated)	5.80	0.85	1.90	0.00	0.01	0.01	1,064.16

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/22/2009 11:24:16 AM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	4.53	5.40	51.50	0.08	13.21	2.58	7,971.27
TOTALS (lbs/day, unmitigated)	4.53	5.40	51.50	0.08	13.21	2.58	7,971.27

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	3.98	4.64	44.27	0.07	11.35	2.21	6,852.35
TOTALS (lbs/day, mitigated)	3.98	4.64	44.27	0.07	11.35	2.21	6,852.35

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

12/22/2009 11:24:16 AM

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/22/2009 11:24:16 AM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	6.62	8.15	dwelling units	106.00	863.90	7,641.20
					863.90	7,641.20

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/22/2009 11:24:04 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2016 - P4-Const.urb924

Project Name: Serrano Summit - Phase 4 - 2016 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014 TOTALS (tons/year unmitigated)	0.27	1.70	1.41	0.00	0.79	0.09	0.88	0.17	0.08	0.25	265.72
2014 TOTALS (tons/year mitigated)	0.27	1.70	1.41	0.00	0.28	0.09	0.37	0.06	0.08	0.14	265.72
Percent Reduction	0.00	0.00	0.00	0.00	64.35	0.00	57.69	64.17	0.00	42.61	0.00
2015 TOTALS (tons/year unmitigated)	0.44	0.57	0.69	0.00	0.00	0.03	0.04	0.00	0.03	0.03	127.69
2015 TOTALS (tons/year mitigated)	0.44	0.57	0.69	0.00	0.00	0.03	0.04	0.00	0.03	0.03	127.69
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.05	0.19	0.36	0.00	0.00	0.00	243.00
TOTALS (tons/year, mitigated)	1.05	0.15	0.34	0.00	0.00	0.00	194.58
Percent Reduction	0.00	21.05	5.56	########	############	############	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.84	1.05	9.23	0.01	2.41	0.47	1,408.93
TOTALS (tons/year, mitigated)	0.74	0.90	7.94	0.01	2.07	0.40	1,211.16
Percent Reduction	11.90	14.29	13.98	0.00	14.11	14.89	14.04

12/22/2009 11:24:04 AM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.89	1.24	9.59	0.01	2.41	0.47	1,651.93
TOTALS (tons/year, mitigated)	1.79	1.05	8.28	0.01	2.07	0.40	1,405.74
Percent Reduction	5.29	15.32	13.66	0.00	14.11	14.89	14.90

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014	0.27	1.70	1.41	0.00	0.79	0.09	0.88	0.17	0.08	0.25	265.72
Mass Grading 03/24/2014-06/20/2014	0.08	0.62	0.37	0.00	0.54	0.03	0.57	0.11	0.03	0.14	77.08
Mass Grading Dust	0.00	0.00	0.00	0.00	0.54	0.00	0.54	0.11	0.00	0.11	0.00
Mass Grading Off Road Diesel	0.08	0.62	0.35	0.00	0.00	0.03	0.03	0.00	0.03	0.03	73.04
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.04
Fine Grading 06/23/2014-08/01/2014	0.04	0.29	0.17	0.00	0.25	0.01	0.26	0.05	0.01	0.06	35.57
Fine Grading Dust	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.04	0.29	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86
Trenching 08/04/2014-08/15/2014	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.19
Trenching Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Asphalt 08/18/2014-08/29/2014	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.87
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	6.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Building 09/01/2014-04/24/2015	0.13	0.66	0.77	0.00	0.00	0.04	0.04	0.00	0.04	0.04	135.01
Building Off Road Diesel	0.12	0.57	0.44	0.00	0.00	0.04	0.04	0.00	0.03	0.03	71.33
Building Vendor Trips	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.93
Building Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.75
2015	0.44	0.57	0.69	0.00	0.00	0.03	0.04	0.00	0.03	0.03	127.69

Building 09/01/2014-04/24/2015	0.11	0.57	0.68	0.00	0.00	0.03	0.04	0.00	0.03	0.03	125.80
Building Off Road Diesel	0.10	0.49	0.39	0.00	0.00	0.03	0.03	0.00	0.03	0.03	66.47
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.44
Building Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.90
Coating 04/27/2015-09/22/2015	0.33	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89
Architectural Coating	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89

Phase Assumptions

Phase: Fine Grading 6/23/2014 - 8/1/2014 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 6.62

Maximum Daily Acreage Disturbed: 1.66

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2014 - 6/20/2014 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 6.62

Maximum Daily Acreage Disturbed: 1.66

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2014 - 8/15/2014 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 11:24:04 AM

Phase: Paving 8/18/2014 - 8/29/2014 - Default Paving Description

Acres to be Paved: 1.66

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2014 - 4/24/2015 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2015 - 9/22/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014	0.27	1.70	1.41	0.00	0.28	0.09	0.37	0.06	0.08	0.14	265.72
Mass Grading 03/24/2014-06/20/2014	0.08	0.62	0.37	0.00	0.19	0.03	0.22	0.04	0.03	0.07	77.08
Mass Grading Dust	0.00	0.00	0.00	0.00	0.19	0.00	0.19	0.04	0.00	0.04	0.00
Mass Grading Off Road Diesel	0.08	0.62	0.35	0.00	0.00	0.03	0.03	0.00	0.03	0.03	73.04
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.04
Fine Grading 06/23/2014-08/01/2014	0.04	0.29	0.17	0.00	0.09	0.01	0.10	0.02	0.01	0.03	35.57
Fine Grading Dust	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	0.04	0.29	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	33.71

Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86
Trenching 08/04/2014-08/15/2014	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.19
Trenching Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Asphalt 08/18/2014-08/29/2014	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.87
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	6.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Building 09/01/2014-04/24/2015	0.13	0.66	0.77	0.00	0.00	0.04	0.04	0.00	0.04	0.04	135.01
Building Off Road Diesel	0.12	0.57	0.44	0.00	0.00	0.04	0.04	0.00	0.03	0.03	71.33
Building Vendor Trips	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.93
Building Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.75
2015	0.44	0.57	0.69	0.00	0.00	0.03	0.04	0.00	0.03	0.03	127.69
Building 09/01/2014-04/24/2015	0.11	0.57	0.68	0.00	0.00	0.03	0.04	0.00	0.03	0.03	125.80
Building Off Road Diesel	0.10	0.49	0.39	0.00	0.00	0.03	0.03	0.00	0.03	0.03	66.47
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.44
Building Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.90
Coating 04/27/2015-09/22/2015	0.33	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89
Architectural Coating	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2014 - 8/1/2014 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2014 - 6/20/2014 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/22/2009 11:24:04 AM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.19	0.08	0.00	0.00	0.00	242.12
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.37
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.99						
Architectural Coatings	0.03						
TOTALS (tons/year, unmitigated)	1.05	0.19	0.36	0.00	0.00	0.00	243.00

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.15	0.06	0.00	0.00	0.00	193.70
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.37
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.99						
Architectural Coatings	0.03						
TOTALS (tons/year, mitigated)	1.05	0.15	0.34	0.00	0.00	0.00	194.58

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/22/2009 11:24:04 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.84	1.05	9.23	0.01	2.41	0.47	1,408.93
TOTALS (tons/year, unmitigated)	0.84	1.05	9.23	0.01	2.41	0.47	1,408.93

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.74	0.90	7.94	0.01	2.07	0.40	1,211.16
TOTALS (tons/year, mitigated)	0.74	0.90	7.94	0.01	2.07	0.40	1,211.16

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

12/22/2009 11:24:04 AM

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	6.62	8.15	dwelling units	106.00	863.90	7,641.20
					863.90	7,641.20

12/22/2009 11:24:04 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.2	99.6	0.2
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	48.3	51.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/21/2009 02:29:57 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2011.urb924

Project Name: Serrano Summit - Phase 5 - 2017

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	11.55	45.01	85.10	0.10	199.01	2.64	201.54	41.56	2.43	43.89	12,122.05
2010 TOTALS (lbs/day mitigated)	11.55	45.01	85.10	0.10	70.45	2.64	72.97	14.71	2.43	17.04	12,122.05
2011 TOTALS (lbs/day unmitigated)	49.64	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58
2011 TOTALS (lbs/day mitigated)	49.64	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	34.65	7.20	12.86	0.00	0.04	0.04	9,039.86
TOTALS (lbs/day, mitigated)	34.54	5.78	12.25	0.00	0.04	0.04	7,235.16
Percent Reduction	0.32	19.72	4.74	########	0.00	0.00	19.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	28.42	34.09	326.51	0.56	90.68	17.66	54,691.28
TOTALS (lbs/day, mitigated)	25.11	29.57	283.19	0.48	78.64	15.31	47,436.30
Percent Reduction	11.65	13.26	13.27	14.29	13.28	13.31	13.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	63.07	41.29	339.37	0.56	90.72	17.70	63,731.14
TOTALS (lbs/day, mitigated)	59.65	35.35	295.44	0.48	78.68	15.35	54,671.46
Percent Reduction	5.42	14.39	12.94	14.29	13.27	13.28	14.22

12/21/2009 02:29:57 PM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	43.70	25.46	0.00	**199.01**	2.53	**201.54**	**41.56**	2.32	**43.89**	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	199.01	2.53	201.54	41.56	2.32	43.89	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	199.00	0.00	199.00	41.56	0.00	41.56	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	43.70	25.46	0.00	**199.01**	2.53	**201.54**	**41.56**	2.32	**43.89**	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	199.01	2.53	201.54	41.56	2.32	43.89	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	199.00	0.00	199.00	41.56	0.00	41.56	0.00
Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	11.55	**45.01**	21.36	0.04	0.13	**2.64**	2.78	0.04	**2.43**	2.48	5,212.49
Asphalt 08/18/2010-08/29/2010	11.55	45.01	21.36	0.04	0.13	2.64	2.78	0.04	2.43	2.48	5,212.49
Paving Off-Gas	6.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.13	27.81	10.68	0.04	0.13	1.14	1.26	0.04	1.05	1.09	3,784.59
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.28	42.48	**85.10**	**0.10**	0.43	2.51	2.94	0.15	2.30	2.45	**12,122.05**
Building 09/01/2010-04/24/2011	7.28	42.48	85.10	0.10	0.43	2.51	2.94	0.15	2.30	2.45	12,122.05
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.36	15.72	12.14	0.03	0.10	0.66	0.76	0.03	0.60	0.64	2,902.64
Building Worker Trips	1.84	3.46	58.65	0.07	0.33	0.19	0.52	0.12	0.16	0.28	6,960.13
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.70	39.17	79.78	**0.10**	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58
Building 09/01/2010-04/24/2011	6.70	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58

Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.25	14.16	11.25	0.03	0.10	0.58	0.69	0.03	0.54	0.57	2,902.68
Building Worker Trips	1.68	3.16	54.59	0.07	0.33	0.19	0.52	0.12	0.16	0.28	6,958.62
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**49.64**	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88
Coating 04/27/2011-09/22/2011	49.64	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88
Architectural Coating	49.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 79.61

Maximum Daily Acreage Disturbed: 19.9

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 79.61

Maximum Daily Acreage Disturbed: 19.9

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

12/21/2009 02:29:57 PM

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 19.9

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	5.65	43.70	25.46	0.00	70.45	2.53	72.97	14.71	2.32	17.04	4,181.58
Mass Grading 03/24/2010-06/20/2010	5.65	43.70	25.46	0.00	70.45	2.53	72.97	14.71	2.32	17.04	4,181.58
Mass Grading Dust	0.00	0.00	0.00	0.00	70.44	0.00	70.44	14.71	0.00	14.71	0.00
Mass Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69

12/21/2009 02:29:57 PM

Time Slice 6/23/2010-7/30/2010 Active Days: 28	5.65	43.70	25.46	0.00	70.45	2.53	72.97	14.71	2.32	17.04	4,181.58
Fine Grading 06/23/2010-08/01/2010	5.65	43.70	25.46	0.00	70.45	2.53	72.97	14.71	2.32	17.04	4,181.58
Fine Grading Dust	0.00	0.00	0.00	0.00	70.44	0.00	70.44	14.71	0.00	14.71	0.00
Fine Grading Off Road Diesel	5.59	43.59	23.62	0.00	0.00	2.52	2.52	0.00	2.32	2.32	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.69
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	11.55	**45.01**	21.36	0.04	0.13	**2.64**	2.78	0.04	**2.43**	2.48	5,212.49
Asphalt 08/18/2010-08/29/2010	11.55	45.01	21.36	0.04	0.13	2.64	2.78	0.04	2.43	2.48	5,212.49
Paving Off-Gas	6.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.13	27.81	10.68	0.04	0.13	1.14	1.26	0.04	1.05	1.09	3,784.59
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.28	42.48	**85.10**	**0.10**	0.43	2.51	2.94	0.15	2.30	2.45	**12,122.05**
Building 09/01/2010-04/24/2011	7.28	42.48	85.10	0.10	0.43	2.51	2.94	0.15	2.30	2.45	12,122.05
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.36	15.72	12.14	0.03	0.10	0.66	0.76	0.03	0.60	0.64	2,902.64
Building Worker Trips	1.84	3.46	58.65	0.07	0.33	0.19	0.52	0.12	0.16	0.28	6,960.13
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.70	39.17	79.78	**0.10**	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58
Building 09/01/2010-04/24/2011	6.70	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.25	14.16	11.25	0.03	0.10	0.58	0.69	0.03	0.54	0.57	2,902.68
Building Worker Trips	1.68	3.16	54.59	0.07	0.33	0.19	0.52	0.12	0.16	0.28	6,958.62
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**49.64**	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88
Coating 04/27/2011-09/22/2011	49.64	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88
Architectural Coating	49.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	2.08	0.00	0.01	0.01	0.02	0.00	0.01	0.01	264.88

12/21/2009 02:29:57 PM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.55	7.08	3.07	0.00	0.01	0.01	9,023.49
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	31.19						
Architectural Coatings	1.45						
TOTALS (lbs/day, unmitigated)	34.65	7.20	12.86	0.00	0.04	0.04	9,039.86

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.44	5.66	2.46	0.00	0.01	0.01	7,218.79
Hearth - No Summer Emissions							
Landscape	1.46	0.12	9.79	0.00	0.03	0.03	16.37
Consumer Products	31.19						
Architectural Coatings	1.45						
TOTALS (lbs/day, mitigated)	34.54	5.78	12.25	0.00	0.04	0.04	7,235.16

12/21/2009 02:29:57 PM

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.82	8.22	79.28	0.14	21.94	4.27	13,241.83
Condo/townhouse general	18.12	21.38	206.16	0.35	57.04	11.11	34,432.44
Community Facility	3.48	4.49	41.07	0.07	11.70	2.28	7,017.01
TOTALS (lbs/day, unmitigated)	28.42	34.09	326.51	0.56	90.68	17.66	54,691.28

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.11	7.24	69.81	0.12	19.31	3.76	11,658.89
Condo/townhouse general	15.92	18.38	177.22	0.30	49.03	9.55	29,599.21
Community Facility	3.08	3.95	36.16	0.06	10.30	2.00	6,178.20
TOTALS (lbs/day, mitigated)	25.11	29.57	283.19	0.48	78.64	15.31	47,436.30

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

12/21/2009 02:29:57 PM

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

12/21/2009 02:29:57 PM

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

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Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					6,146.02	52,488.98

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	44.8	55.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 02:30:14 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2011.urb924

Project Name: Serrano Summit - Phase 5 - 2017

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	11.55	45.01	85.10	0.10	199.01	2.64	201.54	41.56	2.43	43.89	12,122.05
2010 TOTALS (lbs/day mitigated)	11.55	45.01	85.10	0.10	70.45	2.64	72.97	14.71	2.43	17.04	12,122.05
2011 TOTALS (lbs/day unmitigated)	49.64	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58
2011 TOTALS (lbs/day mitigated)	49.64	39.17	79.78	0.10	0.43	2.35	2.78	0.15	2.14	2.30	12,120.58

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	33.41	10.86	4.68	0.02	0.32	0.31	13,844.67
TOTALS (lbs/day, mitigated)	33.30	9.44	4.07	0.02	0.32	0.31	12,039.97
Percent Reduction	0.33	13.08	13.03	0.00	0.00	0.00	13.04

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	30.43	40.92	308.81	0.46	90.68	17.66	49,503.65
TOTALS (lbs/day, mitigated)	26.62	35.49	267.84	0.40	78.64	15.31	42,936.76
Percent Reduction	12.52	13.27	13.27	13.04	13.28	13.31	13.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	63.84	51.78	313.49	0.48	91.00	17.97	63,348.32
TOTALS (lbs/day, mitigated)	59.92	44.93	271.91	0.42	78.96	15.62	54,976.73
Percent Reduction	6.14	13.23	13.26	12.50	13.23	13.08	13.22

12/21/2009 02:30:14 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.55	7.08	3.07	0.00	0.01	0.01	9,023.49
Hearth	0.22	3.78	1.61	0.02	0.31	0.30	4,821.18
Landscaping - No Winter Emissions							
Consumer Products	31.19						
Architectural Coatings	1.45						
TOTALS (lbs/day, unmitigated)	33.41	10.86	4.68	0.02	0.32	0.31	13,844.67

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.44	5.66	2.46	0.00	0.01	0.01	7,218.79
Hearth	0.22	3.78	1.61	0.02	0.31	0.30	4,821.18
Landscaping - No Winter Emissions							
Consumer Products	31.19						
Architectural Coatings	1.45						
TOTALS (lbs/day, mitigated)	33.30	9.44	4.07	0.02	0.32	0.31	12,039.97

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:30:14 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.30	9.87	74.84	0.11	21.94	4.27	11,986.95
Condo/townhouse general	19.16	25.67	194.59	0.29	57.04	11.11	31,169.40
Community Facility	3.97	5.38	39.38	0.06	11.70	2.28	6,347.30
TOTALS (lbs/day, unmitigated)	30.43	40.92	308.81	0.46	90.68	17.66	49,503.65

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.47	8.69	65.89	0.10	19.31	3.76	10,554.02
Condo/townhouse general	16.64	22.07	167.28	0.25	49.03	9.55	26,794.20
Community Facility	3.51	4.73	34.67	0.05	10.30	2.00	5,588.54
TOTALS (lbs/day, mitigated)	26.62	35.49	267.84	0.40	78.64	15.31	42,936.76

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:30:14 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

12/21/2009 02:30:14 PM

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/21/2009 02:30:14 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					6,146.02	52,488.98

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	44.8	55.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 02:30:22 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2011.urb924

Project Name: Serrano Summit - Phase 5 - 2017

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.63	4.11	5.03	0.00	9.07	0.24	9.31	1.90	0.22	2.12	751.84
2010 TOTALS (tons/year mitigated)	0.63	4.11	5.03	0.00	3.22	0.24	3.46	0.68	0.22	0.90	751.84
Percent Reduction	0.00	0.00	0.00	0.00	64.46	0.00	62.80	64.36	0.00	57.69	0.00
2011 TOTALS (tons/year unmitigated)	2.92	1.57	3.30	0.00	0.02	0.09	0.11	0.01	0.09	0.09	498.99
2011 TOTALS (tons/year mitigated)	2.92	1.57	3.30	0.00	0.02	0.09	0.11	0.01	0.09	0.09	498.99
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.32	1.31	2.35	0.00	0.01	0.01	1,652.19
TOTALS (tons/year, mitigated)	6.30	1.05	2.24	0.00	0.01	0.01	1,322.83
Percent Reduction	0.32	19.85	4.68	########	0.00	0.00	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.30	6.63	58.51	0.09	16.55	3.23	9,665.58
TOTALS (tons/year, mitigated)	4.68	5.76	50.75	0.08	14.35	2.80	8,383.40
Percent Reduction	11.70	13.12	13.26	11.11	13.29	13.31	13.27

12/21/2009 02:30:22 PM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	11.62	7.94	60.86	0.09	16.56	3.24	11,317.77
TOTALS (tons/year, mitigated)	10.98	6.81	52.99	0.08	14.36	2.81	9,706.23
Percent Reduction	5.51	14.23	12.93	11.11	13.29	13.27	14.24

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.63	4.11	5.03	0.00	9.07	0.24	9.31	1.90	0.22	2.12	751.84
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	6.27	0.08	6.35	1.31	0.07	1.38	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	6.27	0.00	6.27	1.31	0.00	1.31	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	2.79	0.04	2.82	0.58	0.03	0.61	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	2.79	0.00	2.79	0.58	0.00	0.58	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.18	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.85
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.14
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.32	1.87	3.74	0.00	0.02	0.11	0.13	0.01	0.10	0.11	533.37
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.69	0.53	0.00	0.00	0.03	0.03	0.00	0.03	0.03	127.72
Building Worker Trips	0.08	0.15	2.58	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.25
2011	2.92	1.57	3.30	0.00	0.02	0.09	0.11	0.01	0.09	0.09	498.99

Building 09/01/2010-04/24/2011	0.27	1.57	3.19	0.00	0.02	0.09	0.11	0.01	0.09	0.09	484.82
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.57	0.45	0.00	0.00	0.02	0.03	0.00	0.02	0.02	116.11
Building Worker Trips	0.07	0.13	2.18	0.00	0.01	0.01	0.02	0.00	0.01	0.01	278.34
Coating 04/27/2011-09/22/2011	2.66	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.17
Architectural Coating	2.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.17

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 79.61

Maximum Daily Acreage Disturbed: 19.9

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 79.61

Maximum Daily Acreage Disturbed: 19.9

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

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Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description
Acres to be Paved: 19.9
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.63	4.11	5.03	0.00	3.22	0.24	3.46	0.68	0.22	0.90	751.84
Mass Grading 03/24/2010-06/20/2010	0.18	1.38	0.80	0.00	2.22	0.08	2.30	0.46	0.07	0.54	131.72
Mass Grading Dust	0.00	0.00	0.00	0.00	2.22	0.00	2.22	0.46	0.00	0.46	0.00
Mass Grading Off Road Diesel	0.18	1.37	0.74	0.00	0.00	0.08	0.08	0.00	0.07	0.07	124.86
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Fine Grading 06/23/2010-08/01/2010	0.08	0.61	0.36	0.00	0.99	0.04	1.02	0.21	0.03	0.24	58.54
Fine Grading Dust	0.00	0.00	0.00	0.00	0.99	0.00	0.99	0.21	0.00	0.21	0.00
Fine Grading Off Road Diesel	0.08	0.61	0.33	0.00	0.00	0.04	0.04	0.00	0.03	0.03	55.49
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.18	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.85
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.14
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.32	1.87	3.74	0.00	0.02	0.11	0.13	0.01	0.10	0.11	533.37
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.69	0.53	0.00	0.00	0.03	0.03	0.00	0.03	0.03	127.72
Building Worker Trips	0.08	0.15	2.58	0.00	0.01	0.01	0.02	0.01	0.01	0.01	306.25
2011	2.92	1.57	3.30	0.00	0.02	0.09	0.11	0.01	0.09	0.09	498.99
Building 09/01/2010-04/24/2011	0.27	1.57	3.19	0.00	0.02	0.09	0.11	0.01	0.09	0.09	484.82
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.57	0.45	0.00	0.00	0.02	0.03	0.00	0.02	0.02	116.11
Building Worker Trips	0.07	0.13	2.18	0.00	0.01	0.01	0.02	0.00	0.01	0.01	278.34
Coating 04/27/2011-09/22/2011	2.66	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.17
Architectural Coating	2.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.17

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/21/2009 02:30:22 PM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.10	1.29	0.56	0.00	0.00	0.00	1,646.79
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.41
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	5.69						
Architectural Coatings	0.26						
TOTALS (tons/year, unmitigated)	6.32	1.31	2.35	0.00	0.01	0.01	1,652.19

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.08	1.03	0.45	0.00	0.00	0.00	1,317.43
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.41
Landscape	0.27	0.02	1.79	0.00	0.01	0.01	2.99
Consumer Products	5.69						
Architectural Coatings	0.26						
TOTALS (tons/year, mitigated)	6.30	1.05	2.24	0.00	0.01	0.01	1,322.83

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 02:30:22 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.27	1.60	14.20	0.02	4.00	0.78	2,340.30
Condo/townhouse general	3.37	4.16	36.92	0.06	10.41	2.03	6,085.42
Community Facility	0.66	0.87	7.39	0.01	2.14	0.42	1,239.86
TOTALS (tons/year, unmitigated)	5.30	6.63	58.51	0.09	16.55	3.23	9,665.58

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.14	1.41	12.50	0.02	3.52	0.69	2,060.53
Condo/townhouse general	2.95	3.58	31.74	0.05	8.95	1.74	5,231.22
Community Facility	0.59	0.77	6.51	0.01	1.88	0.37	1,091.65
TOTALS (tons/year, mitigated)	4.68	5.76	50.75	0.08	14.35	2.80	8,383.40

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/21/2009 02:30:22 PM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

12/21/2009 02:30:22 PM

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					6,146.02	52,488.98

12/21/2009 02:30:22 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	44.8	55.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/22/2009 10:58:21 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2017 - P5-Const.urb924

Project Name: Serrano Summit - Phase 5 - 2017 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015 TOTALS (lbs/day unmitigated)	2.28	17.54	11.13	0.00	3.61	0.81	4.42	0.75	0.75	1.50	2,371.63
2015 TOTALS (lbs/day mitigated)	2.28	17.54	11.13	0.00	1.28	0.81	2.09	0.27	0.75	1.02	2,371.63
2016 TOTALS (lbs/day unmitigated)	1.34	5.84	5.67	0.00	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37
2016 TOTALS (lbs/day mitigated)	1.34	5.84	5.67	0.00	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.36	0.25	1.65	0.00	0.01	0.01	290.68
TOTALS (lbs/day, mitigated)	1.35	0.20	1.63	0.00	0.01	0.01	233.10
Percent Reduction	0.74	20.00	1.21	########	0.00	0.00	19.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.91	1.07	10.35	0.02	2.86	0.56	1,729.14
TOTALS (lbs/day, mitigated)	0.80	0.92	8.90	0.02	2.46	0.48	1,486.42
Percent Reduction	12.09	14.02	14.01	0.00	13.99	14.29	14.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.27	1.32	12.00	0.02	2.87	0.57	2,019.82
TOTALS (lbs/day, mitigated)	2.15	1.12	10.53	0.02	2.47	0.49	1,719.52
Percent Reduction	5.29	15.15	12.25	0.00	13.94	14.04	14.87

12/22/2009 10:58:21 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2015-6/19/2015 Active Days: 64	**2.28**	**17.54**	**11.13**	0.00	**3.61**	**0.81**	**4.42**	**0.75**	**0.75**	**1.50**	**2,371.63**
Mass Grading 03/24/2015-06/20/2015	2.28	17.54	11.13	0.00	3.61	0.81	4.42	0.75	0.75	1.50	2,371.63
Mass Grading Dust	0.00	0.00	0.00	0.00	3.60	0.00	3.60	0.75	0.00	0.75	0.00
Mass Grading Off Road Diesel	2.26	17.50	10.40	0.00	0.00	0.81	0.81	0.00	0.74	0.74	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 6/23/2015-7/31/2015 Active Days: 29	**2.28**	**17.54**	**11.13**	0.00	**3.61**	**0.81**	**4.42**	**0.75**	**0.75**	**1.50**	**2,371.63**
Fine Grading 06/23/2015-08/01/2015	2.28	17.54	11.13	0.00	3.61	0.81	4.42	0.75	0.75	1.50	2,371.63
Fine Grading Dust	0.00	0.00	0.00	0.00	3.60	0.00	3.60	0.75	0.00	0.75	0.00
Fine Grading Off Road Diesel	2.26	17.50	10.40	0.00	0.00	0.81	0.81	0.00	0.74	0.74	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 8/4/2015-8/14/2015 Active Days: 9	1.50	11.69	8.58	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.95
Trenching 08/04/2015-08/15/2015	1.50	11.69	8.58	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.95
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 8/18/2015-8/28/2015 Active Days: 9	1.57	9.23	8.06	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,257.62
Asphalt 08/18/2015-08/29/2015	1.57	9.23	8.06	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,257.62
Paving Off-Gas	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.41	8.91	6.69	0.00	0.00	0.71	0.71	0.00	0.65	0.65	979.23
Paving On Road Diesel	0.02	0.24	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	60.86
Paving Worker Trips	0.04	0.07	1.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.54
Time Slice 9/1/2015-12/31/2015 Active Days: 88	0.89	6.45	5.83	**0.00**	0.01	0.37	0.38	0.00	0.34	0.34	1,207.39
Building 09/01/2015-04/24/2016	0.89	6.45	5.83	0.00	0.01	0.37	0.38	0.00	0.34	0.34	1,207.39
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.03	0.32	0.30	0.00	0.00	0.01	0.02	0.00	0.01	0.01	108.15
Building Worker Trips	0.03	0.07	1.21	0.00	0.01	0.01	0.02	0.00	0.01	0.01	205.85
Time Slice 1/1/2016-4/22/2016 Active Days: 81	0.83	5.84	5.67	**0.00**	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37
Building 09/01/2015-04/24/2016	0.83	5.84	5.67	0.00	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37

Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.03	0.28	0.28	0.00	0.00	0.01	0.02	0.00	0.01	0.01	108.15
Building Worker Trips	0.03	0.06	1.13	0.00	0.01	0.01	0.02	0.00	0.01	0.01	205.83
Time Slice 4/27/2016-9/22/2016 Active Days: 107	1.34	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66
Coating 04/27/2016-09/22/2016	1.34	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66
Architectural Coating	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66

Phase Assumptions

Phase: Fine Grading 6/23/2015 - 8/1/2015 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 1.44

Maximum Daily Acreage Disturbed: 0.36

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2015 - 6/20/2015 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.44

Maximum Daily Acreage Disturbed: 0.36

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2015 - 8/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:58:21 AM

Phase: Paving 8/18/2015 - 8/29/2015 - Default Paving Description

Acres to be Paved: 0.36

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2015 - 4/24/2016 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2016 - 9/22/2016 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2015-6/19/2015 Active Days: 64	**2.28**	**17.54**	**11.13**	0.00	1.28	**0.81**	2.09	0.27	**0.75**	1.02	**2,371.63**
Mass Grading 03/24/2015-06/20/2015	2.28	17.54	11.13	0.00	1.28	0.81	2.09	0.27	0.75	1.02	2,371.63
Mass Grading Dust	0.00	0.00	0.00	0.00	1.27	0.00	1.27	0.27	0.00	0.27	0.00
Mass Grading Off Road Diesel	2.26	17.50	10.40	0.00	0.00	0.81	0.81	0.00	0.74	0.74	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 6/23/2015-7/31/2015 Active Days: 29	**2.28**	**17.54**	**11.13**	0.00	1.28	**0.81**	2.09	0.27	**0.75**	1.02	**2,371.63**
Fine Grading 06/23/2015-08/01/2015	2.28	17.54	11.13	0.00	1.28	0.81	2.09	0.27	0.75	1.02	2,371.63
Fine Grading Dust	0.00	0.00	0.00	0.00	1.27	0.00	1.27	0.27	0.00	0.27	0.00
Fine Grading Off Road Diesel	2.26	17.50	10.40	0.00	0.00	0.81	0.81	0.00	0.74	0.74	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fine Grading Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 8/4/2015-8/14/2015 Active Days: 9	1.50	11.69	8.58	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.95
Trenching 08/04/2015-08/15/2015	1.50	11.69	8.58	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.95
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.31
Time Slice 8/18/2015-8/28/2015 Active Days: 9	1.57	9.23	8.06	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,257.62
Asphalt 08/18/2015-08/29/2015	1.57	9.23	8.06	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,257.62
Paving Off-Gas	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.41	8.91	6.69	0.00	0.00	0.71	0.71	0.00	0.65	0.65	979.23
Paving On Road Diesel	0.02	0.24	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	60.86
Paving Worker Trips	0.04	0.07	1.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.54
Time Slice 9/1/2015-12/31/2015 Active Days: 88	0.89	6.45	5.83	**0.00**	0.01	0.37	0.38	0.00	0.34	0.34	1,207.39
Building 09/01/2015-04/24/2016	0.89	6.45	5.83	0.00	0.01	0.37	0.38	0.00	0.34	0.34	1,207.39
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.03	0.32	0.30	0.00	0.00	0.01	0.02	0.00	0.01	0.01	108.15
Building Worker Trips	0.03	0.07	1.21	0.00	0.01	0.01	0.02	0.00	0.01	0.01	205.85
Time Slice 1/1/2016-4/22/2016 Active Days: 81	0.83	5.84	5.67	**0.00**	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37
Building 09/01/2015-04/24/2016	0.83	5.84	5.67	0.00	0.01	0.31	0.32	0.00	0.28	0.29	1,207.37
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.03	0.28	0.28	0.00	0.00	0.01	0.02	0.00	0.01	0.01	108.15
Building Worker Trips	0.03	0.06	1.13	0.00	0.01	0.01	0.02	0.00	0.01	0.01	205.83
Time Slice 4/27/2016-9/22/2016 Active Days: 107	1.34	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66
Coating 04/27/2016-09/22/2016	1.34	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66
Architectural Coating	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.66

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2015 - 8/1/2015 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

12/22/2009 10:58:21 AM

The following mitigation measures apply to Phase: Mass Grading 3/24/2015 - 6/20/2015 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.23	0.10	0.00	0.00	0.00	287.87
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	1.18						
Architectural Coatings	0.04						
TOTALS (lbs/day, unmitigated)	1.36	0.25	1.65	0.00	0.01	0.01	290.68

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.18	0.08	0.00	0.00	0.00	230.29
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	1.18						
Architectural Coatings	0.04						
TOTALS (lbs/day, mitigated)	1.35	0.20	1.63	0.00	0.01	0.01	233.10

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/22/2009 10:58:21 AM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.91	1.07	10.35	0.02	2.86	0.56	1,729.14
TOTALS (lbs/day, unmitigated)	0.91	1.07	10.35	0.02	2.86	0.56	1,729.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.80	0.92	8.90	0.02	2.46	0.48	1,486.42
TOTALS (lbs/day, mitigated)	0.80	0.92	8.90	0.02	2.46	0.48	1,486.42

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

12/22/2009 10:58:21 AM

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable, Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/22/2009 10:58:21 AM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	1.44	8.15	dwelling units	23.00	187.45	1,658.00
					187.45	1,658.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	44.8	55.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/22/2009 10:58:38 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2017 - P5-Const.urb924

Project Name: Serrano Summit - Phase 5 - 2017 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015 TOTALS (tons/year unmitigated)	0.16	1.19	0.85	0.00	0.17	0.06	0.23	0.04	0.05	0.09	177.34
2015 TOTALS (tons/year mitigated)	0.16	1.19	0.85	0.00	0.06	0.06	0.12	0.01	0.05	0.07	177.34
Percent Reduction	0.00	0.00	0.00	0.00	64.24	0.00	47.42	63.98	0.00	25.04	0.00
2016 TOTALS (tons/year unmitigated)	0.11	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	49.31
2016 TOTALS (tons/year mitigated)	0.11	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	49.31
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.25	0.04	0.30	0.00	0.00	0.00	53.13
TOTALS (tons/year, mitigated)	0.25	0.03	0.29	0.00	0.00	0.00	42.62
Percent Reduction	0.00	25.00	3.33	########	############	############	19.78

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.17	0.21	1.85	0.00	0.52	0.10	305.60
TOTALS (tons/year, mitigated)	0.15	0.18	1.59	0.00	0.45	0.09	262.70
Percent Reduction	11.76	14.29	14.05	########	13.46	10.00	14.04

12/22/2009 10:58:38 AM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.42	0.25	2.15	0.00	0.52	0.10	358.73
TOTALS (tons/year, mitigated)	0.40	0.21	1.88	0.00	0.45	0.09	305.32
Percent Reduction	4.76	16.00	12.56	########	13.46	10.00	14.89

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	0.16	1.19	0.85	0.00	0.17	0.06	0.23	0.04	0.05	0.09	177.34
Mass Grading 03/24/2015-06/20/2015	0.07	0.56	0.36	0.00	0.12	0.03	0.14	0.02	0.02	0.05	75.89
Mass Grading Dust	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.02	0.00	0.02	0.00
Mass Grading Off Road Diesel	0.07	0.56	0.33	0.00	0.00	0.03	0.03	0.00	0.02	0.02	71.91
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.98
Fine Grading 06/23/2015-08/01/2015	0.03	0.25	0.16	0.00	0.05	0.01	0.06	0.01	0.01	0.02	34.39
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.03	0.25	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	32.59
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80
Trenching 08/04/2015-08/15/2015	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.28
Trenching Off Road Diesel	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.72
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Asphalt 08/18/2015-08/29/2015	0.01	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.66
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.41
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
Building 09/01/2015-04/24/2016	0.04	0.28	0.26	0.00	0.00	0.02	0.02	0.00	0.01	0.02	53.13
Building Off Road Diesel	0.04	0.27	0.19	0.00	0.00	0.02	0.02	0.00	0.01	0.01	39.31
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.06
2016	0.11	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	49.31

Building 09/01/2015-04/24/2016	0.03	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	48.90
Building Off Road Diesel	0.03	0.22	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.18
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.34
Coating 04/27/2016-09/22/2016	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Architectural Coating	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41

Phase Assumptions

Phase: Fine Grading 6/23/2015 - 8/1/2015 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 1.44

Maximum Daily Acreage Disturbed: 0.36

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2015 - 6/20/2015 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.44

Maximum Daily Acreage Disturbed: 0.36

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2015 - 8/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 10:58:38 AM

Phase: Paving 8/18/2015 - 8/29/2015 - Default Paving Description

Acres to be Paved: 0.36

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2015 - 4/24/2016 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2016 - 9/22/2016 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	0.16	1.19	0.85	0.00	0.06	0.06	0.12	0.01	0.05	0.07	177.34
Mass Grading 03/24/2015-06/20/2015	0.07	0.56	0.36	0.00	0.04	0.03	0.07	0.01	0.02	0.03	75.89
Mass Grading Dust	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.07	0.56	0.33	0.00	0.00	0.03	0.03	0.00	0.02	0.02	71.91
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.98
Fine Grading 06/23/2015-08/01/2015	0.03	0.25	0.16	0.00	0.02	0.01	0.03	0.00	0.01	0.01	34.39
Fine Grading Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.03	0.25	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	32.59
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80
Trenching 08/04/2015-08/15/2015	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.28

Trenching Off Road Diesel	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.72
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Asphalt 08/18/2015-08/29/2015	0.01	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.66
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.41
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
Building 09/01/2015-04/24/2016	0.04	0.28	0.26	0.00	0.00	0.02	0.02	0.00	0.01	0.02	53.13
Building Off Road Diesel	0.04	0.27	0.19	0.00	0.00	0.02	0.02	0.00	0.01	0.01	39.31
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.06
2016	0.11	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	49.31
Building 09/01/2015-04/24/2016	0.03	0.24	0.23	0.00	0.00	0.01	0.01	0.00	0.01	0.01	48.90
Building Off Road Diesel	0.03	0.22	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.18
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.34
Coating 04/27/2016-09/22/2016	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Architectural Coating	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2015 - 8/1/2015 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2015 - 6/20/2015 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

12/22/2009 10:58:38 AM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.04	0.02	0.00	0.00	0.00	52.54
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.22						
Architectural Coatings	0.01						
TOTALS (tons/year, unmitigated)	0.25	0.04	0.30	0.00	0.00	0.00	53.13

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.03	0.01	0.00	0.00	0.00	42.03
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.22						
Architectural Coatings	0.01						
TOTALS (tons/year, mitigated)	0.25	0.03	0.29	0.00	0.00	0.00	42.62

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/22/2009 10:58:38 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.17	0.21	1.85	0.00	0.52	0.10	305.60
TOTALS (tons/year, unmitigated)	0.17	0.21	1.85	0.00	0.52	0.10	305.60

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.15	0.18	1.59	0.00	0.45	0.09	262.70
TOTALS (tons/year, mitigated)	0.15	0.18	1.59	0.00	0.45	0.09	262.70

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/22/2009 10:58:38 AM

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2017 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	1.44	8.15	dwelling units	23.00	187.45	1,658.00
					187.45	1,658.00

12/22/2009 10:58:38 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.9	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	44.8	55.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

12/21/2009 04:24:59 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2018 - P6.urb924

Project Name: Serrano Summit - Phase 6 - 2018

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	12.02	78.36	92.24	0.11	209.81	3.96	213.77	43.82	3.64	47.46	13,062.99
2010 TOTALS (lbs/day mitigated)	12.02	78.36	92.24	0.11	74.27	3.96	78.23	15.51	3.64	19.15	13,062.99
2011 TOTALS (lbs/day unmitigated)	68.46	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36
2011 TOTALS (lbs/day mitigated)	68.46	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	35.36	7.84	14.93	0.00	0.04	0.04	9,794.67
TOTALS (lbs/day, mitigated)	35.24	6.30	14.21	0.00	0.04	0.04	7,839.57
Percent Reduction	0.34	19.64	4.82	########	0.00	0.00	19.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	35.77	40.85	394.15	0.70	115.43	22.48	69,629.99
TOTALS (lbs/day, mitigated)	31.64	35.56	342.98	0.61	100.45	19.56	60,589.12
Percent Reduction	11.55	12.95	12.98	12.86	12.98	12.99	12.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	71.13	48.69	409.08	0.70	115.47	22.52	79,424.66
TOTALS (lbs/day, mitigated)	66.88	41.86	357.19	0.61	100.49	19.60	68,428.69
Percent Reduction	5.97	14.03	12.68	12.86	12.97	12.97	13.84

12/21/2009 04:24:59 PM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	9.40	**78.36**	41.31	0.00	**209.81**	**3.96**	**213.77**	**43.82**	**3.64**	**47.46**	7,496.43
Mass Grading 03/24/2010-06/20/2010	9.40	78.36	41.31	0.00	209.81	3.96	213.77	43.82	3.64	47.46	7,496.43
Mass Grading Dust	0.00	0.00	0.00	0.00	209.80	0.00	209.80	43.81	0.00	43.81	0.00
Mass Grading Off Road Diesel	9.33	78.22	38.95	0.00	0.00	3.95	3.95	0.00	3.63	3.63	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Time Slice 6/23/2010-7/30/2010 Active Days: 28	9.40	**78.36**	41.31	0.00	**209.81**	**3.96**	**213.77**	**43.82**	**3.64**	**47.46**	7,496.43
Fine Grading 06/23/2010-08/01/2010	9.40	78.36	41.31	0.00	209.81	3.96	213.77	43.82	3.64	47.46	7,496.43
Fine Grading Dust	0.00	0.00	0.00	0.00	209.80	0.00	209.80	43.81	0.00	43.81	0.00
Fine Grading Off Road Diesel	9.33	78.22	38.95	0.00	0.00	3.95	3.95	0.00	3.63	3.63	7,216.54
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	12.02	46.52	21.94	0.04	0.14	2.71	2.85	0.05	2.49	2.54	5,417.89
Asphalt 08/18/2010-08/29/2010	12.02	46.52	21.94	0.04	0.14	2.71	2.85	0.05	2.49	2.54	5,417.89
Paving Off-Gas	6.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.25	29.32	11.26	0.04	0.13	1.20	1.33	0.04	1.10	1.15	3,989.99
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.57	43.87	**92.24**	**0.11**	0.47	2.58	3.05	0.17	2.35	2.52	**13,062.99**
Building 09/01/2010-04/24/2011	7.57	43.87	92.24	0.11	0.47	2.58	3.05	0.17	2.35	2.52	13,062.99
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.45	16.73	12.97	0.03	0.11	0.70	0.81	0.04	0.64	0.68	3,095.22
Building Worker Trips	2.04	3.83	64.96	0.08	0.36	0.21	0.57	0.13	0.18	0.31	7,708.49
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.97	40.42	86.42	**0.11**	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36
Building 09/01/2010-04/24/2011	6.97	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36

Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.34	15.07	12.02	0.03	0.11	0.62	0.73	0.04	0.57	0.61	3,095.27
Building Worker Trips	1.86	3.50	60.46	0.08	0.36	0.21	0.57	0.13	0.18	0.31	7,706.82
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**68.46**	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19
Coating 04/27/2011-09/22/2011	68.46	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19
Architectural Coating	68.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 83.93

Maximum Daily Acreage Disturbed: 20.98

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 83.93

Maximum Daily Acreage Disturbed: 20.98

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

12/21/2009 04:24:59 PM

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 20.98

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2010-6/18/2010 Active Days: 63	9.40	**78.36**	41.31	0.00	74.27	**3.96**	78.23	15.51	**3.64**	19.15	7,496.43
Mass Grading 03/24/2010-06/20/2010	9.40	78.36	41.31	0.00	74.27	3.96	78.23	15.51	3.64	19.15	7,496.43
Mass Grading Dust	0.00	0.00	0.00	0.00	74.26	0.00	74.26	15.51	0.00	15.51	0.00
Mass Grading Off Road Diesel	9.33	78.22	38.95	0.00	0.00	3.95	3.95	0.00	3.63	3.63	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89

12/21/2009 04:24:59 PM

Time Slice 6/23/2010-7/30/2010 Active Days: 28	9.40	**78.36**	41.31	0.00	74.27	**3.96**	78.23	15.51	**3.64**	19.15	7,496.43
Fine Grading 06/23/2010-08/01/2010	9.40	78.36	41.31	0.00	74.27	3.96	78.23	15.51	3.64	19.15	7,496.43
Fine Grading Dust	0.00	0.00	0.00	0.00	74.26	0.00	74.26	15.51	0.00	15.51	0.00
Fine Grading Off Road Diesel	9.33	78.22	38.95	0.00	0.00	3.95	3.95	0.00	3.63	3.63	7,216.54
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Time Slice 8/4/2010-8/13/2010 Active Days: 8	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching 08/04/2010-08/15/2010	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/18/2010-8/27/2010 Active Days: 8	12.02	46.52	21.94	0.04	0.14	2.71	2.85	0.05	2.49	2.54	5,417.89
Asphalt 08/18/2010-08/29/2010	12.02	46.52	21.94	0.04	0.14	2.71	2.85	0.05	2.49	2.54	5,417.89
Paving Off-Gas	6.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.13	9.38	0.00	0.00	1.50	1.50	0.00	1.38	1.38	1,272.41
Paving On Road Diesel	2.25	29.32	11.26	0.04	0.13	1.20	1.33	0.04	1.10	1.15	3,989.99
Paving Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 9/1/2010-12/31/2010 Active Days: 88	7.57	43.87	**92.24**	**0.11**	0.47	2.58	3.05	0.17	2.35	2.52	**13,062.99**
Building 09/01/2010-04/24/2011	7.57	43.87	92.24	0.11	0.47	2.58	3.05	0.17	2.35	2.52	13,062.99
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	1.45	16.73	12.97	0.03	0.11	0.70	0.81	0.04	0.64	0.68	3,095.22
Building Worker Trips	2.04	3.83	64.96	0.08	0.36	0.21	0.57	0.13	0.18	0.31	7,708.49
Time Slice 1/3/2011-4/22/2011 Active Days: 80	6.97	40.42	86.42	**0.11**	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36
Building 09/01/2010-04/24/2011	6.97	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	1.34	15.07	12.02	0.03	0.11	0.62	0.73	0.04	0.57	0.61	3,095.27
Building Worker Trips	1.86	3.50	60.46	0.08	0.36	0.21	0.57	0.13	0.18	0.31	7,706.82
Time Slice 4/27/2011-9/22/2011 Active Days: 107	**68.46**	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19
Coating 04/27/2011-09/22/2011	68.46	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19
Architectural Coating	68.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	292.19

12/21/2009 04:24:59 PM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.59	7.70	3.60	0.00	0.01	0.01	9,775.49
Hearth - No Summer Emissions							
Landscape	1.58	0.14	11.33	0.00	0.03	0.03	19.18
Consumer Products	31.19						
Architectural Coatings	2.00						
TOTALS (lbs/day, unmitigated)	35.36	7.84	14.93	0.00	0.04	0.04	9,794.67

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.47	6.16	2.88	0.00	0.01	0.01	7,820.39
Hearth - No Summer Emissions							
Landscape	1.58	0.14	11.33	0.00	0.03	0.03	19.18
Consumer Products	31.19						
Architectural Coatings	2.00						
TOTALS (lbs/day, mitigated)	35.24	6.30	14.21	0.00	0.04	0.04	7,839.57

12/21/2009 04:24:59 PM

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.56	7.64	74.86	0.13	21.94	4.27	13,243.67
Condo/townhouse general	17.42	19.88	194.64	0.35	57.05	11.11	34,437.22
Goverment office building	8.45	9.16	85.87	0.15	24.74	4.82	14,931.09
Community Facility	3.34	4.17	38.78	0.07	11.70	2.28	7,018.01
TOTALS (lbs/day, unmitigated)	35.77	40.85	394.15	0.70	115.43	22.48	69,629.99

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	5.87	6.73	65.91	0.12	19.32	3.76	11,660.51
Condo/townhouse general	15.31	17.09	167.32	0.30	49.04	9.55	29,603.32
Goverment office building	7.50	8.07	75.61	0.13	21.78	4.25	13,146.22
Community Facility	2.96	3.67	34.14	0.06	10.31	2.00	6,179.07
TOTALS (lbs/day, mitigated)	31.64	35.56	342.98	0.61	100.45	19.56	60,589.12

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

12/21/2009 04:24:59 PM

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

12/21/2009 04:24:59 PM

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

12/21/2009 04:24:59 PM

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Goverment office building		27.91	1000 sq ft	94.00	2,623.54	14,316.88
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					8,769.56	66,805.86

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.8	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	41.4	58.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

12/21/2009 04:24:59 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0
Community Facility				5.0	2.5	92.5

Operational Changes to Defaults

12/21/2009 04:25:09 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2018 - P6.urb924

Project Name: Serrano Summit - Phase 6 - 2018

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	12.02	78.36	92.24	0.11	209.81	3.96	213.77	43.82	3.64	47.46	13,062.99
2010 TOTALS (lbs/day mitigated)	12.02	78.36	92.24	0.11	74.27	3.96	78.23	15.51	3.64	19.15	13,062.99
2011 TOTALS (lbs/day unmitigated)	68.46	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36
2011 TOTALS (lbs/day mitigated)	68.46	40.42	86.42	0.11	0.47	2.41	2.88	0.17	2.20	2.36	13,061.36

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	34.00	11.48	5.21	0.02	0.32	0.31	14,596.67
TOTALS (lbs/day, mitigated)	33.88	9.94	4.49	0.02	0.32	0.31	12,641.57
Percent Reduction	0.35	13.41	13.82	0.00	0.00	0.00	13.39

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	38.92	49.02	374.66	0.59	115.43	22.48	63,017.93
TOTALS (lbs/day, mitigated)	34.13	42.66	326.06	0.51	100.45	19.56	54,835.52
Percent Reduction	12.31	12.97	12.97	13.56	12.98	12.99	12.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	72.92	60.50	379.87	0.61	115.75	22.79	77,614.60
TOTALS (lbs/day, mitigated)	68.01	52.60	330.55	0.53	100.77	19.87	67,477.09
Percent Reduction	6.73	13.06	12.98	13.11	12.94	12.81	13.06

12/21/2009 04:25:09 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.59	7.70	3.60	0.00	0.01	0.01	9,775.49
Hearth	0.22	3.78	1.61	0.02	0.31	0.30	4,821.18
Landscaping - No Winter Emissions							
Consumer Products	31.19						
Architectural Coatings	2.00						
TOTALS (lbs/day, unmitigated)	34.00	11.48	5.21	0.02	0.32	0.31	14,596.67

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.47	6.16	2.88	0.00	0.01	0.01	7,820.39
Hearth	0.22	3.78	1.61	0.02	0.31	0.30	4,821.18
Landscaping - No Winter Emissions							
Consumer Products	31.19						
Architectural Coatings	2.00						
TOTALS (lbs/day, mitigated)	33.88	9.94	4.49	0.02	0.32	0.31	12,641.57

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:25:09 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.02	9.18	70.58	0.11	21.94	4.27	11,986.99
Condo/townhouse general	18.42	23.87	183.51	0.29	57.05	11.11	31,169.51
Goverment office building	9.66	10.97	83.44	0.13	24.74	4.82	13,514.09
Community Facility	3.82	5.00	37.13	0.06	11.70	2.28	6,347.34
TOTALS (lbs/day, unmitigated)	38.92	49.02	374.66	0.59	115.43	22.48	63,017.93

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	6.22	8.08	62.14	0.10	19.32	3.76	10,554.06
Condo/townhouse general	16.00	20.52	157.76	0.25	49.04	9.55	26,794.29
Goverment office building	8.54	9.66	73.47	0.11	21.78	4.25	11,898.60
Community Facility	3.37	4.40	32.69	0.05	10.31	2.00	5,588.57
TOTALS (lbs/day, mitigated)	34.13	42.66	326.06	0.51	100.45	19.56	54,835.52

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

12/21/2009 04:25:09 PM

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

12/21/2009 04:25:09 PM

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/21/2009 04:25:09 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Goverment office building		27.91	1000 sq ft	94.00	2,623.54	14,316.88
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					8,769.56	66,805.86

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.8	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	41.4	58.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0
Community Facility				5.0	2.5	92.5

12/21/2009 04:25:09 PM

Operational Changes to Defaults

12/21/2009 04:25:21 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2018 - P6.urb924

Project Name: Serrano Summit - Phase 6 - 2018

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.82	5.75	6.06	0.01	9.57	0.31	9.88	2.00	0.28	2.28	944.89
2010 TOTALS (tons/year mitigated)	0.82	5.75	6.06	0.01	3.40	0.31	3.71	0.71	0.28	1.00	944.89
Percent Reduction	0.00	0.00	0.00	0.00	64.46	0.00	62.45	64.35	0.00	56.40	0.00
2011 TOTALS (tons/year unmitigated)	3.94	1.62	3.58	0.00	0.02	0.10	0.12	0.01	0.09	0.10	538.09
2011 TOTALS (tons/year mitigated)	3.94	1.62	3.58	0.00	0.02	0.10	0.12	0.01	0.09	0.10	538.09
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.45	1.44	2.73	0.00	0.01	0.01	1,789.94
TOTALS (tons/year, mitigated)	6.43	1.15	2.60	0.00	0.01	0.01	1,433.13
Percent Reduction	0.31	20.14	4.76	########	0.00	0.00	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.73	7.95	70.75	0.12	21.07	4.11	12,305.24
TOTALS (tons/year, mitigated)	5.93	6.92	61.56	0.10	18.34	3.58	10,707.50
Percent Reduction	11.89	12.96	12.99	16.67	12.96	12.90	12.98

12/21/2009 04:25:21 PM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	13.18	9.39	73.48	0.12	21.08	4.12	14,095.18
TOTALS (tons/year, mitigated)	12.36	8.07	64.16	0.10	18.35	3.59	12,140.63
Percent Reduction	6.22	14.06	12.68	16.67	12.95	12.86	13.87

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.82	5.75	6.06	0.01	9.57	0.31	9.88	2.00	0.28	2.28	944.89
Mass Grading 03/24/2010-06/20/2010	0.30	2.47	1.30	0.00	6.61	0.12	6.73	1.38	0.11	1.49	236.14
Mass Grading Dust	0.00	0.00	0.00	0.00	6.61	0.00	6.61	1.38	0.00	1.38	0.00
Mass Grading Off Road Diesel	0.29	2.46	1.23	0.00	0.00	0.12	0.12	0.00	0.11	0.11	227.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.82
Fine Grading 06/23/2010-08/01/2010	0.13	1.10	0.58	0.00	2.94	0.06	2.99	0.61	0.05	0.66	104.95
Fine Grading Dust	0.00	0.00	0.00	0.00	2.94	0.00	2.94	0.61	0.00	0.61	0.00
Fine Grading Off Road Diesel	0.13	1.10	0.55	0.00	0.00	0.06	0.06	0.00	0.05	0.05	101.03
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.19	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	21.67
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.96
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.33	1.93	4.06	0.00	0.02	0.11	0.13	0.01	0.10	0.11	574.77
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.74	0.57	0.00	0.00	0.03	0.04	0.00	0.03	0.03	136.19
Building Worker Trips	0.09	0.17	2.86	0.00	0.02	0.01	0.03	0.01	0.01	0.01	339.17
2011	3.94	1.62	3.58	0.00	0.02	0.10	0.12	0.01	0.09	0.10	538.09

Building 09/01/2010-04/24/2011	0.28	1.62	3.46	0.00	0.02	0.10	0.12	0.01	0.09	0.09	522.45
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.60	0.48	0.00	0.00	0.02	0.03	0.00	0.02	0.02	123.81
Building Worker Trips	0.07	0.14	2.42	0.00	0.01	0.01	0.02	0.01	0.01	0.01	308.27
Coating 04/27/2011-09/22/2011	3.66	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.63
Architectural Coating	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.63

Phase Assumptions

Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 83.93

Maximum Daily Acreage Disturbed: 20.98

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 83.93

Maximum Daily Acreage Disturbed: 20.98

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

12/21/2009 04:25:21 PM

Phase: Trenching 8/4/2010 - 8/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/18/2010 - 8/29/2010 - Default Paving Description

Acres to be Paved: 20.98

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 9/1/2010 - 4/24/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2011 - 9/22/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.82	5.75	6.06	0.01	3.40	0.31	3.71	0.71	0.28	1.00	944.89
Mass Grading 03/24/2010-06/20/2010	0.30	2.47	1.30	0.00	2.34	0.12	2.46	0.49	0.11	0.60	236.14
Mass Grading Dust	0.00	0.00	0.00	0.00	2.34	0.00	2.34	0.49	0.00	0.49	0.00
Mass Grading Off Road Diesel	0.29	2.46	1.23	0.00	0.00	0.12	0.12	0.00	0.11	0.11	227.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.82

Fine Grading 06/23/2010-08/01/2010	0.13	1.10	0.58	0.00	1.04	0.06	1.10	0.22	0.05	0.27	104.95
Fine Grading Dust	0.00	0.00	0.00	0.00	1.04	0.00	1.04	0.22	0.00	0.22	0.00
Fine Grading Off Road Diesel	0.13	1.10	0.55	0.00	0.00	0.06	0.06	0.00	0.05	0.05	101.03
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Trenching 08/04/2010-08/15/2010	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2010-08/29/2010	0.05	0.19	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	21.67
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.09
Paving On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.96
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 09/01/2010-04/24/2011	0.33	1.93	4.06	0.00	0.02	0.11	0.13	0.01	0.10	0.11	574.77
Building Off Road Diesel	0.18	1.03	0.63	0.00	0.00	0.07	0.07	0.00	0.07	0.07	99.41
Building Vendor Trips	0.06	0.74	0.57	0.00	0.00	0.03	0.04	0.00	0.03	0.03	136.19
Building Worker Trips	0.09	0.17	2.86	0.00	0.02	0.01	0.03	0.01	0.01	0.01	339.17
2011	3.94	1.62	3.58	0.00	0.02	0.10	0.12	0.01	0.09	0.10	538.09
Building 09/01/2010-04/24/2011	0.28	1.62	3.46	0.00	0.02	0.10	0.12	0.01	0.09	0.09	522.45
Building Off Road Diesel	0.15	0.87	0.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	90.37
Building Vendor Trips	0.05	0.60	0.48	0.00	0.00	0.02	0.03	0.00	0.02	0.02	123.81
Building Worker Trips	0.07	0.14	2.42	0.00	0.01	0.01	0.02	0.01	0.01	0.01	308.27
Coating 04/27/2011-09/22/2011	3.66	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.63
Architectural Coating	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.63

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2010 - 8/1/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2010 - 6/20/2010 - Default Mass Site Grading/Excavation Description

12/21/2009 04:25:21 PM

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.41	0.66	0.00	0.00	0.00	1,784.03
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.41
Landscape	0.29	0.03	2.07	0.00	0.01	0.01	3.50
Consumer Products	5.69						
Architectural Coatings	0.36						
TOTALS (tons/year, unmitigated)	6.45	1.44	2.73	0.00	0.01	0.01	1,789.94

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.09	1.12	0.53	0.00	0.00	0.00	1,427.22
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	2.41
Landscape	0.29	0.03	2.07	0.00	0.01	0.01	3.50
Consumer Products	5.69						
Architectural Coatings	0.36						
TOTALS (tons/year, mitigated)	6.43	1.15	2.60	0.00	0.01	0.01	1,433.13

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/21/2009 04:25:21 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.23	1.49	13.40	0.02	4.00	0.78	2,340.52
Condo/townhouse general	3.24	3.87	34.85	0.06	10.41	2.03	6,086.01
Goverment office building	1.62	1.78	15.52	0.03	4.52	0.88	2,638.72
Community Facility	0.64	0.81	6.98	0.01	2.14	0.42	1,239.99
TOTALS (tons/year, unmitigated)	6.73	7.95	70.75	0.12	21.07	4.11	12,305.24

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.09	1.31	11.80	0.02	3.53	0.69	2,060.73
Condo/townhouse general	2.84	3.33	29.95	0.05	8.95	1.74	5,231.72
Goverment office building	1.43	1.57	13.67	0.02	3.98	0.78	2,323.29
Community Facility	0.57	0.71	6.14	0.01	1.88	0.37	1,091.76
TOTALS (tons/year, mitigated)	5.93	6.92	61.56	0.10	18.34	3.58	10,707.50

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

12/21/2009 04:25:21 PM

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

12/21/2009 04:25:21 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	50.00	9.57	dwelling units	150.00	1,435.50	12,697.00
Condo/townhouse general	28.62	8.15	dwelling units	458.00	3,732.70	33,015.74
Goverment office building		27.91	1000 sq ft	94.00	2,623.54	14,316.88
Community Facility		45.48	1000 sq ft	21.50	977.82	6,776.24
					8,769.56	66,805.86

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.8	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	41.4	58.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0
Community Facility				5.0	2.5	92.5

12/21/2009 04:25:21 PM

Operational Changes to Defaults

12/22/2009 11:13:58 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\LEW0904\Urbemis - 2018 - P6-Const.urb924

Project Name: Serrano Summit - Phase 6 - 2018 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2016 TOTALS (lbs/day unmitigated)	2.35	16.10	14.03	0.01	10.81	0.92	11.56	2.26	0.84	2.95	2,561.57
2016 TOTALS (lbs/day mitigated)	2.35	16.10	14.03	0.01	3.83	0.92	4.59	0.80	0.84	1.50	2,561.57
2017 TOTALS (lbs/day unmitigated)	18.82	11.05	13.53	0.01	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51
2017 TOTALS (lbs/day mitigated)	18.82	11.05	13.53	0.01	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.72	0.65	2.08	0.00	0.01	0.01	754.81
TOTALS (lbs/day, mitigated)	0.71	0.52	1.97	0.00	0.01	0.01	604.41
Percent Reduction	1.39	20.00	5.29	########	0.00	0.00	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	8.45	9.16	85.87	0.15	24.74	4.82	14,931.09
TOTALS (lbs/day, mitigated)	7.50	8.07	75.61	0.13	21.78	4.25	13,146.22
Percent Reduction	11.24	11.90	11.95	13.33	11.96	11.83	11.95

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	9.17	9.81	87.95	0.15	24.75	4.83	15,685.90
TOTALS (lbs/day, mitigated)	8.21	8.59	77.58	0.13	21.79	4.26	13,750.63
Percent Reduction	10.47	12.44	11.79	13.33	11.96	11.80	12.34

12/22/2009 11:13:58 AM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2016-6/20/2016 Active Days: 63	2.15	**16.10**	10.78	0.00	**10.81**	0.76	**11.56**	**2.26**	0.70	**2.95**	2,371.61
Mass Grading 03/24/2016-06/20/2016	2.15	16.10	10.78	0.00	10.81	0.76	11.56	2.26	0.70	2.95	2,371.61
Mass Grading Dust	0.00	0.00	0.00	0.00	10.80	0.00	10.80	2.26	0.00	2.26	0.00
Mass Grading Off Road Diesel	2.13	16.07	10.09	0.00	0.00	0.75	0.75	0.00	0.69	0.69	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 6/23/2016-8/1/2016 Active Days: 28	2.15	**16.10**	10.78	0.00	**10.81**	0.76	**11.56**	**2.26**	0.70	**2.95**	2,371.61
Fine Grading 06/23/2016-08/01/2016	2.15	16.10	10.78	0.00	10.81	0.76	11.56	2.26	0.70	2.95	2,371.61
Fine Grading Dust	0.00	0.00	0.00	0.00	10.80	0.00	10.80	2.26	0.00	2.26	0.00
Fine Grading Off Road Diesel	2.13	16.07	10.09	0.00	0.00	0.75	0.75	0.00	0.69	0.69	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 8/4/2016-8/15/2016 Active Days: 8	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 08/04/2016-08/15/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching Off Road Diesel	1.39	10.35	7.83	0.00	0.00	0.47	0.47	0.00	0.43	0.43	1,714.64
Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 8/18/2016-8/29/2016 Active Days: 8	2.26	12.08	10.37	0.00	0.02	**0.92**	0.94	0.01	**0.84**	0.85	1,726.02
Asphalt 08/18/2016-08/29/2016	2.26	12.08	10.37	0.00	0.02	0.92	0.94	0.01	0.84	0.85	1,726.02
Paving Off-Gas	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.80	11.29	8.72	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,272.04
Paving On Road Diesel	0.06	0.72	0.28	0.00	0.01	0.03	0.03	0.00	0.02	0.03	205.40
Paving Worker Trips	0.04	0.07	1.37	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.59
Time Slice 9/1/2016-12/30/2016 Active Days: 87	2.35	11.90	**14.03**	**0.01**	0.04	0.72	0.76	0.02	0.66	0.67	**2,561.57**
Building 09/01/2016-04/24/2017	2.35	11.90	14.03	0.01	0.04	0.72	0.76	0.02	0.66	0.67	2,561.57
Building Off Road Diesel	2.19	11.19	9.40	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,621.20
Building Vendor Trips	0.05	0.49	0.52	0.00	0.01	0.02	0.03	0.00	0.02	0.02	192.62
Building Worker Trips	0.11	0.22	4.11	0.01	0.04	0.02	0.06	0.01	0.02	0.03	747.75
Time Slice 1/2/2017-4/24/2017 Active Days: 81	2.13	11.05	13.53	**0.01**	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51
Building 09/01/2016-04/24/2017	2.13	11.05	13.53	0.01	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51

Building Off Road Diesel	1.98	10.41	9.21	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,621.20
Building Vendor Trips	0.05	0.44	0.48	0.00	0.01	0.02	0.02	0.00	0.02	0.02	192.63
Building Worker Trips	0.11	0.20	3.83	0.01	0.04	0.02	0.06	0.01	0.02	0.03	747.69
Time Slice 4/27/2017-9/22/2017 Active Days: 107	**18.82**	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30
Coating 04/27/2017-09/22/2017	18.82	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30
Architectural Coating	18.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30

Phase Assumptions

Phase: Fine Grading 6/23/2016 - 8/1/2016 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 4.32

Maximum Daily Acreage Disturbed: 1.08

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2016 - 6/20/2016 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 4.32

Maximum Daily Acreage Disturbed: 1.08

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2016 - 8/15/2016 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 11:13:58 AM

Phase: Paving 8/18/2016 - 8/29/2016 - Default Paving Description

Acres to be Paved: 1.08

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2016 - 4/24/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2017 - 9/22/2017 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/24/2016-6/20/2016 Active Days: 63	2.15	**16.10**	10.78	0.00	3.83	0.76	4.59	0.80	0.70	1.50	2,371.61
Mass Grading 03/24/2016-06/20/2016	2.15	16.10	10.78	0.00	3.83	0.76	4.59	0.80	0.70	1.50	2,371.61
Mass Grading Dust	0.00	0.00	0.00	0.00	3.82	0.00	3.82	0.80	0.00	0.80	0.00
Mass Grading Off Road Diesel	2.13	16.07	10.09	0.00	0.00	0.75	0.75	0.00	0.69	0.69	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 6/23/2016-8/1/2016 Active Days: 28	2.15	**16.10**	10.78	0.00	3.83	0.76	4.59	0.80	0.70	1.50	2,371.61
Fine Grading 06/23/2016-08/01/2016	2.15	16.10	10.78	0.00	3.83	0.76	4.59	0.80	0.70	1.50	2,371.61
Fine Grading Dust	0.00	0.00	0.00	0.00	3.82	0.00	3.82	0.80	0.00	0.80	0.00

Fine Grading Off Road Diesel	2.13	16.07	10.09	0.00	0.00	0.75	0.75	0.00	0.69	0.69	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 8/4/2016-8/15/2016 Active Days: 8	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching 08/04/2016-08/15/2016	1.41	10.38	8.51	0.00	0.01	0.47	0.48	0.00	0.43	0.43	1,838.93
Trenching Off Road Diesel	1.39	10.35	7.83	0.00	0.00	0.47	0.47	0.00	0.43	0.43	1,714.64
Trenching Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.29
Time Slice 8/18/2016-8/29/2016 Active Days: 8	2.26	12.08	10.37	0.00	0.02	**0.92**	0.94	0.01	**0.84**	0.85	1,726.02
Asphalt 08/18/2016-08/29/2016	2.26	12.08	10.37	0.00	0.02	0.92	0.94	0.01	0.84	0.85	1,726.02
Paving Off-Gas	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.80	11.29	8.72	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,272.04
Paving On Road Diesel	0.06	0.72	0.28	0.00	0.01	0.03	0.03	0.00	0.02	0.03	205.40
Paving Worker Trips	0.04	0.07	1.37	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.59
Time Slice 9/1/2016-12/30/2016 Active Days: 87	2.35	11.90	**14.03**	**0.01**	0.04	0.72	0.76	0.02	0.66	0.67	**2,561.57**
Building 09/01/2016-04/24/2017	2.35	11.90	14.03	0.01	0.04	0.72	0.76	0.02	0.66	0.67	2,561.57
Building Off Road Diesel	2.19	11.19	9.40	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,621.20
Building Vendor Trips	0.05	0.49	0.52	0.00	0.01	0.02	0.03	0.00	0.02	0.02	192.62
Building Worker Trips	0.11	0.22	4.11	0.01	0.04	0.02	0.06	0.01	0.02	0.03	747.75
Time Slice 1/2/2017-4/24/2017 Active Days: 81	2.13	11.05	13.53	**0.01**	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51
Building 09/01/2016-04/24/2017	2.13	11.05	13.53	0.01	0.04	0.64	0.68	0.02	0.59	0.60	2,561.51
Building Off Road Diesel	1.98	10.41	9.21	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,621.20
Building Vendor Trips	0.05	0.44	0.48	0.00	0.01	0.02	0.02	0.00	0.02	0.02	192.63
Building Worker Trips	0.11	0.20	3.83	0.01	0.04	0.02	0.06	0.01	0.02	0.03	747.69
Time Slice 4/27/2017-9/22/2017 Active Days: 107	**18.82**	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30
Coating 04/27/2017-09/22/2017	18.82	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30
Architectural Coating	18.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2016 - 8/1/2016 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

12/22/2009 11:13:58 AM

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2016 - 6/20/2016 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.63	0.53	0.00	0.00	0.00	752.00
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.55						
TOTALS (lbs/day, unmitigated)	0.72	0.65	2.08	0.00	0.01	0.01	754.81

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.50	0.42	0.00	0.00	0.00	601.60
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.55						
TOTALS (lbs/day, mitigated)	0.71	0.52	1.97	0.00	0.01	0.01	604.41

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

12/22/2009 11:13:58 AM

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	8.45	9.16	85.87	0.15	24.74	4.82	14,931.09
TOTALS (lbs/day, unmitigated)	8.45	9.16	85.87	0.15	24.74	4.82	14,931.09

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	7.50	8.07	75.61	0.13	21.78	4.25	13,146.22
TOTALS (lbs/day, mitigated)	7.50	8.07	75.61	0.13	21.78	4.25	13,146.22

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/22/2009 11:13:58 AM

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Goverment office building		27.91	1000 sq ft	94.00	2,623.54	14,316.88
					2,623.54	14,316.88

12/22/2009 11:13:58 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.8	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	41.4	58.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0

Operational Changes to Defaults

12/22/2009 11:14:31 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\LEW0904\Urbemis - 2018 - P6-Const.urb924

Project Name: Serrano Summit - Phase 6 - 2018 - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2016 TOTALS (tons/year unmitigated)	0.21	1.34	1.18	0.00	0.49	0.07	0.56	0.10	0.07	0.17	233.60
2016 TOTALS (tons/year mitigated)	0.21	1.34	1.18	0.00	0.18	0.07	0.25	0.04	0.07	0.10	233.60
Percent Reduction	0.00	0.00	0.00	0.00	64.32	0.00	56.21	64.11	0.00	39.28	0.00
2017 TOTALS (tons/year unmitigated)	1.09	0.45	0.56	0.00	0.00	0.03	0.03	0.00	0.02	0.02	105.20
2017 TOTALS (tons/year mitigated)	1.09	0.45	0.56	0.00	0.00	0.03	0.03	0.00	0.02	0.02	105.20
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.13	0.11	0.38	0.00	0.00	0.00	137.75
TOTALS (tons/year, mitigated)	0.13	0.09	0.36	0.00	0.00	0.00	110.30
Percent Reduction	0.00	18.18	5.26	########	############	############	19.93

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.62	1.78	15.52	0.03	4.52	0.88	2,638.72
TOTALS (tons/year, mitigated)	1.43	1.57	13.67	0.02	3.98	0.78	2,323.29
Percent Reduction	11.73	11.80	11.92	33.33	11.95	11.36	11.95

12/22/2009 11:14:31 AM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.75	1.89	15.90	0.03	4.52	0.88	2,776.47
TOTALS (tons/year, mitigated)	1.56	1.66	14.03	0.02	3.98	0.78	2,433.59
Percent Reduction	10.86	12.17	11.76	33.33	11.95	11.36	12.35

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2016	0.21	1.34	1.18	0.00	0.49	0.07	0.56	0.10	0.07	0.17	233.60
Mass Grading 03/24/2016-06/20/2016	0.07	0.51	0.34	0.00	0.34	0.02	0.36	0.07	0.02	0.09	74.71
Mass Grading Dust	0.00	0.00	0.00	0.00	0.34	0.00	0.34	0.07	0.00	0.07	0.00
Mass Grading Off Road Diesel	0.07	0.51	0.32	0.00	0.00	0.02	0.02	0.00	0.02	0.02	70.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Fine Grading 06/23/2016-08/01/2016	0.03	0.23	0.15	0.00	0.15	0.01	0.16	0.03	0.01	0.04	33.20
Fine Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	0.03	0.22	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	31.46
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Trenching 08/04/2016-08/15/2016	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2016-08/29/2016	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.90
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.09
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Building 09/01/2016-04/24/2017	0.10	0.52	0.61	0.00	0.00	0.03	0.03	0.00	0.03	0.03	111.43
Building Off Road Diesel	0.10	0.49	0.41	0.00	0.00	0.03	0.03	0.00	0.03	0.03	70.52
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.38
Building Worker Trips	0.00	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.53
2017	1.09	0.45	0.56	0.00	0.00	0.03	0.03	0.00	0.02	0.02	105.20

Building 09/01/2016-04/24/2017	0.09	0.45	0.55	0.00	0.00	0.03	0.03	0.00	0.02	0.02	103.74
Building Off Road Diesel	0.08	0.42	0.37	0.00	0.00	0.02	0.02	0.00	0.02	0.02	65.66
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.80
Building Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.28
Coating 04/27/2017-09/22/2017	1.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Architectural Coating	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46

Phase Assumptions

Phase: Fine Grading 6/23/2016 - 8/1/2016 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 4.32

Maximum Daily Acreage Disturbed: 1.08

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/24/2016 - 6/20/2016 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 4.32

Maximum Daily Acreage Disturbed: 1.08

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 8/4/2016 - 8/15/2016 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

12/22/2009 11:14:31 AM

Phase: Paving 8/18/2016 - 8/29/2016 - Default Paving Description

Acres to be Paved: 1.08

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/1/2016 - 4/24/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/27/2017 - 9/22/2017 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2016	0.21	1.34	1.18	0.00	0.18	0.07	0.25	0.04	0.07	0.10	233.60
Mass Grading 03/24/2016-06/20/2016	0.07	0.51	0.34	0.00	0.12	0.02	0.14	0.03	0.02	0.05	74.71
Mass Grading Dust	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	0.07	0.51	0.32	0.00	0.00	0.02	0.02	0.00	0.02	0.02	70.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Fine Grading 06/23/2016-08/01/2016	0.03	0.23	0.15	0.00	0.05	0.01	0.06	0.01	0.01	0.02	33.20
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.03	0.22	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	31.46

Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
Trenching 08/04/2016-08/15/2016	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.36
Trenching Off Road Diesel	0.01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Asphalt 08/18/2016-08/29/2016	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.90
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.09
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Building 09/01/2016-04/24/2017	0.10	0.52	0.61	0.00	0.00	0.03	0.03	0.00	0.03	0.03	111.43
Building Off Road Diesel	0.10	0.49	0.41	0.00	0.00	0.03	0.03	0.00	0.03	0.03	70.52
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.38
Building Worker Trips	0.00	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.53
2017	1.09	0.45	0.56	0.00	0.00	0.03	0.03	0.00	0.02	0.02	105.20
Building 09/01/2016-04/24/2017	0.09	0.45	0.55	0.00	0.00	0.03	0.03	0.00	0.02	0.02	103.74
Building Off Road Diesel	0.08	0.42	0.37	0.00	0.00	0.02	0.02	0.00	0.02	0.02	65.66
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.80
Building Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.28
Coating 04/27/2017-09/22/2017	1.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Architectural Coating	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/23/2016 - 8/1/2016 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 3/24/2016 - 6/20/2016 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

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For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.11	0.10	0.00	0.00	0.00	137.24
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.10						
TOTALS (tons/year, unmitigated)	0.13	0.11	0.38	0.00	0.00	0.00	137.75

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.09	0.08	0.00	0.00	0.00	109.79
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.10						
TOTALS (tons/year, mitigated)	0.13	0.09	0.36	0.00	0.00	0.00	110.30

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

12/22/2009 11:14:31 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	1.62	1.78	15.52	0.03	4.52	0.88	2,638.72
TOTALS (tons/year, unmitigated)	1.62	1.78	15.52	0.03	4.52	0.88	2,638.72

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	1.43	1.57	13.67	0.02	3.98	0.78	2,323.29
TOTALS (tons/year, mitigated)	1.43	1.57	13.67	0.02	3.98	0.78	2,323.29

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 1000.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

12/22/2009 11:14:31 AM

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.15%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 6

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 2

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 6.81%

Inputs Selected:

The Number of Intersections per Square Mile is 25

The Percent of Streets with Sidewalks on One Side is 100%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 75%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Goverment office building		27.91	1000 sq ft	94.00	2,623.54	14,316.88
					2,623.54	14,316.88

12/22/2009 11:14:31 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	50.8	0.0	100.0	0.0
Light Truck < 3750 lbs	7.2	0.0	98.6	1.4
Light Truck 3751-5750 lbs	23.3	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.6	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	41.4	58.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0

Operational Changes to Defaults

APPENDIX B

LOCALIZED SIGNIFICANCE ANALYSIS

An analysis of project-related air emissions was performed, following the SCAQMD's *Final Localized Significance Threshold Methodology* (June 2003, revised July 2008), and *Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds* (October 2006). Two independent air dispersion modeling runs were setup, one to model fugitive dust emissions and the other to model gaseous exhaust emissions.

From the SCAQMD methodology – Basic Approach: "An air quality analysis typically separates a project's emissions into construction and operational activity emissions because these two activities are typically sequential. Relative to the staff proposal, the emissions of concern from construction activities are NO_X and CO combustion emissions from construction equipment[1] and fugitive PM_{10} dust from construction site preparation activities. The primary emissions from operational activities include, but are not limited to NOx and CO combustion emissions from stationary sources and/or on-site mobile equipment. Some operational activities may also include fugitive PM_{10} dust generating activities such as aggregate operations or earthmoving activities at landfills. Off-site mobile emissions from the project should NOT be included in the emissions compared to the LSTs.

LSTs are derived using one of three methodologies depending upon the attainment status of the pollutant. For attainment pollutants, nitrogen dioxide (NO_2) and CO[2], the mass rate LSTs are derived using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any AAQS for a particular SRA. The most stringent standard for NO_2 is the 1-hour state standard of 25 parts per hundred million (pphm); and for CO it is the 1-hour and 8-hour state standards of nine parts per million (ppm) and 20 ppm, respectively.

LSTs are developed based upon the size or total area of the emissions source, the ambient air quality[3] in each source receptor area (SRA) in which the emission source is located, and the distance to the sensitive receptor. LSTs for NO_2 and CO are derived by adding the incremental emission impacts from the project activity to the peak background NO_2 and CO concentrations and comparing the total concentration to the most stringent ambient air quality standards. Background criteria pollutant concentrations are represented by the highest measured pollutant concentration in the last three years at the air quality monitoring station nearest to the proposed project site.

Construction PM_{10} LSTs are developed using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 micrograms per cubic meter (mg/m^3) averaged over five hours, which is the control requirement in Rule 403. The equivalent concentration for developing PM_{10} LSTs is 10.4 mg/m3, which is a 24- hour average.

Operation PM_{10} LSTs are derived using an air quality dispersion model to back-calculate the emissions necessary to make an existing violation in the specific SRA worse, using the allowable change in concentration thresholds in Table A-2 in Rule 1303. For PM_{10} the allowable change in concentration thresholds is 2.5 mg/m^3. These levels represent measurable impacts taking into account modeling sensitivity."

From the SCAQMD methodology - Methodology: "Two distinct modeling approaches were used to develop the mass rate LSTs for the gaseous pollutants (i.e., NO_2 and CO) and particulate matter (i.e., PM_{10} and $PM_{2.5}$). A U.S. Environmental Protection Agency (EPA)-approved dispersion model was used for NO_2 and CO. For PM_{10} and $PM_{2.5}$, a combination of a U.S. EPA-approved dispersion model and an empirical

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1 Construction equipment also emits PM_{10}, but for simplicity these emissions should be combined with the fugitive PM_{10} dust when using the LST procedures provided below.

2 Although the district has not been designated as in attainment with the CO ambient air quality standards, it has not exceeded any CO ambient air quality standards for the last two years. Therefore, for developing LSTs, the attainment pollutant approach is applicable.

3 Ambient air quality information is based on the pollutant concentrations measured at the SCAQMD's monitoring stations in or near the specified SRA.

equation, developed by Desert Research Institute (DRI)[4] were used to describe concentration changes as a function of downwind distance.

NO_2 and CO

The U.S. EPA approved air quality model called AMS/EPA Regulatory Model (AERMOD) was used to develop the mass rate LSTs discussed here for NO_2 and CO. The model was applied using hourly meteorological data from district monitoring stations. Important model options employed include: urban dispersion parameters (i.e., URBAN). All other model options assumed the model default values.

NO_2-TO-NO_X RATIO

Combustion processes occurring from equipment yield NO_X emissions. The two principal NO_X species are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_X emissions being comprised of NO. Adverse health effects are associated with NO_2, not NO. NO is converted to NO_2 by several processes, the two most important of these are (1) the reaction of NO with ozone and (2) the photochemical reaction of NO with hydrocarbon radical species. Destruction of NO_2 occurs with its photodissociation into NO and molecular oxygen.

NO_X emissions are simulated in the air quality dispersion model and the NO_2 conversion rate is treated by an NO_2-to- NO_X ratio, which is a function of downwind distance. Initially, it is assumed that only five percent of the emitted NO_X is NO_2. At 5,000 meters downwind, 100 percent conversion of NO-to- NO_2 is assumed. The assumed NO_2-to- NO_X ratios between those distances are presented in Figure 2-5. The NO_2conversion rates are adapted from work by Arellano et al.[5].

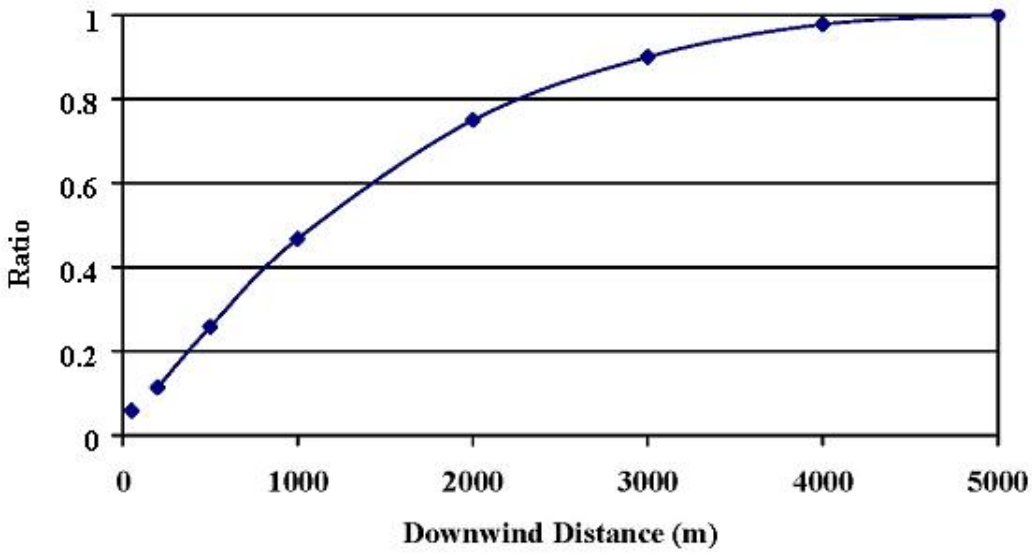

Figure 2-5. NO2-to-NOx Ratio as a Function of Downwind Distance

PM_{10} and $PM_{2.5}$

For PM_{10} and $PM_{2.5}$, AERMOD was used to estimate PM_{10} and $PM_{2.5}$ concentrations at the boundary of the construction area and at receptors surrounding the site in a rectangular grid. Since fugitive dust consists of a significant fraction of large particles greater than 10 microns, plume depletion due to dry removal mechanisms was assumed (i.e., DDEP). The fugitive PM_{10} and $PM_{2.5}$ emissions are separated into the three

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4 Desert Research Institute, 1996.

5 Arellano, J.V., A.M. Talmon, and P.J.H. Builtjes, 1990.

particle sizes of less than one micron (mm), 1.0 to 2.5 mm, and 2.5 to 10 mm in aerodynamic diameter, which have the assumed weight fractions of 7.87, 12.92, and 79.22 percent, respectively. The particle density for all three size bins is 2.3 grams per cubic centimeter.

For downwind distances from the boundary of the construction area to 100 meters, the following equation was used to describe the change in PM_{10} and $PM_{2.5}$ concentration versus downwind distance:

$$C_X = 0.9403\ C_O\ e^{-0.0462\ x}$$

Where: C_X is the predicted PM_{10} or $PM_{2.5}$ concentration at x meters from the fence line;
C_O is the PM_{10} or $PM_{2.5}$ concentration at the fence line as estimated by AERMOD;
e is the natural logarithm; and
x is the distance in meters from the fence line.

The equation above was developed from the 1996 DRI study of fugitive dust control measures for unpaved roads. Concentrations are linearly interpolated between the two approaches for downwind distances from 100 to 500 meters.

Source Treatment
Exhaust emissions from construction equipment are treated as a set of side-by-side elevated volume sources. The release height is assumed to be five meters. This represents the mid-range of the expected plume rise from frequently used construction equipment during daytime atmospheric conditions. All construction exhaust emissions are assumed to take place over the eight-hour period between 8 a.m. to 4 p.m.

Fugitive dust emissions are treated as a ground-based square area source with the dimension of the acreage analyzed. For example, the one-acre construction site is 63.6 meters on a side and the five-acre construction site is 142.2 meters on a side. An initial vertical dimension of one meter is assumed to represent the initial vertical spread of the emissions. Based on this assumption, the initial vertical dimension resulted in a vertical concentration profile that closely matched the vertical profile observed by DRI (1996). As with the construction equipment, all the fugitive dust emissions are assumed to be emitted over the eight-hour period, 8 a.m. to 4 p.m."

For this project, the construction gaseous emissions were modeled as a set of 16 side-by-side elevated volume sources, arranged to match a single 21-acre area source used to model the fugitive dust. These were both selected assuming that 21 acres is the largest area operated on in any one day of construction. A rectangular grid of 558 receptors was generated to define the property line and to characterize the surrounding concentrations in all directions. It was noted that receptors within the grid adequately characterized all identified sensitive receptors in the project vicinity. The AERMOD modeling was conducted using the SCAQMD-supplied met-set for the Mission Viejo area, which covers from 2005 thru 2007 (three years).

For all analyses above, a unit emissions rate was specified. Once all AERMOD modeling was completed, actual emissions rates were used, as shown in the following worksheets, to derive the concentrations of each of the pollutants of interest.

Table 1: Ambient Pollutant Concentrations Measured at the Mission Viejo and Costa Mesa Air Monitoring Stations

Pollutant	Standard	2006	2007	2008
CO	Maximum 1-hr concentration (ppm)	1.9	2..9	1.5
CO	Maximum 8-hr concentration (ppm)	1.6	2.2	1.1
NO_2	Maximum 1-hr concentration (ppm)	0.101	0.074	0.081

MW	
CO	28
NO_2	46

Ambient Pressure (mb)	Ambient Temp (k)
1013.25	293.15

Table 2: Daily Construction Emission Rates from the URBEMIS 2007 Modeling

Source	Emission Rate (lb/day)					
			PM_{10}		$PM_{2.5}$	
	NO_X	**CO**	**Exhaust**	**Fugitive**	**Exhaust**	**Fugitive**
Construction Emissions						
Construction Exhaust and Fugitive Dust	**78.36**	**92.24**	**3.96**	**74.27**	**3.64**	**15.51**

Table 3: Construction-Related Pollutant Concentrations

Distance (m)	Unitized NO_X/CO 1-Hr conc. ug/m^3	1-Hr Concentrations NO_2 [1] µg/m^3 at 78 lb/day	CO µg/m^3 at 92 lb/day	Unitized CO 8-Hr conc. ug/m^3	8-Hr Conc. CO µg/m^3 at 92 lb/day	Unitized PM_{10} 24-Hr conc. ug/m^3	24-Hr Conc. PM_{10} µg/m^3 at 74.3 lb/day	Unitized $PM_{2.5}$ 24-Hr conc. ug/m^3	24-Hr Conc. $PM_{2.5}$ µg/m^3 at 3.6 lb/day
30	3,154	13.37898533	286.3421984	409.43515	37.17538024	21.74752	48.42231047	242.95258	10.74536681

[1] NOx concentration includes the NO_2 to NOx ratio (Final Localized Significance Threshold Methodology, page 2-8)

NO2/NOx Ratio for 30 meter distance: 0.055

PM2.5 fraction of PM10	
Fugitive Dust	**0.208**

Note: Assumes construction equipment operates 8 hours per day.

Note: Number of AERMOD area sources used for fugitive PM_{10} modeling: 1

Note: Number of AERMOD volume sources used for exhaust modeling: 16

Conc. (µg/m^3) = Conc. (ppm) x pressure (mb) / Temp (k) x molecular wt / 0.08314

Final Localized Significance Threshold Methodology, Table 2-4, page 2-9

NO2-to-NOX Ratio as a Function of Downwind Distance

Downwind Distance (m)	NO2/NOx Ratio
20	0.053
50	0.059
70	0.064
100	0.074
200	0.114
500	0.258
1000	0.467
2000	0.75
3000	0.9
4000	0.978
5000	1

Table __: Construction Localized Significance Modeling Results

Pollutant	AAQS	Concentration	Threshold	Concentration	)	Concentratio
CO (1-Hour)	20 ppm	1.9 ppm	18.1 ppm	0.25 ppm	(17.85 ppm)	No
CO (8-Hour)	9 ppm	2.2 ppm	6.8 ppm	0.032 ppm	(6.768 ppm)	No
NO_2 (1-hour)	0.18 ppm	0.1 ppm	0.08 ppm	0.007 ppm	(0.073 ppm)	No
PM_{10} (24-hour)[a]			10.4 µg/m3	48.4 µg/m3	38 µg/m3	Yes
$PM_{2.5}$ (24-hour)[a]			10.4 µg/m3	10.7 µg/m3	0.3 µg/m3	Yes

Source : LSA Associates, Inc. December 2009.

a) Since both PM_{10} and $PM_{2.5}$ are in non-attainment, the thresholds are not based on AAQS exceedance, but rather a viola

AAQS = ambient air quality standards

µg/m^3 = microgram of pollutant per cubic meter of air

CO = carbon monoxide

NO_2 = nitrogen dioxide

$PM_{2.5}$ = particulate matter less than 2.5 microns in

PM_{10} = particulate matter less than 10 microns in s

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.
**Model Is Setup For Calculation of Dry DEPosition Values.

-- DEPOSITION LOGIC --
**Model Uses DRY DEPLETION. DDPLETE = T
**Model Uses WET DEPLETION. WDPLETE = T
**NO GAS DRY DEPOSITION Data Provided.

**Model Uses URBAN Dispersion Algorithm for the SBL for 1 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 2000000.0 ; Urban Roughness Length = 0.350 m

**Model Uses User-Specified Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.

**Other Options Specified:
TOXICS - Allows use of TOXICS option enhancements.

**Model Accepts FLAGPOLE Receptor Heights.

**Model Calculates 1 Short Term Average(s) of: 24-HR
and Calculates ANNUAL Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 558 Receptor(s)

**The Model Assumes A Pollutant Type of: PM

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 170.08 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**MODELOPTs:
CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** AREA SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	COORD (SW CORNER) X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	X-DIM OF AREA (METERS)	Y-DIM OF AREA (METERS)	ORIENT. OF AREA (DEG.)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AREA1	3	0.11770E-04	436644.1	3724103.8	187.6	1.00	291.50	291.50	0.00	1.00	YES	HROFDY

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	AREA1 ,□

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** SOURCE PARTICULATE/GAS DATA ***

*** SOURCE ID = AREA1 ; SOURCE TYPE = AREA ***

MASS FRACTION =
0.07870, 0.12920, 0.79220,

PARTICLE DIAMETER (MICRONS) =
1.00000, 2.50000, 10.00000,

PARTICLE DENSITY (G/CM**3) =
2.30000, 2.30000, 2.30000, □

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

SOURCE ID = AREA1 ; SOURCE TYPE = AREA :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436244.3,	3723773.8,	155.7,	155.7,	2.0);	(436294.3,	3723773.8,	156.7,	156.7,	2.0);
(	436344.3,	3723773.8,	155.4,	159.0,	2.0);	(436394.3,	3723773.8,	152.3,	232.0,	2.0);
(	436444.3,	3723773.8,	150.6,	233.0,	2.0);	(436494.3,	3723773.8,	150.0,	233.0,	2.0);
(	436544.3,	3723773.8,	148.4,	233.0,	2.0);	(436594.3,	3723773.8,	148.3,	233.0,	2.0);
(	436644.3,	3723773.8,	151.7,	233.0,	2.0);	(436694.3,	3723773.8,	154.6,	233.0,	2.0);
(	436744.3,	3723773.8,	156.5,	238.0,	2.0);	(436794.3,	3723773.8,	159.6,	238.0,	2.0);
(	436844.3,	3723773.8,	162.7,	238.0,	2.0);	(436894.3,	3723773.8,	168.3,	238.0,	2.0);
(	436944.3,	3723773.8,	179.3,	233.0,	2.0);	(436994.3,	3723773.8,	194.5,	233.0,	2.0);
(	437044.3,	3723773.8,	212.4,	233.0,	2.0);	(437094.3,	3723773.8,	224.8,	224.8,	2.0);
(	437144.3,	3723773.8,	220.7,	225.0,	2.0);	(437194.3,	3723773.8,	216.3,	233.0,	2.0);
(	437244.3,	3723773.8,	217.2,	233.0,	2.0);	(437294.3,	3723773.8,	219.7,	233.0,	2.0);
(	437344.3,	3723773.8,	222.8,	232.0,	2.0);	(437394.3,	3723773.8,	218.9,	233.0,	2.0);
(	437444.3,	3723773.8,	212.1,	233.0,	2.0);	(436244.3,	3723823.8,	158.1,	158.1,	2.0);
(	436294.3,	3723823.8,	159.0,	159.0,	2.0);	(436344.3,	3723823.8,	158.9,	158.9,	2.0);
(	436394.3,	3723823.8,	156.4,	226.0,	2.0);	(436444.3,	3723823.8,	154.0,	233.0,	2.0);
(	436494.3,	3723823.8,	152.9,	233.0,	2.0);	(436544.3,	3723823.8,	151.7,	233.0,	2.0);
(	436594.3,	3723823.8,	150.9,	233.0,	2.0);	(436644.3,	3723823.8,	151.0,	233.0,	2.0);
(	436694.3,	3723823.8,	152.1,	238.0,	2.0);	(436744.3,	3723823.8,	153.8,	238.0,	2.0);
(	436794.3,	3723823.8,	156.2,	238.0,	2.0);	(436844.3,	3723823.8,	158.7,	238.0,	2.0);
(	436894.3,	3723823.8,	163.9,	238.0,	2.0);	(436944.3,	3723823.8,	171.3,	238.0,	2.0);
(	436994.3,	3723823.8,	177.4,	238.0,	2.0);	(437044.3,	3723823.8,	196.1,	233.0,	2.0);
(	437094.3,	3723823.8,	219.9,	233.0,	2.0);	(437144.3,	3723823.8,	224.6,	233.0,	2.0);
(	437194.3,	3723823.8,	223.6,	233.0,	2.0);	(437244.3,	3723823.8,	224.1,	233.0,	2.0);
(	437294.3,	3723823.8,	227.1,	232.0,	2.0);	(437344.3,	3723823.8,	228.1,	228.1,	2.0);
(	437394.3,	3723823.8,	223.4,	232.0,	2.0);	(437444.3,	3723823.8,	217.2,	233.0,	2.0);
(	436244.3,	3723873.8,	158.6,	158.6,	2.0);	(436294.3,	3723873.8,	159.5,	159.5,	2.0);
(	436344.3,	3723873.8,	159.8,	159.8,	2.0);	(436394.3,	3723873.8,	158.5,	158.5,	2.0);
(	436444.3,	3723873.8,	157.4,	233.0,	2.0);	(436494.3,	3723873.8,	156.8,	233.0,	2.0);
(	436544.3,	3723873.8,	155.7,	233.0,	2.0);	(436594.3,	3723873.8,	154.8,	233.0,	2.0);
(	436644.3,	3723873.8,	155.1,	233.0,	2.0);	(436694.3,	3723873.8,	154.8,	238.0,	2.0);
(	436744.3,	3723873.8,	153.4,	238.0,	2.0);	(436794.3,	3723873.8,	153.0,	238.0,	2.0);
(	436844.3,	3723873.8,	157.8,	238.0,	2.0);	(436894.3,	3723873.8,	161.0,	238.0,	2.0);
(	436944.3,	3723873.8,	165.3,	238.0,	2.0);	(436994.3,	3723873.8,	172.6,	238.0,	2.0);
(	437044.3,	3723873.8,	182.1,	238.0,	2.0);	(437094.3,	3723873.8,	203.8,	233.0,	2.0);
(	437144.3,	3723873.8,	226.4,	233.0,	2.0);	(437194.3,	3723873.8,	231.2,	233.0,	2.0);
(	437244.3,	3723873.8,	232.0,	232.0,	2.0);	(437294.3,	3723873.8,	230.6,	230.6,	2.0);
(	437344.3,	3723873.8,	230.9,	230.9,	2.0);	(437394.3,	3723873.8,	225.1,	233.0,	2.0);
(	437444.3,	3723873.8,	218.0,	233.0,	2.0);	(436244.3,	3723923.8,	159.2,	159.2,	2.0);
(	436294.3,	3723923.8,	160.0,	160.0,	2.0);	(436344.3,	3723923.8,	160.2,	160.2,	2.0);
(	436394.3,	3723923.8,	159.7,	202.0,	2.0);	(436444.3,	3723923.8,	158.4,	232.0,	2.0);
(	436494.3,	3723923.8,	160.4,	233.0,	2.0);	(436544.3,	3723923.8,	159.1,	233.0,	2.0);
(	436594.3,	3723923.8,	159.5,	233.0,	2.0);	(436644.3,	3723923.8,	160.9,	233.0,	2.0);
(	436694.3,	3723923.8,	161.7,	233.0,	2.0);	(436744.3,	3723923.8,	160.8,	238.0,	2.0);
(	436794.3,	3723923.8,	160.9,	238.0,	2.0);	(436844.3,	3723923.8,	157.3,	238.0,	2.0);
(	436944.3,	3723923.8,	163.2,	238.0,	2.0);	(436994.3,	3723923.8,	168.7,	238.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	437044.3,	3723923.8,	176.6,	238.0,	2.0);	(437094.3,	3723923.8,	188.6,	238.0,	2.0);
(	437144.3,	3723923.8,	210.2,	233.0,	2.0);	(437194.3,	3723923.8,	227.1,	233.0,	2.0);
(	437244.3,	3723923.8,	221.6,	233.0,	2.0);	(437294.3,	3723923.8,	213.4,	233.0,	2.0);
(	437344.3,	3723923.8,	226.4,	233.0,	2.0);	(437394.3,	3723923.8,	223.9,	233.0,	2.0);
(	437444.3,	3723923.8,	220.1,	231.0,	2.0);	(436244.3,	3723973.8,	159.2,	159.2,	2.0);
(	436294.3,	3723973.8,	160.0,	160.0,	2.0);	(436344.3,	3723973.8,	161.4,	202.0,	2.0);
(	436394.3,	3723973.8,	161.7,	203.0,	2.0);	(436444.3,	3723973.8,	162.4,	203.0,	2.0);
(	436494.3,	3723973.8,	163.8,	232.0,	2.0);	(436544.3,	3723973.8,	162.8,	233.0,	2.0);
(	436594.3,	3723973.8,	163.6,	233.0,	2.0);	(436644.3,	3723973.8,	167.6,	233.0,	2.0);
(	436694.3,	3723973.8,	167.4,	233.0,	2.0);	(436744.3,	3723973.8,	167.3,	233.0,	2.0);
(	436794.3,	3723973.8,	167.8,	238.0,	2.0);	(436844.3,	3723973.8,	163.1,	238.0,	2.0);
(	436994.3,	3723973.8,	168.5,	238.0,	2.0);	(437044.3,	3723973.8,	174.4,	238.0,	2.0);
(	437094.3,	3723973.8,	180.8,	238.0,	2.0);	(437144.3,	3723973.8,	196.4,	238.0,	2.0);
(	437194.3,	3723973.8,	209.2,	233.0,	2.0);	(437244.3,	3723973.8,	206.3,	238.0,	2.0);
(	437294.3,	3723973.8,	197.9,	238.0,	2.0);	(437344.3,	3723973.8,	211.3,	238.0,	2.0);
(	437394.3,	3723973.8,	210.0,	238.0,	2.0);	(437444.3,	3723973.8,	206.4,	238.0,	2.0);
(	436244.3,	3724023.8,	158.7,	158.7,	2.0);	(436294.3,	3724023.8,	160.9,	202.0,	2.0);
(	436344.3,	3724023.8,	163.1,	202.0,	2.0);	(436394.3,	3724023.8,	163.7,	203.0,	2.0);
(	436444.3,	3724023.8,	164.5,	203.0,	2.0);	(436494.3,	3724023.8,	167.7,	203.0,	2.0);
(	436544.3,	3724023.8,	168.3,	203.0,	2.0);	(436594.3,	3724023.8,	170.7,	233.0,	2.0);
(	436644.3,	3724023.8,	175.1,	233.0,	2.0);	(436694.3,	3724023.8,	174.2,	233.0,	2.0);
(	436744.3,	3724023.8,	175.6,	233.0,	2.0);	(436794.3,	3724023.8,	175.2,	233.0,	2.0);
(	436844.3,	3724023.8,	168.8,	238.0,	2.0);	(437044.3,	3724023.8,	173.1,	238.0,	2.0);
(	437094.3,	3724023.8,	178.9,	238.0,	2.0);	(437144.3,	3724023.8,	185.8,	238.0,	2.0);
(	437194.3,	3724023.8,	191.9,	238.0,	2.0);	(437244.3,	3724023.8,	191.8,	238.0,	2.0);
(	437294.3,	3724023.8,	192.1,	238.0,	2.0);	(437344.3,	3724023.8,	197.6,	238.0,	2.0);
(	437394.3,	3724023.8,	193.4,	238.0,	2.0);	(437444.3,	3724023.8,	199.7,	238.0,	2.0);
(	436244.3,	3724073.8,	160.2,	202.0,	2.0);	(436294.3,	3724073.8,	161.8,	203.0,	2.0);
(	436344.3,	3724073.8,	164.6,	203.0,	2.0);	(436394.3,	3724073.8,	167.9,	203.0,	2.0);
(	436444.3,	3724073.8,	168.8,	203.0,	2.0);	(436494.3,	3724073.8,	171.6,	203.0,	2.0);
(	436544.3,	3724073.8,	174.1,	203.0,	2.0);	(436594.3,	3724073.8,	177.8,	203.0,	2.0);
(	436644.3,	3724073.8,	182.5,	197.0,	2.0);	(437044.3,	3724073.8,	172.6,	238.0,	2.0);
(	437094.3,	3724073.8,	176.9,	238.0,	2.0);	(437144.3,	3724073.8,	179.9,	238.0,	2.0);
(	437194.3,	3724073.8,	182.6,	238.0,	2.0);	(437244.3,	3724073.8,	185.0,	238.0,	2.0);
(	437294.3,	3724073.8,	188.2,	238.0,	2.0);	(437344.3,	3724073.8,	191.4,	238.0,	2.0);
(	437394.3,	3724073.8,	197.8,	238.0,	2.0);	(437444.3,	3724073.8,	214.9,	238.0,	2.0);
(	436244.3,	3724123.8,	160.6,	202.0,	2.0);	(436294.3,	3724123.8,	161.5,	203.0,	2.0);
(	436344.3,	3724123.8,	165.9,	203.0,	2.0);	(436394.3,	3724123.8,	171.2,	203.0,	2.0);
(	436444.3,	3724123.8,	173.6,	203.0,	2.0);	(436494.3,	3724123.8,	175.8,	203.0,	2.0);
(	436544.3,	3724123.8,	180.0,	203.0,	2.0);	(436594.3,	3724123.8,	184.2,	203.0,	2.0);
(	437044.3,	3724123.8,	172.7,	238.0,	2.0);	(437094.3,	3724123.8,	175.1,	238.0,	2.0);
(	437144.3,	3724123.8,	177.6,	238.0,	2.0);	(437194.3,	3724123.8,	181.7,	238.0,	2.0);
(	437244.3,	3724123.8,	186.4,	238.0,	2.0);	(437294.3,	3724123.8,	191.2,	238.0,	2.0);
(	437344.3,	3724123.8,	198.5,	238.0,	2.0);	(437394.3,	3724123.8,	214.0,	238.0,	2.0);
(	437444.3,	3724123.8,	228.7,	238.0,	2.0);	(436244.3,	3724173.8,	154.6,	204.0,	2.0);

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436294.3,	3724173.8,	160.3,	204.0,	2.0);	(436344.3,	3724173.8,	167.0,	204.0,	2.0);
(	436394.3,	3724173.8,	172.4,	203.0,	2.0);	(436444.3,	3724173.8,	176.7,	203.0,	2.0);
(	436494.3,	3724173.8,	180.1,	203.0,	2.0);	(436544.3,	3724173.8,	183.6,	203.0,	2.0);
(	437094.3,	3724173.8,	175.3,	238.0,	2.0);	(437144.3,	3724173.8,	177.8,	238.0,	2.0);
(	437194.3,	3724173.8,	181.1,	238.0,	2.0);	(437244.3,	3724173.8,	186.9,	238.0,	2.0);
(	437294.3,	3724173.8,	200.6,	238.0,	2.0);	(437344.3,	3724173.8,	212.2,	238.0,	2.0);
(	437394.3,	3724173.8,	223.4,	238.0,	2.0);	(437444.3,	3724173.8,	228.7,	238.0,	2.0);
(	436244.3,	3724223.8,	159.7,	204.0,	2.0);	(436294.3,	3724223.8,	160.9,	204.0,	2.0);
(	436344.3,	3724223.8,	165.7,	204.0,	2.0);	(436394.3,	3724223.8,	171.4,	204.0,	2.0);
(	436444.3,	3724223.8,	177.0,	204.0,	2.0);	(436494.3,	3724223.8,	182.6,	203.0,	2.0);
(	436544.3,	3724223.8,	187.2,	203.0,	2.0);	(437094.3,	3724223.8,	176.7,	238.0,	2.0);
(	437144.3,	3724223.8,	178.5,	238.0,	2.0);	(437194.3,	3724223.8,	181.0,	238.0,	2.0);
(	437244.3,	3724223.8,	184.9,	238.0,	2.0);	(437294.3,	3724223.8,	192.6,	238.0,	2.0);
(	437344.3,	3724223.8,	203.0,	238.0,	2.0);	(437394.3,	3724223.8,	208.1,	238.0,	2.0);
(	437444.3,	3724223.8,	217.0,	238.0,	2.0);	(436244.3,	3724273.8,	170.1,	178.0,	2.0);
(	436294.3,	3724273.8,	164.5,	204.0,	2.0);	(436344.3,	3724273.8,	163.0,	214.0,	2.0);
(	436394.3,	3724273.8,	169.6,	208.0,	2.0);	(436444.3,	3724273.8,	175.5,	204.0,	2.0);
(	436494.3,	3724273.8,	183.0,	204.0,	2.0);	(436544.3,	3724273.8,	188.8,	204.0,	2.0);
(	437094.3,	3724273.8,	176.1,	238.0,	2.0);	(437144.3,	3724273.8,	178.4,	238.0,	2.0);
(	437194.3,	3724273.8,	181.6,	238.0,	2.0);	(437244.3,	3724273.8,	185.4,	238.0,	2.0);
(	437294.3,	3724273.8,	190.1,	238.0,	2.0);	(437344.3,	3724273.8,	194.5,	238.0,	2.0);
(	437394.3,	3724273.8,	198.8,	238.0,	2.0);	(437444.3,	3724273.8,	211.7,	238.0,	2.0);
(	436244.3,	3724323.8,	176.1,	176.1,	2.0);	(436294.3,	3724323.8,	172.1,	179.0,	2.0);
(	436344.3,	3724323.8,	165.2,	214.0,	2.0);	(436394.3,	3724323.8,	167.9,	214.0,	2.0);
(	436444.3,	3724323.8,	173.8,	214.0,	2.0);	(436494.3,	3724323.8,	180.9,	207.0,	2.0);
(	436544.3,	3724323.8,	188.3,	204.0,	2.0);	(436594.3,	3724323.8,	198.6,	203.0,	2.0);
(	437094.3,	3724323.8,	176.9,	238.0,	2.0);	(437144.3,	3724323.8,	179.4,	238.0,	2.0);
(	437194.3,	3724323.8,	181.8,	238.0,	2.0);	(437244.3,	3724323.8,	184.2,	238.0,	2.0);
(	437294.3,	3724323.8,	188.6,	238.0,	2.0);	(437344.3,	3724323.8,	200.6,	238.0,	2.0);
(	437394.3,	3724323.8,	213.8,	238.0,	2.0);	(437444.3,	3724323.8,	222.7,	233.0,	2.0);
(	436244.3,	3724373.8,	179.1,	179.1,	2.0);	(436294.3,	3724373.8,	175.0,	179.0,	2.0);
(	436344.3,	3724373.8,	168.5,	214.0,	2.0);	(436394.3,	3724373.8,	169.7,	215.0,	2.0);
(	436444.3,	3724373.8,	173.6,	215.0,	2.0);	(436494.3,	3724373.8,	179.6,	214.0,	2.0);
(	436544.3,	3724373.8,	187.8,	207.0,	2.0);	(436594.3,	3724373.8,	198.0,	204.0,	2.0);
(	437144.3,	3724373.8,	182.4,	238.0,	2.0);	(437194.3,	3724373.8,	183.2,	238.0,	2.0);
(	437244.3,	3724373.8,	184.5,	238.0,	2.0);	(437294.3,	3724373.8,	186.9,	238.0,	2.0);
(	437344.3,	3724373.8,	188.6,	238.0,	2.0);	(437394.3,	3724373.8,	198.2,	238.0,	2.0);
(	437444.3,	3724373.8,	208.6,	238.0,	2.0);	(436244.3,	3724423.8,	175.7,	180.0,	2.0);
(	436294.3,	3724423.8,	170.6,	183.0,	2.0);	(436344.3,	3724423.8,	172.3,	214.0,	2.0);
(	436394.3,	3724423.8,	171.9,	215.0,	2.0);	(436444.3,	3724423.8,	174.4,	215.0,	2.0);
(	436494.3,	3724423.8,	179.4,	215.0,	2.0);	(436544.3,	3724423.8,	187.9,	212.0,	2.0);
(	436594.3,	3724423.8,	198.8,	204.0,	2.0);	(437194.3,	3724423.8,	184.0,	238.0,	2.0);
(	437244.3,	3724423.8,	185.4,	238.0,	2.0);	(437294.3,	3724423.8,	186.2,	238.0,	2.0);
(	437344.3,	3724423.8,	187.8,	238.0,	2.0);	(437394.3,	3724423.8,	188.6,	238.0,	2.0);
(	437444.3,	3724423.8,	204.3,	238.0,	2.0);	(436244.3,	3724473.8,	175.2,	175.2,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436294.3,	3724473.8,	173.3,	215.0,	2.0);	(	436344.3,	3724473.8,	178.1,	183.0,	2.0);
(	436394.3,	3724473.8,	177.1,	215.0,	2.0);	(	436444.3,	3724473.8,	175.2,	216.0,	2.0);
(	436494.3,	3724473.8,	179.1,	216.0,	2.0);	(	436544.3,	3724473.8,	186.6,	215.0,	2.0);
(	436594.3,	3724473.8,	196.6,	211.0,	2.0);	(	437194.3,	3724473.8,	183.8,	238.0,	2.0);
(	437244.3,	3724473.8,	185.5,	238.0,	2.0);	(	437294.3,	3724473.8,	186.2,	238.0,	2.0);
(	437344.3,	3724473.8,	187.5,	238.0,	2.0);	(	437394.3,	3724473.8,	188.3,	238.0,	2.0);
(	437444.3,	3724473.8,	196.2,	238.0,	2.0);	(	436244.3,	3724523.8,	177.1,	177.1,	2.0);
(	436294.3,	3724523.8,	176.0,	215.0,	2.0);	(	436344.3,	3724523.8,	181.5,	181.5,	2.0);
(	436394.3,	3724523.8,	183.0,	214.0,	2.0);	(	436444.3,	3724523.8,	176.9,	218.0,	2.0);
(	436494.3,	3724523.8,	179.6,	218.0,	2.0);	(	436544.3,	3724523.8,	184.6,	216.0,	2.0);
(	436594.3,	3724523.8,	194.2,	215.0,	2.0);	(	437244.3,	3724523.8,	185.0,	238.0,	2.0);
(	437294.3,	3724523.8,	187.4,	238.0,	2.0);	(	437344.3,	3724523.8,	188.2,	238.0,	2.0);
(	437394.3,	3724523.8,	189.7,	238.0,	2.0);	(	437444.3,	3724523.8,	193.0,	238.0,	2.0);
(	436244.3,	3724573.8,	178.8,	215.0,	2.0);	(	436294.3,	3724573.8,	177.1,	216.0,	2.0);
(	436344.3,	3724573.8,	182.4,	215.0,	2.0);	(	436394.3,	3724573.8,	185.6,	214.0,	2.0);
(	436444.3,	3724573.8,	182.8,	218.0,	2.0);	(	436494.3,	3724573.8,	182.3,	218.0,	2.0);
(	436544.3,	3724573.8,	185.4,	218.0,	2.0);	(	436594.3,	3724573.8,	191.4,	216.0,	2.0);
(	437244.3,	3724573.8,	185.4,	238.0,	2.0);	(	437294.3,	3724573.8,	188.1,	238.0,	2.0);
(	437344.3,	3724573.8,	189.7,	238.0,	2.0);	(	437394.3,	3724573.8,	190.5,	238.0,	2.0);
(	437444.3,	3724573.8,	192.2,	238.0,	2.0);	(	436244.3,	3724623.8,	180.4,	215.0,	2.0);
(	436294.3,	3724623.8,	181.7,	216.0,	2.0);	(	436344.3,	3724623.8,	184.3,	215.0,	2.0);
(	436394.3,	3724623.8,	189.1,	215.0,	2.0);	(	436444.3,	3724623.8,	186.6,	218.0,	2.0);
(	436494.3,	3724623.8,	183.0,	233.0,	2.0);	(	436544.3,	3724623.8,	187.1,	232.0,	2.0);
(	436594.3,	3724623.8,	196.1,	216.0,	2.0);	(	437244.3,	3724623.8,	186.8,	233.0,	2.0);
(	437294.3,	3724623.8,	189.6,	233.0,	2.0);	(	437344.3,	3724623.8,	190.0,	233.0,	2.0);
(	437394.3,	3724623.8,	191.5,	233.0,	2.0);	(	437444.3,	3724623.8,	192.7,	233.0,	2.0);
(	436244.3,	3724673.8,	183.7,	216.0,	2.0);	(	436294.3,	3724673.8,	183.5,	216.0,	2.0);
(	436344.3,	3724673.8,	186.6,	216.0,	2.0);	(	436394.3,	3724673.8,	191.6,	215.0,	2.0);
(	436444.3,	3724673.8,	191.0,	216.0,	2.0);	(	436494.3,	3724673.8,	184.5,	233.0,	2.0);
(	436544.3,	3724673.8,	186.7,	233.0,	2.0);	(	436594.3,	3724673.8,	195.8,	218.0,	2.0);
(	437194.3,	3724673.8,	186.7,	233.0,	2.0);	(	437244.3,	3724673.8,	187.2,	233.0,	2.0);
(	437294.3,	3724673.8,	188.9,	233.0,	2.0);	(	437344.3,	3724673.8,	189.8,	233.0,	2.0);
(	437394.3,	3724673.8,	191.4,	233.0,	2.0);	(	437444.3,	3724673.8,	193.2,	233.0,	2.0);
(	436244.3,	3724723.8,	188.8,	215.0,	2.0);	(	436294.3,	3724723.8,	190.5,	216.0,	2.0);
(	436344.3,	3724723.8,	188.4,	231.0,	2.0);	(	436394.3,	3724723.8,	195.2,	215.0,	2.0);
(	436444.3,	3724723.8,	194.5,	216.0,	2.0);	(	436494.3,	3724723.8,	186.0,	233.0,	2.0);
(	436544.3,	3724723.8,	188.5,	233.0,	2.0);	(	436594.3,	3724723.8,	198.2,	232.0,	2.0);
(	437144.3,	3724723.8,	195.5,	226.0,	2.0);	(	437194.3,	3724723.8,	194.4,	220.0,	2.0);
(	437244.3,	3724723.8,	188.4,	220.0,	2.0);	(	437294.3,	3724723.8,	189.7,	233.0,	2.0);
(	437344.3,	3724723.8,	189.0,	233.0,	2.0);	(	437394.3,	3724723.8,	191.0,	233.0,	2.0);
(	437444.3,	3724723.8,	193.2,	233.0,	2.0);	(	436244.3,	3724773.8,	190.9,	216.0,	2.0);
(	436294.3,	3724773.8,	196.0,	215.0,	2.0);	(	436344.3,	3724773.8,	192.4,	231.0,	2.0);
(	436394.3,	3724773.8,	201.0,	215.0,	2.0);	(	436444.3,	3724773.8,	201.6,	215.0,	2.0);
(	436494.3,	3724773.8,	191.3,	233.0,	2.0);	(	436544.3,	3724773.8,	189.3,	233.0,	2.0);
(	436594.3,	3724773.8,	199.8,	233.0,	2.0);	(	437094.3,	3724773.8,	192.4,	228.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	437144.3,	3724773.8,	195.6,	227.0,	2.0);	(437194.3,	3724773.8,	201.0,	201.0,	2.0);
(	437244.3,	3724773.8,	190.8,	220.0,	2.0);	(437294.3,	3724773.8,	190.2,	217.0,	2.0);
(	437344.3,	3724773.8,	190.2,	217.0,	2.0);	(437394.3,	3724773.8,	192.1,	192.1,	2.0);
(	437444.3,	3724773.8,	194.0,	194.0,	2.0);	(436244.3,	3724823.8,	189.6,	216.0,	2.0);
(	436294.3,	3724823.8,	198.6,	216.0,	2.0);	(436344.3,	3724823.8,	200.6,	216.0,	2.0);
(	436394.3,	3724823.8,	207.6,	215.0,	2.0);	(436444.3,	3724823.8,	206.4,	215.0,	2.0);
(	436494.3,	3724823.8,	193.3,	233.0,	2.0);	(436544.3,	3724823.8,	192.9,	233.0,	2.0);
(	436594.3,	3724823.8,	200.8,	233.0,	2.0);	(437094.3,	3724823.8,	193.0,	228.0,	2.0);
(	437144.3,	3724823.8,	195.5,	228.0,	2.0);	(437194.3,	3724823.8,	204.5,	210.0,	2.0);
(	437244.3,	3724823.8,	196.2,	217.0,	2.0);	(437294.3,	3724823.8,	189.2,	220.0,	2.0);
(	437344.3,	3724823.8,	191.0,	220.0,	2.0);	(437394.3,	3724823.8,	193.6,	216.0,	2.0);
(	437444.3,	3724823.8,	194.4,	194.4,	2.0);	(436244.3,	3724873.8,	183.9,	233.0,	2.0);
(	436294.3,	3724873.8,	193.4,	232.0,	2.0);	(436344.3,	3724873.8,	209.1,	215.0,	2.0);
(	436394.3,	3724873.8,	212.6,	215.0,	2.0);	(436444.3,	3724873.8,	199.6,	233.0,	2.0);
(	436494.3,	3724873.8,	194.9,	233.0,	2.0);	(436544.3,	3724873.8,	196.8,	233.0,	2.0);
(	436594.3,	3724873.8,	199.4,	233.0,	2.0);	(437044.3,	3724873.8,	199.9,	228.0,	2.0);
(	437094.3,	3724873.8,	196.8,	228.0,	2.0);	(437144.3,	3724873.8,	196.1,	228.0,	2.0);
(	437194.3,	3724873.8,	208.4,	210.0,	2.0);	(437244.3,	3724873.8,	204.6,	217.0,	2.0);
(	437294.3,	3724873.8,	192.3,	220.0,	2.0);	(437344.3,	3724873.8,	191.6,	220.0,	2.0);
(	437394.3,	3724873.8,	194.4,	220.0,	2.0);	(437444.3,	3724873.8,	195.2,	195.2,	2.0);
(	436244.3,	3724923.8,	190.1,	233.0,	2.0);	(436294.3,	3724923.8,	193.0,	233.0,	2.0);
(	436344.3,	3724923.8,	200.5,	232.0,	2.0);	(436394.3,	3724923.8,	214.3,	214.3,	2.0);
(	436444.3,	3724923.8,	206.9,	233.0,	2.0);	(436494.3,	3724923.8,	199.2,	233.0,	2.0);
(	436544.3,	3724923.8,	203.1,	233.0,	2.0);	(436594.3,	3724923.8,	206.5,	233.0,	2.0);
(	436994.3,	3724923.8,	214.6,	227.0,	2.0);	(437044.3,	3724923.8,	209.4,	227.0,	2.0);
(	437094.3,	3724923.8,	199.3,	228.0,	2.0);	(437144.3,	3724923.8,	197.4,	228.0,	2.0);
(	437194.3,	3724923.8,	209.5,	216.0,	2.0);	(437244.3,	3724923.8,	210.8,	216.0,	2.0);
(	437294.3,	3724923.8,	199.8,	220.0,	2.0);	(437344.3,	3724923.8,	194.1,	220.0,	2.0);
(	437394.3,	3724923.8,	196.1,	220.0,	2.0);	(437444.3,	3724923.8,	198.4,	198.4,	2.0);
(	436244.3,	3724973.8,	183.9,	233.0,	2.0);	(436294.3,	3724973.8,	194.1,	233.0,	2.0);
(	436344.3,	3724973.8,	203.6,	231.0,	2.0);	(436394.3,	3724973.8,	213.2,	216.0,	2.0);
(	436444.3,	3724973.8,	211.8,	231.0,	2.0);	(436494.3,	3724973.8,	202.3,	233.0,	2.0);
(	436544.3,	3724973.8,	207.3,	233.0,	2.0);	(436594.3,	3724973.8,	217.7,	233.0,	2.0);
(	436944.3,	3724973.8,	220.4,	227.0,	2.0);	(436994.3,	3724973.8,	217.0,	226.0,	2.0);
(	437044.3,	3724973.8,	209.3,	228.0,	2.0);	(437094.3,	3724973.8,	198.8,	228.0,	2.0);
(	437144.3,	3724973.8,	198.0,	228.0,	2.0);	(437194.3,	3724973.8,	209.4,	219.0,	2.0);
(	437244.3,	3724973.8,	214.9,	214.9,	2.0);	(437294.3,	3724973.8,	205.0,	220.0,	2.0);
(	437344.3,	3724973.8,	194.5,	220.0,	2.0);	(437394.3,	3724973.8,	197.0,	220.0,	2.0);
(	437444.3,	3724973.8,	200.5,	200.5,	2.0);	(436244.3,	3725023.8,	183.8,	233.0,	2.0);
(	436294.3,	3725023.8,	193.1,	233.0,	2.0);	(436344.3,	3725023.8,	196.5,	233.0,	2.0);
(	436394.3,	3725023.8,	203.0,	233.0,	2.0);	(436444.3,	3725023.8,	214.1,	231.0,	2.0);
(	436494.3,	3725023.8,	211.0,	233.0,	2.0);	(436544.3,	3725023.8,	213.9,	233.0,	2.0);
(	436594.3,	3725023.8,	226.6,	232.0,	2.0);	(436844.3,	3725023.8,	227.8,	227.8,	2.0);
(	436894.3,	3725023.8,	226.3,	226.3,	2.0);	(436944.3,	3725023.8,	219.4,	228.0,	2.0);
(	436994.3,	3725023.8,	211.5,	228.0,	2.0);	(437044.3,	3725023.8,	205.6,	228.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	437094.3,	3725023.8,	199.4,	228.0,	2.0);	(437144.3,	3725023.8,	198.8,	228.0,	2.0);
(	437194.3,	3725023.8,	210.3,	220.0,	2.0);	(437244.3,	3725023.8,	216.5,	216.5,	2.0);
(	437294.3,	3725023.8,	207.8,	220.0,	2.0);	(437344.3,	3725023.8,	195.4,	220.0,	2.0);
(	437394.3,	3725023.8,	197.0,	220.0,	2.0);	(437444.3,	3725023.8,	200.4,	220.0,	2.0);
(	436244.3,	3725073.8,	179.4,	233.0,	2.0);	(436294.3,	3725073.8,	182.8,	233.0,	2.0);
(	436344.3,	3725073.8,	185.8,	233.0,	2.0);	(436394.3,	3725073.8,	194.9,	233.0,	2.0);
(	436444.3,	3725073.8,	202.5,	233.0,	2.0);	(436494.3,	3725073.8,	205.9,	233.0,	2.0);
(	436544.3,	3725073.8,	215.1,	233.0,	2.0);	(436594.3,	3725073.8,	228.4,	233.0,	2.0);
(	436644.3,	3725073.8,	231.4,	231.4,	2.0);	(436694.3,	3725073.8,	222.9,	233.0,	2.0);
(	436744.3,	3725073.8,	220.5,	233.0,	2.0);	(436794.3,	3725073.8,	226.3,	226.3,	2.0);
(	436844.3,	3725073.8,	226.4,	226.4,	2.0);	(436894.3,	3725073.8,	222.6,	228.0,	2.0);
(	436944.3,	3725073.8,	218.5,	228.0,	2.0);	(436994.3,	3725073.8,	215.1,	226.0,	2.0);
(	437044.3,	3725073.8,	210.7,	226.0,	2.0);	(437094.3,	3725073.8,	201.4,	228.0,	2.0);
(	437144.3,	3725073.8,	200.5,	226.0,	2.0);	(437194.3,	3725073.8,	212.2,	220.0,	2.0);
(	437244.3,	3725073.8,	219.4,	219.4,	2.0);	(437294.3,	3725073.8,	211.3,	220.0,	2.0);
(	437344.3,	3725073.8,	200.6,	220.0,	2.0);	(437394.3,	3725073.8,	197.4,	220.0,	2.0);
(	437444.3,	3725073.8,	199.2,	220.0,	2.0);	(436244.3,	3725123.8,	185.9,	233.0,	2.0);
(	436294.3,	3725123.8,	182.1,	233.0,	2.0);	(436344.3,	3725123.8,	184.0,	233.0,	2.0);
(	436394.3,	3725123.8,	187.2,	233.0,	2.0);	(436444.3,	3725123.8,	189.0,	233.0,	2.0);
(	436494.3,	3725123.8,	194.6,	233.0,	2.0);	(436544.3,	3725123.8,	203.2,	233.0,	2.0);
(	436594.3,	3725123.8,	216.1,	233.0,	2.0);	(436644.3,	3725123.8,	223.6,	233.0,	2.0);
(	436694.3,	3725123.8,	224.5,	233.0,	2.0);	(436744.3,	3725123.8,	225.8,	225.8,	2.0);
(	436794.3,	3725123.8,	222.3,	224.0,	2.0);	(436844.3,	3725123.8,	219.0,	228.0,	2.0);
(	436894.3,	3725123.8,	216.5,	228.0,	2.0);	(436944.3,	3725123.8,	213.1,	228.0,	2.0);
(	436994.3,	3725123.8,	211.2,	228.0,	2.0);	(437044.3,	3725123.8,	208.1,	226.0,	2.0);
(	437094.3,	3725123.8,	200.9,	228.0,	2.0);	(437144.3,	3725123.8,	203.1,	220.0,	2.0);
(	437194.3,	3725123.8,	213.5,	220.0,	2.0);	(437244.3,	3725123.8,	219.4,	219.4,	2.0);
(	437294.3,	3725123.8,	214.2,	220.0,	2.0);	(437344.3,	3725123.8,	207.7,	220.0,	2.0);
(	437394.3,	3725123.8,	200.4,	220.0,	2.0);	(437444.3,	3725123.8,	199.1,	220.0,	2.0);
(	436244.3,	3725173.8,	194.9,	209.0,	2.0);	(436294.3,	3725173.8,	189.9,	233.0,	2.0);
(	436344.3,	3725173.8,	187.8,	233.0,	2.0);	(436394.3,	3725173.8,	191.3,	233.0,	2.0);
(	436444.3,	3725173.8,	193.1,	233.0,	2.0);	(436494.3,	3725173.8,	197.1,	233.0,	2.0);
(	436544.3,	3725173.8,	200.5,	233.0,	2.0);	(436594.3,	3725173.8,	208.7,	233.0,	2.0);
(	436644.3,	3725173.8,	219.4,	233.0,	2.0);	(436694.3,	3725173.8,	225.9,	225.9,	2.0);
(	436744.3,	3725173.8,	224.4,	224.4,	2.0);	(436794.3,	3725173.8,	219.7,	225.0,	2.0);
(	436844.3,	3725173.8,	213.9,	228.0,	2.0);	(436894.3,	3725173.8,	212.1,	228.0,	2.0);
(	436944.3,	3725173.8,	208.7,	228.0,	2.0);	(436994.3,	3725173.8,	206.1,	228.0,	2.0);
(	437044.3,	3725173.8,	204.4,	228.0,	2.0);	(437094.3,	3725173.8,	200.5,	228.0,	2.0);
(	437144.3,	3725173.8,	202.7,	220.0,	2.0);	(437194.3,	3725173.8,	210.3,	220.0,	2.0);
(	437244.3,	3725173.8,	217.1,	217.1,	2.0);	(437294.3,	3725173.8,	215.8,	215.8,	2.0);
(	437344.3,	3725173.8,	212.2,	212.2,	2.0);	(437394.3,	3725173.8,	203.9,	220.0,	2.0);
(	437444.3,	3725173.8,	199.1,	220.0,	2.0);	(436244.3,	3725223.8,	202.4,	208.0,	2.0);
(	436294.3,	3725223.8,	197.7,	220.0,	2.0);	(436344.3,	3725223.8,	190.9,	233.0,	2.0);
(	436394.3,	3725223.8,	192.8,	233.0,	2.0);	(436444.3,	3725223.8,	200.6,	233.0,	2.0);
(	436494.3,	3725223.8,	206.2,	233.0,	2.0);	(436544.3,	3725223.8,	217.9,	227.0,	2.0);

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(436594.3,	3725223.8,	222.5,	227.0,	2.0);	(436644.3,	3725223.8,	226.7,	226.7,	2.0);
(436694.3,	3725223.8,	225.8,	225.8,	2.0);	(436744.3,	3725223.8,	223.0,	223.0,	2.0);
(436794.3,	3725223.8,	219.4,	219.4,	2.0);	(436844.3,	3725223.8,	216.7,	219.0,	2.0);
(436894.3,	3725223.8,	214.4,	220.0,	2.0);	(436944.3,	3725223.8,	211.3,	220.0,	2.0);
(436994.3,	3725223.8,	207.9,	207.9,	2.0);	(437044.3,	3725223.8,	204.9,	204.9,	2.0);
(437094.3,	3725223.8,	202.4,	218.0,	2.0);	(437144.3,	3725223.8,	201.9,	220.0,	2.0);
(437194.3,	3725223.8,	209.3,	220.0,	2.0);	(437244.3,	3725223.8,	214.3,	214.3,	2.0);
(437294.3,	3725223.8,	212.8,	212.8,	2.0);	(437344.3,	3725223.8,	208.9,	212.0,	2.0);
(437394.3,	3725223.8,	204.1,	220.0,	2.0);	(437444.3,	3725223.8,	200.0,	218.0,	2.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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METEOROLOGICAL DATA PROCESSED BETWEEN START DATE: 0   0 0 0
AND END DATE: 9999 99 99 24

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: msvj.SFC Met Version: 06341
Profile file: msvj.PFL
Surface format: (3(I2,1X),I3,1X,I2,1X,F6.1,1X,3(F6.3,1X),2(F5.0,1X),F8.1,1X,F6.3,1X,2(F6.2,1X),F7.2,1X,F5.0,3(1X,F6.1))
Profile format: (4(I2,1X),F6.1,1X,I1,1X,F5.0,1X,F7.2,1X,F7.2,1X,F6.1,1X,F7.2)
Surface station no.: 0 Upper air station no.: 3190
Name: MISSION_VIEJO_MET_STATION Name: UNKNOWN
Year: 2005 Year: 2005

First 24 hours of scalar data

YR	MO	DY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALB	REF WS	WD	HT	REF TA	HT	IPCOD	PRATE	RH	SFCP	CCVR
05	01	01	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	280.4	6.***	-9.00	999.	1013.		4
05	01	01	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.9	6.***	-9.00	999.	1013.		4
05	01	01	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.2	6.***	-9.00	999.	1013.		4
05	01	01	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.9	6.***	-9.00	999.	1013.		4
05	01	01	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.9	6.***	-9.00	999.	1013.		4
05	01	01	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.9	6.***	-9.00	999.	1013.		4
05	01	01	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.	279.9	6.***	-9.00	999.	1013.		4
05	01	01	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	0.53	999.00	999.	0.	280.9	6.***	-9.00	999.	1013.		10
05	01	01	09	34.0	-9.000	-9.000	-9.000	77.	-999.	-99999.0	0.35	1.00	0.31	999.00	999.	0.	283.1	6.***	-9.00	999.	1013.		4
05	01	01	10	80.2	-9.000	-9.000	-9.000	768.	-999.	-99999.0	0.35	1.00	0.24	999.00	999.	0.	287.0	6.***	-9.00	999.	1013.		5
05	01	01	11	113.2	-9.000	-9.000	-9.000	1010.	-999.	-99999.0	0.35	1.00	0.21	999.00	999.	0.	288.8	6.***	-9.00	999.	1013.		4
05	01	01	12	130.7	-9.000	-9.000	-9.000	1225.	-999.	-99999.0	0.35	1.00	0.20	999.00	999.	0.	289.2	6.***	-9.00	999.	1013.		3
05	01	01	13	111.8	0.295	1.568	0.009	1248.	368.	-20.7	0.35	1.00	0.20	1.90	201.	9.	287.5	6.***	-9.00	999.	1013.		6
05	01	01	14	36.0	0.268	1.077	0.009	1256.	319.	-48.1	0.35	1.00	0.21	1.90	207.	9.	286.4	6.***	-9.00	999.	1013.		10
05	01	01	15	32.9	0.178	1.047	0.009	1263.	175.	-15.4	0.35	1.00	0.25	1.10	274.	9.	286.4	6.***	-9.00	999.	1013.		9
05	01	01	16	16.9	0.211	0.840	0.009	1266.	222.	-49.8	0.35	1.00	0.33	1.50	217.	9.	286.4	6.***	-9.00	999.	1013.		8
05	01	01	17	-2.5	0.055	-9.000	-9.000	-999.	62.	6.2	0.35	1.00	0.61	0.90	211.	9.	285.9	6.***	-9.00	999.	1013.		0
05	01	01	18	-1.5	0.043	-9.000	-9.000	-999.	21.	4.7	0.35	1.00	1.00	0.70	108.	9.	283.1	6.***	-9.00	999.	1013.		4
05	01	01	19	-2.0	0.049	-9.000	-9.000	-999.	25.	5.4	0.35	1.00	1.00	0.80	94.	9.	282.0	6.***	-9.00	999.	1013.		4
05	01	01	20	-3.7	0.068	-9.000	-9.000	-999.	40.	7.4	0.35	1.00	1.00	1.10	45.	9.	280.9	6.***	-9.00	999.	1013.		4
05	01	01	21	-7.0	0.092	-9.000	-9.000	-999.	64.	10.1	0.35	1.00	1.00	1.50	26.	9.	280.9	6.***	-9.00	999.	1013.		4
05	01	01	22	-2.5	0.055	-9.000	-9.000	-999.	30.	6.1	0.35	1.00	1.00	0.90	57.	9.	280.4	6.***	-9.00	999.	1013.		4
05	01	01	23	-2.0	0.049	-9.000	-9.000	-999.	25.	5.4	0.35	1.00	1.00	0.80	46.	9.	280.4	6.***	-9.00	999.	1013.		4
05	01	01	24	-3.1	0.061	-9.000	-9.000	-999.	35.	6.7	0.35	1.00	1.00	1.00	54.	9.	279.9	6.***	-9.00	999.	1013.		4

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
05	01	01	01	5.5	0	-999.	-99.00	280.4	99.0	-99.00	-99.00
05	01	01	01	9.1	1	-999.	-99.00	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3723773.75	0.23875	436294.28	3723773.75	0.25602
436344.28	3723773.75	0.26931	436394.28	3723773.75	0.27717
436444.28	3723773.75	0.27678	436494.28	3723773.75	0.26440
436544.28	3723773.75	0.24033	436594.28	3723773.75	0.21086
436644.28	3723773.75	0.18094	436694.28	3723773.75	0.15342
436744.28	3723773.75	0.13271	436794.28	3723773.75	0.12464
436844.28	3723773.75	0.13103	436894.28	3723773.75	0.14932
436944.28	3723773.75	0.17214	436994.28	3723773.75	0.19155
437044.28	3723773.75	0.20630	437094.28	3723773.75	0.22504
437144.28	3723773.75	0.24109	437194.28	3723773.75	0.24618
437244.28	3723773.75	0.23994	437294.28	3723773.75	0.22550
437344.28	3723773.75	0.20629	437394.28	3723773.75	0.18578
437444.28	3723773.75	0.16599	436244.28	3723823.75	0.25710
436294.28	3723823.75	0.28265	436344.28	3723823.75	0.30589
436394.28	3723823.75	0.32388	436444.28	3723823.75	0.33407
436494.28	3723823.75	0.33053	436544.28	3723823.75	0.30904
436594.28	3723823.75	0.27589	436644.28	3723823.75	0.24000
436694.28	3723823.75	0.20577	436744.28	3723823.75	0.17804
436794.28	3723823.75	0.16636	436844.28	3723823.75	0.17772
436894.28	3723823.75	0.20890	436944.28	3723823.75	0.24570
436994.28	3723823.75	0.27412	437044.28	3723823.75	0.29049
437094.28	3723823.75	0.29872	437144.28	3723823.75	0.30439
437194.28	3723823.75	0.29733	437244.28	3723823.75	0.27745
437294.28	3723823.75	0.25041	437344.28	3723823.75	0.22219
437394.28	3723823.75	0.19555	437444.28	3723823.75	0.17111
436244.28	3723873.75	0.27291	436294.28	3723873.75	0.30638
436344.28	3723873.75	0.34126	436394.28	3723873.75	0.37384
436444.28	3723873.75	0.40021	436494.28	3723873.75	0.41310
436544.28	3723873.75	0.40254	436594.28	3723873.75	0.36890
436644.28	3723873.75	0.32807	436694.28	3723873.75	0.28754
436744.28	3723873.75	0.25186	436794.28	3723873.75	0.23622
436844.28	3723873.75	0.25809	436894.28	3723873.75	0.30564
436944.28	3723873.75	0.35834	436994.28	3723873.75	0.39671
437044.28	3723873.75	0.40937	437094.28	3723873.75	0.40380
437144.28	3723873.75	0.37848	437194.28	3723873.75	0.34703
437244.28	3723873.75	0.30952	437294.28	3723873.75	0.27095
437344.28	3723873.75	0.23390	437394.28	3723873.75	0.20153
437444.28	3723873.75	0.17329	436244.28	3723923.75	0.29019
436294.28	3723923.75	0.32957	436344.28	3723923.75	0.37510
436394.28	3723923.75	0.42500	436444.28	3723923.75	0.47425

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436494.28	3723923.75	0.51488	436544.28	3723923.75	0.52743
436594.28	3723923.75	0.50353	436644.28	3723923.75	0.46136
436694.28	3723923.75	0.42092	436744.28	3723923.75	0.38774
436794.28	3723923.75	0.38075	436844.28	3723923.75	0.40219
436944.28	3723923.75	0.52801	436994.28	3723923.75	0.57876
437044.28	3723923.75	0.58339	437094.28	3723923.75	0.53986
437144.28	3723923.75	0.47350	437194.28	3723923.75	0.39914
437244.28	3723923.75	0.34336	437294.28	3723923.75	0.29061
437344.28	3723923.75	0.24129	437394.28	3723923.75	0.20316
437444.28	3723923.75	0.17197	436244.28	3723973.75	0.30927
436294.28	3723973.75	0.35524	436344.28	3723973.75	0.41074
436394.28	3723973.75	0.47693	436444.28	3723973.75	0.55501
436494.28	3723973.75	0.63881	436544.28	3723973.75	0.70159
436594.28	3723973.75	0.70579	436644.28	3723973.75	0.67033
436694.28	3723973.75	0.64471	436744.28	3723973.75	0.65108
436794.28	3723973.75	0.68410	436844.28	3723973.75	0.69498
436994.28	3723973.75	0.86325	437044.28	3723973.75	0.82625
437094.28	3723973.75	0.69219	437144.28	3723973.75	0.56535
437194.28	3723973.75	0.45314	437244.28	3723973.75	0.36947
437294.28	3723973.75	0.30648	437344.28	3723973.75	0.24440
437394.28	3723973.75	0.20226	437444.28	3723973.75	0.17060
436244.28	3724023.75	0.32574	436294.28	3724023.75	0.38070
436344.28	3724023.75	0.44870	436394.28	3724023.75	0.53166
436444.28	3724023.75	0.63730	436494.28	3724023.75	0.77615
436544.28	3724023.75	0.93882	436594.28	3724023.75	1.07411
436644.28	3724023.75	1.07931	436694.28	3724023.75	1.10985
436744.28	3724023.75	1.27927	436794.28	3724023.75	1.38476
436844.28	3724023.75	1.31762	437044.28	3724023.75	1.11630
437094.28	3724023.75	0.84220	437144.28	3724023.75	0.63843
437194.28	3724023.75	0.49420	437244.28	3724023.75	0.38908
437294.28	3724023.75	0.30963	437344.28	3724023.75	0.24703
437394.28	3724023.75	0.20461	437444.28	3724023.75	0.16762
436244.28	3724073.75	0.33888	436294.28	3724073.75	0.39939
436344.28	3724073.75	0.48008	436394.28	3724073.75	0.58728
436444.28	3724073.75	0.72309	436494.28	3724073.75	0.91928
436544.28	3724073.75	1.21278	436594.28	3724073.75	1.73600
436644.28	3724073.75	2.30048	437044.28	3724073.75	1.35510
437094.28	3724073.75	0.94894	437144.28	3724073.75	0.68095
437194.28	3724073.75	0.50819	437244.28	3724073.75	0.38969
437294.28	3724073.75	0.30275	437344.28	3724073.75	0.24029

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437394.28	3724073.75	0.19278	437444.28	3724073.75	0.15332
436244.28	3724123.75	0.34997	436294.28	3724123.75	0.41304
436344.28	3724123.75	0.50236	436394.28	3724123.75	0.63422
436444.28	3724123.75	0.81309	436494.28	3724123.75	1.07436
436544.28	3724123.75	1.54314	436594.28	3724123.75	2.58158
437044.28	3724123.75	1.45229	437094.28	3724123.75	0.99845
437144.28	3724123.75	0.69726	437194.28	3724123.75	0.49822
437244.28	3724123.75	0.37360	437294.28	3724123.75	0.28503
437344.28	3724123.75	0.22178	437394.28	3724123.75	0.17403
437444.28	3724123.75	0.14210	436244.28	3724173.75	0.35547
436294.28	3724173.75	0.42417	436344.28	3724173.75	0.52142
436394.28	3724173.75	0.66738	436444.28	3724173.75	0.89561
436494.28	3724173.75	1.25331	436544.28	3724173.75	1.82869
437094.28	3724173.75	1.01241	437144.28	3724173.75	0.67852
437194.28	3724173.75	0.47254	437244.28	3724173.75	0.34798
437294.28	3724173.75	0.25771	437344.28	3724173.75	0.19964
437394.28	3724173.75	0.16011	437444.28	3724173.75	0.13239
436244.28	3724223.75	0.35945	436294.28	3724223.75	0.42991
436344.28	3724223.75	0.52834	436394.28	3724223.75	0.67460
436444.28	3724223.75	0.91639	436494.28	3724223.75	1.31980
436544.28	3724223.75	1.96512	437094.28	3724223.75	0.98478
437144.28	3724223.75	0.63606	437194.28	3724223.75	0.43747
437244.28	3724223.75	0.32125	437294.28	3724223.75	0.24111
437344.28	3724223.75	0.18666	437394.28	3724223.75	0.15101
437444.28	3724223.75	0.12503	436244.28	3724273.75	0.36645
436294.28	3724273.75	0.42439	436344.28	3724273.75	0.51403
436394.28	3724273.75	0.65048	436444.28	3724273.75	0.86750
436494.28	3724273.75	1.26109	436544.28	3724273.75	1.90246
437094.28	3724273.75	0.91414	437144.28	3724273.75	0.58323
437194.28	3724273.75	0.40004	437244.28	3724273.75	0.29530
437294.28	3724273.75	0.22426	437344.28	3724273.75	0.17647
437394.28	3724273.75	0.14313	437444.28	3724273.75	0.11822
436244.28	3724323.75	0.37191	436294.28	3724323.75	0.41812
436344.28	3724323.75	0.48268	436394.28	3724323.75	0.59634
436444.28	3724323.75	0.77876	436494.28	3724323.75	1.11946
436544.28	3724323.75	1.69792	436594.28	3724323.75	2.33068
437094.28	3724323.75	0.80859	437144.28	3724323.75	0.52407
437194.28	3724323.75	0.36837	437244.28	3724323.75	0.27589
437294.28	3724323.75	0.21215	437344.28	3724323.75	0.16529
437394.28	3724323.75	0.13407	437444.28	3724323.75	0.11183

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3724373.75	0.35652	436294.28	3724373.75	0.39598
436344.28	3724373.75	0.44264	436394.28	3724373.75	0.53649
436444.28	3724373.75	0.68627	436494.28	3724373.75	0.95027
436544.28	3724373.75	1.40718	436594.28	3724373.75	2.01514
437144.28	3724373.75	0.47664	437194.28	3724373.75	0.34483
437244.28	3724373.75	0.26142	437294.28	3724373.75	0.20423
437344.28	3724373.75	0.16386	437394.28	3724373.75	0.13208
437444.28	3724373.75	0.10941	436244.28	3724423.75	0.31811
436294.28	3724423.75	0.34516	436344.28	3724423.75	0.40371
436394.28	3724423.75	0.47892	436444.28	3724423.75	0.59994
436494.28	3724423.75	0.80520	436544.28	3724423.75	1.16422
436594.28	3724423.75	1.57334	437194.28	3724423.75	0.32935
437244.28	3724423.75	0.25136	437294.28	3724423.75	0.19862
437344.28	3724423.75	0.16018	437394.28	3724423.75	0.13267
437444.28	3724423.75	0.10812	436244.28	3724473.75	0.28287
436294.28	3724473.75	0.31155	436344.28	3724473.75	0.37035
436394.28	3724473.75	0.42964	436444.28	3724473.75	0.51332
436494.28	3724473.75	0.66849	436544.28	3724473.75	0.93142
436594.28	3724473.75	1.22902	437194.28	3724473.75	0.31786
437244.28	3724473.75	0.24432	437294.28	3724473.75	0.19417
437344.28	3724473.75	0.15750	437394.28	3724473.75	0.13101
437444.28	3724473.75	0.10930	436244.28	3724523.75	0.25073
436294.28	3724523.75	0.27590	436344.28	3724523.75	0.32058
436394.28	3724523.75	0.37384	436444.28	3724523.75	0.44079
436494.28	3724523.75	0.56386	436544.28	3724523.75	0.74786
436594.28	3724523.75	0.95121	437244.28	3724523.75	0.23785
437294.28	3724523.75	0.18922	437344.28	3724523.75	0.15475
437394.28	3724523.75	0.12897	437444.28	3724523.75	0.10918
436244.28	3724573.75	0.21804	436294.28	3724573.75	0.23989
436344.28	3724573.75	0.27637	436394.28	3724573.75	0.32514
436444.28	3724573.75	0.39141	436494.28	3724573.75	0.48787
436544.28	3724573.75	0.61500	436594.28	3724573.75	0.75450
437244.28	3724573.75	0.23032	437294.28	3724573.75	0.18398
437344.28	3724573.75	0.15140	437394.28	3724573.75	0.12726
437444.28	3724573.75	0.10851	436244.28	3724623.75	0.19063
436294.28	3724623.75	0.21378	436344.28	3724623.75	0.24647
436394.28	3724623.75	0.29152	436444.28	3724623.75	0.35150
436494.28	3724623.75	0.42539	436544.28	3724623.75	0.51469
436594.28	3724623.75	0.59047	437244.28	3724623.75	0.22198
437294.28	3724623.75	0.17795	437344.28	3724623.75	0.14736

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437394.28	3724623.75	0.12461	437444.28	3724623.75	0.10711
436244.28	3724673.75	0.17168	436294.28	3724673.75	0.19513
436344.28	3724673.75	0.22710	436394.28	3724673.75	0.26769
436444.28	3724673.75	0.31795	436494.28	3724673.75	0.37474
436544.28	3724673.75	0.43732	436594.28	3724673.75	0.49045
437194.28	3724673.75	0.26681	437244.28	3724673.75	0.21381
437294.28	3724673.75	0.17336	437344.28	3724673.75	0.14356
437394.28	3724673.75	0.12135	437444.28	3724673.75	0.10464
436244.28	3724723.75	0.16025	436294.28	3724723.75	0.18373
436344.28	3724723.75	0.21279	436394.28	3724723.75	0.24649
436444.28	3724723.75	0.28707	436494.28	3724723.75	0.33112
436544.28	3724723.75	0.37421	436594.28	3724723.75	0.40419
437144.28	3724723.75	0.30671	437194.28	3724723.75	0.25034
437244.28	3724723.75	0.20569	437294.28	3724723.75	0.16857
437344.28	3724723.75	0.14060	437394.28	3724723.75	0.11862
437444.28	3724723.75	0.10206	436244.28	3724773.75	0.15275
436294.28	3724773.75	0.17330	436344.28	3724773.75	0.20138
436394.28	3724773.75	0.21797	436444.28	3724773.75	0.24488
436494.28	3724773.75	0.29233	436544.28	3724773.75	0.32258
436594.28	3724773.75	0.33885	437094.28	3724773.75	0.33285
437144.28	3724773.75	0.28333	437194.28	3724773.75	0.23416
437244.28	3724773.75	0.19782	437294.28	3724773.75	0.16419
437344.28	3724773.75	0.13760	437394.28	3724773.75	0.11638
437444.28	3724773.75	0.10000	436244.28	3724823.75	0.14731
436294.28	3724823.75	0.16380	436344.28	3724823.75	0.18166
436394.28	3724823.75	0.18860	436444.28	3724823.75	0.21247
436494.28	3724823.75	0.25876	436544.28	3724823.75	0.27983
436594.28	3724823.75	0.28837	437094.28	3724823.75	0.29847
437144.28	3724823.75	0.26061	437194.28	3724823.75	0.21898
437244.28	3724823.75	0.18934	437294.28	3724823.75	0.16048
437344.28	3724823.75	0.13484	437394.28	3724823.75	0.11440
437444.28	3724823.75	0.09861	436244.28	3724873.75	0.14190
436294.28	3724873.75	0.15958	436344.28	3724873.75	0.15642
436394.28	3724873.75	0.16887	436444.28	3724873.75	0.20734
436494.28	3724873.75	0.22874	436544.28	3724873.75	0.24158
436594.28	3724873.75	0.25265	437044.28	3724873.75	0.28817
437094.28	3724873.75	0.26675	437144.28	3724873.75	0.23904
437194.28	3724873.75	0.20349	437244.28	3724873.75	0.17795
437294.28	3724873.75	0.15575	437344.28	3724873.75	0.13244
437394.28	3724873.75	0.11272	437444.28	3724873.75	0.09735

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3724923.75	0.13624	436294.28	3724923.75	0.15082
436344.28	3724923.75	0.16029	436394.28	3724923.75	0.15520
436444.28	3724923.75	0.17562	436494.28	3724923.75	0.19914
436544.28	3724923.75	0.20409	436594.28	3724923.75	0.21136
436994.28	3724923.75	0.25436	437044.28	3724923.75	0.24669
437094.28	3724923.75	0.23855	437144.28	3724923.75	0.21878
437194.28	3724923.75	0.18973	437244.28	3724923.75	0.16736
437294.28	3724923.75	0.14968	437344.28	3724923.75	0.12985
437394.28	3724923.75	0.11117	437444.28	3724923.75	0.09575
436244.28	3724973.75	0.12971	436294.28	3724973.75	0.14213
436344.28	3724973.75	0.14582	436394.28	3724973.75	0.14401
436444.28	3724973.75	0.15393	436494.28	3724973.75	0.17438
436544.28	3724973.75	0.17697	436594.28	3724973.75	0.18060
436944.28	3724973.75	0.22490	436994.28	3724973.75	0.22204
437044.28	3724973.75	0.21837	437094.28	3724973.75	0.21513
437144.28	3724973.75	0.20027	437194.28	3724973.75	0.17695
437244.28	3724973.75	0.15778	437294.28	3724973.75	0.14296
437344.28	3724973.75	0.12735	437394.28	3724973.75	0.10995
437444.28	3724973.75	0.09470	436244.28	3725023.75	0.12301
436294.28	3725023.75	0.13329	436344.28	3725023.75	0.14255
436394.28	3725023.75	0.14430	436444.28	3725023.75	0.13876
436494.28	3725023.75	0.14810	436544.28	3725023.75	0.15448
436594.28	3725023.75	0.16004	436844.28	3725023.75	0.19225
436894.28	3725023.75	0.19601	436944.28	3725023.75	0.19751
436994.28	3725023.75	0.19714	437044.28	3725023.75	0.19664
437094.28	3725023.75	0.19377	437144.28	3725023.75	0.18309
437194.28	3725023.75	0.16418	437244.28	3725023.75	0.14877
437294.28	3725023.75	0.13664	437344.28	3725023.75	0.12439
437394.28	3725023.75	0.10879	437444.28	3725023.75	0.09434
436244.28	3725073.75	0.11610	436294.28	3725073.75	0.12353
436344.28	3725073.75	0.13100	436394.28	3725073.75	0.13808
436444.28	3725073.75	0.13803	436494.28	3725073.75	0.13955
436544.28	3725073.75	0.13941	436594.28	3725073.75	0.14365
436644.28	3725073.75	0.14843	436694.28	3725073.75	0.15494
436744.28	3725073.75	0.16123	436794.28	3725073.75	0.16556
436844.28	3725073.75	0.16940	436894.28	3725073.75	0.17322
436944.28	3725073.75	0.17514	436994.28	3725073.75	0.17455
437044.28	3725073.75	0.17350	437094.28	3725073.75	0.17433
437144.28	3725073.75	0.16698	437194.28	3725073.75	0.15165
437244.28	3725073.75	0.13953	437294.28	3725073.75	0.12974

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437344.28	3725073.75	0.12030	437394.28	3725073.75	0.10730
437444.28	3725073.75	0.09414	436244.28	3725123.75	0.10991
436294.28	3725123.75	0.11542	436344.28	3725123.75	0.12106
436394.28	3725123.75	0.12602	436444.28	3725123.75	0.13038
436494.28	3725123.75	0.13474	436544.28	3725123.75	0.13418
436594.28	3725123.75	0.13104	436644.28	3725123.75	0.13410
436694.28	3725123.75	0.13908	436744.28	3725123.75	0.14412
436794.28	3725123.75	0.14771	436844.28	3725123.75	0.15092
436894.28	3725123.75	0.15463	436944.28	3725123.75	0.15738
436994.28	3725123.75	0.15768	437044.28	3725123.75	0.15748
437094.28	3725123.75	0.15852	437144.28	3725123.75	0.15205
437194.28	3725123.75	0.14016	437244.28	3725123.75	0.13081
437294.28	3725123.75	0.12283	437344.28	3725123.75	0.11443
437394.28	3725123.75	0.10501	437444.28	3725123.75	0.09360
436244.28	3725173.75	0.10447	436294.28	3725173.75	0.10795
436344.28	3725173.75	0.11232	436394.28	3725173.75	0.11635
436444.28	3725173.75	0.11990	436494.28	3725173.75	0.12260
436544.28	3725173.75	0.12401	436594.28	3725173.75	0.12189
436644.28	3725173.75	0.12205	436694.28	3725173.75	0.12585
436744.28	3725173.75	0.13004	436794.28	3725173.75	0.13289
436844.28	3725173.75	0.13600	436894.28	3725173.75	0.13962
436944.28	3725173.75	0.14328	436994.28	3725173.75	0.14482
437044.28	3725173.75	0.14470	437094.28	3725173.75	0.14465
437144.28	3725173.75	0.14000	437194.28	3725173.75	0.13107
437244.28	3725173.75	0.12273	437294.28	3725173.75	0.11611
437344.28	3725173.75	0.10893	437394.28	3725173.75	0.10194
437444.28	3725173.75	0.09267	436244.28	3725223.75	0.09640
436294.28	3725223.75	0.10219	436344.28	3725223.75	0.10462
436394.28	3725223.75	0.10781	436444.28	3725223.75	0.10874
436494.28	3725223.75	0.10787	436544.28	3725223.75	0.10601
436594.28	3725223.75	0.10828	436644.28	3725223.75	0.11099
436694.28	3725223.75	0.11470	436744.28	3725223.75	0.11815
436794.28	3725223.75	0.12039	436844.28	3725223.75	0.12256
436894.28	3725223.75	0.12579	436944.28	3725223.75	0.12913
436994.28	3725223.75	0.13113	437044.28	3725223.75	0.13183
437094.28	3725223.75	0.13169	437144.28	3725223.75	0.12933
437194.28	3725223.75	0.12221	437244.28	3725223.75	0.11543
437294.28	3725223.75	0.11037	437344.28	3725223.75	0.10523
437394.28	3725223.75	0.09903	437444.28	3725223.75	0.09118

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
436244.28	3723773.75	0.06583	436294.28	3723773.75	0.07159
436344.28	3723773.75	0.07672	436394.28	3723773.75	0.08080
436444.28	3723773.75	0.08355	436494.28	3723773.75	0.08457
436544.28	3723773.75	0.08381	436594.28	3723773.75	0.08260
436644.28	3723773.75	0.08216	436694.28	3723773.75	0.08298
436744.28	3723773.75	0.08782	436794.28	3723773.75	0.10235
436844.28	3723773.75	0.13190	436894.28	3723773.75	0.17821
436944.28	3723773.75	0.22277	436994.28	3723773.75	0.28180
437044.28	3723773.75	0.35437	437094.28	3723773.75	0.41159
437144.28	3723773.75	0.45481	437194.28	3723773.75	0.47154
437244.28	3723773.75	0.46531	437294.28	3723773.75	0.44108
437344.28	3723773.75	0.40540	437394.28	3723773.75	0.36203
437444.28	3723773.75	0.31706	436244.28	3723823.75	0.07144
436294.28	3723823.75	0.07943	436344.28	3723823.75	0.08736
436394.28	3723823.75	0.09449	436444.28	3723823.75	0.10030
436494.28	3723823.75	0.10408	436544.28	3723823.75	0.10517
436594.28	3723823.75	0.10476	436644.28	3723823.75	0.10440
436694.28	3723823.75	0.10634	436744.28	3723823.75	0.11602
436794.28	3723823.75	0.14322	436844.28	3723823.75	0.19651
436894.28	3723823.75	0.27704	436944.28	3723823.75	0.36431
436994.28	3723823.75	0.43003	437044.28	3723823.75	0.49582
437094.28	3723823.75	0.56724	437144.28	3723823.75	0.59269
437194.28	3723823.75	0.58612	437244.28	3723823.75	0.55034
437294.28	3723823.75	0.49815	437344.28	3723823.75	0.44007
437394.28	3723823.75	0.38153	437444.28	3723823.75	0.32638
436244.28	3723873.75	0.07687	436294.28	3723873.75	0.08707
436344.28	3723873.75	0.09821	436394.28	3723873.75	0.10952
436444.28	3723873.75	0.12019	436494.28	3723873.75	0.12904
436544.28	3723873.75	0.13434	436594.28	3723873.75	0.13635
436644.28	3723873.75	0.13841	436694.28	3723873.75	0.14394
436744.28	3723873.75	0.16336	436794.28	3723873.75	0.21470
436844.28	3723873.75	0.31368	436894.28	3723873.75	0.44132
436944.28	3723873.75	0.57377	436994.28	3723873.75	0.67473
437044.28	3723873.75	0.70188	437094.28	3723873.75	0.76883
437144.28	3723873.75	0.75225	437194.28	3723873.75	0.69500
437244.28	3723873.75	0.62063	437294.28	3723873.75	0.54003
437344.28	3723873.75	0.46082	437394.28	3723873.75	0.38928
437444.28	3723873.75	0.32575	436244.28	3723923.75	0.08289
436294.28	3723923.75	0.09504	436344.28	3723923.75	0.10937
436394.28	3723923.75	0.12565	436444.28	3723923.75	0.14293

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
436494.28	3723923.75	0.16063	436544.28	3723923.75	0.17386
436594.28	3723923.75	0.18252	436644.28	3723923.75	0.19067
436694.28	3723923.75	0.20899	436744.28	3723923.75	0.26200
436794.28	3723923.75	0.37733	436844.28	3723923.75	0.53005
436944.28	3723923.75	0.88658	436994.28	3723923.75	1.03076
437044.28	3723923.75	1.05224	437094.28	3723923.75	0.97916
437144.28	3723923.75	0.94282	437194.28	3723923.75	0.80270
437244.28	3723923.75	0.68408	437294.28	3723923.75	0.56577
437344.28	3723923.75	0.46803	437394.28	3723923.75	0.38553
437444.28	3723923.75	0.31779	436244.28	3723973.75	0.08954
436294.28	3723973.75	0.10393	436344.28	3723973.75	0.12163
436394.28	3723973.75	0.14315	436444.28	3723973.75	0.16942
436494.28	3723973.75	0.20025	436544.28	3723973.75	0.23000
436594.28	3723973.75	0.25299	436644.28	3723973.75	0.27569
436694.28	3723973.75	0.32798	436744.28	3723973.75	0.48405
436794.28	3723973.75	0.74203	436844.28	3723973.75	0.97210
436994.28	3723973.75	1.57203	437044.28	3723973.75	1.53393
437094.28	3723973.75	1.25689	437144.28	3723973.75	1.07240
437194.28	3723973.75	0.89348	437244.28	3723973.75	0.71127
437294.28	3723973.75	0.55862	437344.28	3723973.75	0.45791
437394.28	3723973.75	0.36877	437444.28	3723973.75	0.29961
436244.28	3724023.75	0.09580	436294.28	3724023.75	0.11303
436344.28	3724023.75	0.13487	436394.28	3724023.75	0.16232
436444.28	3724023.75	0.19803	436494.28	3724023.75	0.24699
436544.28	3724023.75	0.30992	436594.28	3724023.75	0.38350
436644.28	3724023.75	0.44780	436694.28	3724023.75	0.63923
436744.28	3724023.75	1.13550	436794.28	3724023.75	1.62170
436844.28	3724023.75	1.86921	437044.28	3724023.75	2.08999
437094.28	3724023.75	1.54076	437144.28	3724023.75	1.14552
437194.28	3724023.75	0.89492	437244.28	3724023.75	0.69416
437294.28	3724023.75	0.54297	437344.28	3724023.75	0.43143
437394.28	3724023.75	0.34409	437444.28	3724023.75	0.28058
436244.28	3724073.75	0.10128	436294.28	3724073.75	0.12075
436344.28	3724073.75	0.14684	436394.28	3724073.75	0.18201
436444.28	3724073.75	0.22901	436494.28	3724073.75	0.29792
436544.28	3724073.75	0.40707	436594.28	3724073.75	0.60951
436644.28	3724073.75	0.93932	437044.28	3724073.75	2.52489
437094.28	3724073.75	1.74260	437144.28	3724073.75	1.21491
437194.28	3724073.75	0.89181	437244.28	3724073.75	0.67494
437294.28	3724073.75	0.51656	437344.28	3724073.75	0.40367

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
437394.28	3724073.75	0.32252	437444.28	3724073.75	0.26515
436244.28	3724123.75	0.10608	436294.28	3724123.75	0.12718
436344.28	3724123.75	0.15673	436394.28	3724123.75	0.19894
436444.28	3724123.75	0.25891	436494.28	3724123.75	0.34928
436544.28	3724123.75	0.50496	436594.28	3724123.75	0.89525
437044.28	3724123.75	2.67412	437094.28	3724123.75	1.82975
437144.28	3724123.75	1.24668	437194.28	3724123.75	0.86111
437244.28	3724123.75	0.63511	437294.28	3724123.75	0.48091
437344.28	3724123.75	0.37611	437394.28	3724123.75	0.30370
437444.28	3724123.75	0.24681	436244.28	3724173.75	0.10920
436294.28	3724173.75	0.13270	436344.28	3724173.75	0.16566
436394.28	3724173.75	0.21337	436444.28	3724173.75	0.28568
436494.28	3724173.75	0.39926	436544.28	3724173.75	0.59251
437094.28	3724173.75	1.82991	437144.28	3724173.75	1.19511
437194.28	3724173.75	0.80345	437244.28	3724173.75	0.58347
437294.28	3724173.75	0.44729	437344.28	3724173.75	0.35203
437394.28	3724173.75	0.28103	437444.28	3724173.75	0.22972
436244.28	3724223.75	0.11218	436294.28	3724223.75	0.13688
436344.28	3724223.75	0.17204	436394.28	3724223.75	0.22383
436444.28	3724223.75	0.30429	436494.28	3724223.75	0.43251
436544.28	3724223.75	0.67823	437094.28	3724223.75	1.73323
437144.28	3724223.75	1.08951	437194.28	3724223.75	0.72957
437244.28	3724223.75	0.53162	437294.28	3724223.75	0.40292
437344.28	3724223.75	0.32082	437394.28	3724223.75	0.25975
437444.28	3724223.75	0.21527	436244.28	3724273.75	0.11391
436294.28	3724273.75	0.13859	436344.28	3724273.75	0.17360
436394.28	3724273.75	0.22730	436444.28	3724273.75	0.31099
436494.28	3724273.75	0.44530	436544.28	3724273.75	0.72183
437094.28	3724273.75	1.57184	437144.28	3724273.75	0.97543
437194.28	3724273.75	0.65319	437244.28	3724273.75	0.48221
437294.28	3724273.75	0.36954	437344.28	3724273.75	0.29401
437394.28	3724273.75	0.24016	437444.28	3724273.75	0.20214
436244.28	3724323.75	0.11424	436294.28	3724323.75	0.13802
436344.28	3724323.75	0.17169	436394.28	3724323.75	0.22341
436444.28	3724323.75	0.30630	436494.28	3724323.75	0.43953
436544.28	3724323.75	0.71218	436594.28	3724323.75	1.47569
437094.28	3724323.75	1.35889	437144.28	3724323.75	0.85390
437194.28	3724323.75	0.59103	437244.28	3724323.75	0.44298
437294.28	3724323.75	0.34265	437344.28	3724323.75	0.27716
437394.28	3724323.75	0.23011	437444.28	3724323.75	0.19251

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
436244.28	3724373.75	0.11218	436294.28	3724373.75	0.13478
436344.28	3724373.75	0.16742	436394.28	3724373.75	0.21723
436444.28	3724373.75	0.29685	436494.28	3724373.75	0.42561
436544.28	3724373.75	0.68062	436594.28	3724373.75	1.44818
437144.28	3724373.75	0.75904	437194.28	3724373.75	0.54471
437244.28	3724373.75	0.41163	437294.28	3724373.75	0.32125
437344.28	3724373.75	0.25875	437394.28	3724373.75	0.21401
437444.28	3724373.75	0.18150	436244.28	3724423.75	0.10819
436294.28	3724423.75	0.13006	436344.28	3724423.75	0.16207
436394.28	3724423.75	0.21050	436444.28	3724423.75	0.28698
436494.28	3724423.75	0.41219	436544.28	3724423.75	0.67828
436594.28	3724423.75	1.33053	437194.28	3724423.75	0.51395
437244.28	3724423.75	0.38801	437294.28	3724423.75	0.30433
437344.28	3724423.75	0.24556	437394.28	3724423.75	0.20327
437444.28	3724423.75	0.17241	436244.28	3724473.75	0.10385
436294.28	3724473.75	0.12508	436344.28	3724473.75	0.15495
436394.28	3724473.75	0.20028	436444.28	3724473.75	0.27478
436494.28	3724473.75	0.39513	436544.28	3724473.75	0.62915
436594.28	3724473.75	1.14927	437194.28	3724473.75	0.49106
437244.28	3724473.75	0.37136	437294.28	3724473.75	0.29115
437344.28	3724473.75	0.23491	437394.28	3724473.75	0.19459
437444.28	3724473.75	0.16429	436244.28	3724523.75	0.09917
436294.28	3724523.75	0.11930	436344.28	3724523.75	0.14710
436394.28	3724523.75	0.18922	436444.28	3724523.75	0.26011
436494.28	3724523.75	0.37091	436544.28	3724523.75	0.55961
436594.28	3724523.75	0.90281	437244.28	3724523.75	0.35926
437294.28	3724523.75	0.28062	437344.28	3724523.75	0.22640
437394.28	3724523.75	0.18721	437444.28	3724523.75	0.15810
436244.28	3724573.75	0.09429	436294.28	3724573.75	0.11388
436344.28	3724573.75	0.14075	436394.28	3724573.75	0.18159
436444.28	3724573.75	0.24321	436494.28	3724573.75	0.34020
436544.28	3724573.75	0.48946	436594.28	3724573.75	0.71424
437244.28	3724573.75	0.34943	437294.28	3724573.75	0.27311
437344.28	3724573.75	0.21993	437394.28	3724573.75	0.18161
437444.28	3724573.75	0.15313	436244.28	3724623.75	0.09017
436294.28	3724623.75	0.10914	436344.28	3724623.75	0.13615
436394.28	3724623.75	0.17430	436444.28	3724623.75	0.23050
436494.28	3724623.75	0.31210	436544.28	3724623.75	0.42712
436594.28	3724623.75	0.59641	437244.28	3724623.75	0.34069
437294.28	3724623.75	0.26762	437344.28	3724623.75	0.21557

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
437394.28	3724623.75	0.17754	437444.28	3724623.75	0.14931
436244.28	3724673.75	0.08746	436294.28	3724673.75	0.10633
436344.28	3724673.75	0.13222	436394.28	3724673.75	0.16788
436444.28	3724673.75	0.21706	436494.28	3724673.75	0.28526
436544.28	3724673.75	0.37539	436594.28	3724673.75	0.49917
437194.28	3724673.75	0.42323	437244.28	3724673.75	0.33278
437294.28	3724673.75	0.26399	437344.28	3724673.75	0.21296
437394.28	3724673.75	0.17501	437444.28	3724673.75	0.14667
436244.28	3724723.75	0.08580	436294.28	3724723.75	0.10408
436344.28	3724723.75	0.12826	436394.28	3724723.75	0.16116
436444.28	3724723.75	0.20395	436494.28	3724723.75	0.25953
436544.28	3724723.75	0.33042	436594.28	3724723.75	0.42565
437144.28	3724723.75	0.50177	437194.28	3724723.75	0.40424
437244.28	3724723.75	0.32363	437294.28	3724723.75	0.26028
437344.28	3724723.75	0.21145	437394.28	3724723.75	0.17385
437444.28	3724723.75	0.14531	436244.28	3724773.75	0.08459
436294.28	3724773.75	0.10223	436344.28	3724773.75	0.12449
436394.28	3724773.75	0.15281	436444.28	3724773.75	0.18941
436494.28	3724773.75	0.23547	436544.28	3724773.75	0.29247
436594.28	3724773.75	0.36608	437094.28	3724773.75	0.54033
437144.28	3724773.75	0.46043	437194.28	3724773.75	0.38481
437244.28	3724773.75	0.31285	437294.28	3724773.75	0.25581
437344.28	3724773.75	0.20984	437394.28	3724773.75	0.17340
437444.28	3724773.75	0.14499	436244.28	3724823.75	0.08325
436294.28	3724823.75	0.09972	436344.28	3724823.75	0.11969
436394.28	3724823.75	0.14348	436444.28	3724823.75	0.17529
436494.28	3724823.75	0.21458	436544.28	3724823.75	0.26077
436594.28	3724823.75	0.31761	437094.28	3724823.75	0.48040
437144.28	3724823.75	0.42001	437194.28	3724823.75	0.36177
437244.28	3724823.75	0.30093	437294.28	3724823.75	0.25002
437344.28	3724823.75	0.20769	437394.28	3724823.75	0.17307
437444.28	3724823.75	0.14529	436244.28	3724873.75	0.08182
436294.28	3724873.75	0.09681	436344.28	3724873.75	0.11319
436394.28	3724873.75	0.13496	436444.28	3724873.75	0.16365
436494.28	3724873.75	0.19553	436544.28	3724873.75	0.23353
436594.28	3724873.75	0.27754	437044.28	3724873.75	0.46958
437094.28	3724873.75	0.42847	437144.28	3724873.75	0.38207
437194.28	3724873.75	0.33778	437244.28	3724873.75	0.28834
437294.28	3724873.75	0.24258	437344.28	3724873.75	0.20454
437394.28	3724873.75	0.17230	437444.28	3724873.75	0.14563

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
436244.28	3724923.75	0.07980	436294.28	3724923.75	0.09344
436344.28	3724923.75	0.10952	436394.28	3724923.75	0.12713
436444.28	3724923.75	0.15085	436494.28	3724923.75	0.17849
436544.28	3724923.75	0.20994	436594.28	3724923.75	0.24615
436994.28	3724923.75	0.43581	437044.28	3724923.75	0.41442
437094.28	3724923.75	0.38190	437144.28	3724923.75	0.34705
437194.28	3724923.75	0.31269	437244.28	3724923.75	0.27387
437294.28	3724923.75	0.23448	437344.28	3724923.75	0.20026
437394.28	3724923.75	0.17080	437444.28	3724923.75	0.14566
436244.28	3724973.75	0.07769	436294.28	3724973.75	0.09002
436344.28	3724973.75	0.10392	436394.28	3724973.75	0.11963
436444.28	3724973.75	0.13956	436494.28	3724973.75	0.16309
436544.28	3724973.75	0.18950	436594.28	3724973.75	0.22063
436944.28	3724973.75	0.38174	436994.28	3724973.75	0.37768
437044.28	3724973.75	0.36279	437094.28	3724973.75	0.34010
437144.28	3724973.75	0.31475	437194.28	3724973.75	0.28819
437244.28	3724973.75	0.25818	437294.28	3724973.75	0.22506
437344.28	3724973.75	0.19476	437394.28	3724973.75	0.16838
437444.28	3724973.75	0.14512	436244.28	3725023.75	0.07525
436294.28	3725023.75	0.08627	436344.28	3725023.75	0.09919
436394.28	3725023.75	0.11343	436444.28	3725023.75	0.12955
436494.28	3725023.75	0.14941	436544.28	3725023.75	0.17225
436594.28	3725023.75	0.19842	436844.28	3725023.75	0.31302
436894.28	3725023.75	0.32530	436944.28	3725023.75	0.33002
436994.28	3725023.75	0.32696	437044.28	3725023.75	0.31845
437094.28	3725023.75	0.30406	437144.28	3725023.75	0.28556
437194.28	3725023.75	0.26535	437244.28	3725023.75	0.24176
437294.28	3725023.75	0.21447	437344.28	3725023.75	0.18830
437394.28	3725023.75	0.16499	437444.28	3725023.75	0.14382
436244.28	3725073.75	0.07265	436294.28	3725073.75	0.08230
436344.28	3725073.75	0.09357	436394.28	3725073.75	0.10660
436444.28	3725073.75	0.12111	436494.28	3725073.75	0.13763
436544.28	3725073.75	0.15696	436594.28	3725073.75	0.17900
436644.28	3725073.75	0.20018	436694.28	3725073.75	0.22008
436744.28	3725073.75	0.23922	436794.28	3725073.75	0.25785
436844.28	3725073.75	0.27246	436894.28	3725073.75	0.28259
436944.28	3725073.75	0.28799	436994.28	3725073.75	0.28845
437044.28	3725073.75	0.28354	437094.28	3725073.75	0.27295
437144.28	3725073.75	0.25949	437194.28	3725073.75	0.24427
437244.28	3725073.75	0.22595	437294.28	3725073.75	0.20354

*** THE ANNUAL DRY DEPOSITION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

X-COORD (M)	Y-COORD (M)	DEPO	X-COORD (M)	Y-COORD (M)	DEPO
437344.28	3725073.75	0.18142	437394.28	3725073.75	0.16077
437444.28	3725073.75	0.14174	436244.28	3725123.75	0.07010
436294.28	3725123.75	0.07865	436344.28	3725123.75	0.08865
436394.28	3725123.75	0.09981	436444.28	3725123.75	0.11246
436494.28	3725123.75	0.12700	436544.28	3725123.75	0.14298
436594.28	3725123.75	0.16079	436644.28	3725123.75	0.17916
436694.28	3725123.75	0.19636	436744.28	3725123.75	0.21273
436794.28	3725123.75	0.22649	436844.28	3725123.75	0.23788
436894.28	3725123.75	0.24683	436944.28	3725123.75	0.25228
436994.28	3725123.75	0.25434	437044.28	3725123.75	0.25221
437094.28	3725123.75	0.24563	437144.28	3725123.75	0.23630
437194.28	3725123.75	0.22477	437244.28	3725123.75	0.21026
437294.28	3725123.75	0.19243	437344.28	3725123.75	0.17407
437394.28	3725123.75	0.15601	437444.28	3725123.75	0.13900
436244.28	3725173.75	0.06775	436294.28	3725173.75	0.07509
436344.28	3725173.75	0.08393	436394.28	3725173.75	0.09392
436444.28	3725173.75	0.10518	436494.28	3725173.75	0.11779
436544.28	3725173.75	0.13130	436594.28	3725173.75	0.14568
436644.28	3725173.75	0.16133	436694.28	3725173.75	0.17648
436744.28	3725173.75	0.18967	436794.28	3725173.75	0.20074
436844.28	3725173.75	0.20976	436894.28	3725173.75	0.21785
436944.28	3725173.75	0.22334	436994.28	3725173.75	0.22609
437044.28	3725173.75	0.22576	437094.28	3725173.75	0.22196
437144.28	3725173.75	0.21537	437194.28	3725173.75	0.20634
437244.28	3725173.75	0.19517	437294.28	3725173.75	0.18130
437344.28	3725173.75	0.16625	437394.28	3725173.75	0.15072
437444.28	3725173.75	0.13566	436244.28	3725223.75	0.06522
436294.28	3725223.75	0.07231	436344.28	3725223.75	0.07966
436394.28	3725223.75	0.08860	436444.28	3725223.75	0.09871
436494.28	3725223.75	0.10952	436544.28	3725223.75	0.12184
436594.28	3725223.75	0.13471	436644.28	3725223.75	0.14755
436694.28	3725223.75	0.15948	436744.28	3725223.75	0.17030
436794.28	3725223.75	0.17974	436844.28	3725223.75	0.18803
436894.28	3725223.75	0.19510	436944.28	3725223.75	0.20032
436994.28	3725223.75	0.20326	437044.28	3725223.75	0.20372
437094.28	3725223.75	0.20156	437144.28	3725223.75	0.19682
437194.28	3725223.75	0.19006	437244.28	3725223.75	0.18115
437294.28	3725223.75	0.17006	437344.28	3725223.75	0.15778
437394.28	3725223.75	0.14490	437444.28	3725223.75	0.13186

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3723773.75	4.89994	(07121524)	436294.28	3723773.75	5.20072	(06112224)
436344.28	3723773.75	5.66011	(05011624)	436394.28	3723773.75	5.82815	(07112924)
436444.28	3723773.75	6.23886	(07122624)	436494.28	3723773.75	6.29041	(07011424)
436544.28	3723773.75	5.92831	(07011424)	436594.28	3723773.75	6.04500	(06010124)
436644.28	3723773.75	5.86807	(06010124)	436694.28	3723773.75	6.16808	(05122824)
436744.28	3723773.75	6.51129	(05122824)	436794.28	3723773.75	6.26996	(05122824)
436844.28	3723773.75	5.64482	(05122524)	436894.28	3723773.75	5.32668	(05122524)
436944.28	3723773.75	5.35043	(06021124)	436994.28	3723773.75	5.62564	(05021324)
437044.28	3723773.75	4.55532	(05021324)	437094.28	3723773.75	5.12781	(05021324)
437144.28	3723773.75	5.38510	(05021324)	437194.28	3723773.75	4.82003	(05021324)
437244.28	3723773.75	3.71448	(05021324)	437294.28	3723773.75	2.55608	(05021324)
437344.28	3723773.75	1.68622	(05011124)	437394.28	3723773.75	1.49176	(07120724)
437444.28	3723773.75	1.97147	(07120724)	436244.28	3723823.75	5.42630	(05122024)
436294.28	3723823.75	5.46173	(07121524)	436344.28	3723823.75	5.84309	(06112224)
436394.28	3723823.75	6.34034	(05011624)	436444.28	3723823.75	6.63728	(07112924)
436494.28	3723823.75	6.91554	(07122624)	436544.28	3723823.75	6.87608	(07011424)
436594.28	3723823.75	6.67000	(06010124)	436644.28	3723823.75	6.54592	(06010124)
436694.28	3723823.75	6.84545	(05122824)	436744.28	3723823.75	7.25958	(05122824)
436794.28	3723823.75	7.22268	(05122824)	436844.28	3723823.75	6.29917	(05122524)
436894.28	3723823.75	5.88076	(05122524)	436944.28	3723823.75	5.40712	(06021124)
436994.28	3723823.75	6.85876	(05021324)	437044.28	3723823.75	8.11935	(05021324)
437094.28	3723823.75	6.04194	(05021324)	437144.28	3723823.75	5.63728	(05021324)
437194.28	3723823.75	4.41303	(05021324)	437244.28	3723823.75	3.13250	(05021324)
437294.28	3723823.75	1.89794	(05021324)	437344.28	3723823.75	2.01368	(07120724)
437394.28	3723823.75	2.39623	(07120724)	437444.28	3723823.75	2.64799	(07120724)
436244.28	3723873.75	6.00362	(05122024)	436294.28	3723873.75	6.28590	(05122024)
436344.28	3723873.75	6.10561	(05122024)	436394.28	3723873.75	6.59442	(06112224)
436444.28	3723873.75	7.22218	(05011624)	436494.28	3723873.75	7.61795	(07122624)
436544.28	3723873.75	7.89361	(07011424)	436594.28	3723873.75	7.41621	(07011424)
436644.28	3723873.75	7.33520	(06010124)	436694.28	3723873.75	7.72081	(05122824)
436744.28	3723873.75	8.25245	(05122824)	436794.28	3723873.75	8.34305	(05122824)
436844.28	3723873.75	7.30156	(05122824)	436894.28	3723873.75	6.79666	(06021024)
436944.28	3723873.75	6.66400	(05021324)	436994.28	3723873.75	8.08038	(05021324)
437044.28	3723873.75	9.94571	(05021324)	437094.28	3723873.75	7.73011	(05021324)
437144.28	3723873.75	5.35595	(05021324)	437194.28	3723873.75	3.84681	(05021324)
437244.28	3723873.75	2.40245	(05021324)	437294.28	3723873.75	2.68974	(07120724)
437344.28	3723873.75	2.99864	(07120724)	437394.28	3723873.75	3.10370	(07120724)
437444.28	3723873.75	3.05072	(07120724)	436244.28	3723923.75	5.96896	(05122024)
436294.28	3723923.75	6.66050	(05122024)	436344.28	3723923.75	7.23519	(05122024)
436394.28	3723923.75	7.33957	(05122024)	436444.28	3723923.75	7.56135	(06112224)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436494.28	3723923.75	8.37983	(05011624)	436544.28	3723923.75	8.91751	(07122624)
436594.28	3723923.75	8.96087	(07011424)	436644.28	3723923.75	8.35393	(05121524)
436694.28	3723923.75	8.94475	(05122824)	436744.28	3723923.75	9.62186	(05122824)
436794.28	3723923.75	9.92393	(05122824)	436844.28	3723923.75	9.20102	(05122824)
436944.28	3723923.75	8.57565	(05021324)	436994.28	3723923.75	9.99365	(05021324)
437044.28	3723923.75	11.04140	(05021324)	437094.28	3723923.75	9.89033	(05021324)
437144.28	3723923.75	4.99549	(05021324)	437194.28	3723923.75	3.11401	(05021324)
437244.28	3723923.75	3.51614	(07120724)	437294.28	3723923.75	3.66306	(07120724)
437344.28	3723923.75	3.50113	(07120724)	437394.28	3723923.75	3.39527	(07011224)
437444.28	3723923.75	3.45719	(07011224)	436244.28	3723973.75	6.10710	(07010924)
436294.28	3723973.75	6.45067	(07010924)	436344.28	3723973.75	7.27889	(05122024)
436394.28	3723973.75	8.25514	(05122024)	436444.28	3723973.75	8.89637	(05122024)
436494.28	3723973.75	8.93731	(06112224)	436544.28	3723973.75	10.17948	(07112924)
436594.28	3723973.75	10.78501	(07011424)	436644.28	3723973.75	10.20445	(07011424)
436694.28	3723973.75	10.75496	(05122824)	436744.28	3723973.75	11.68612	(05122824)
436794.28	3723973.75	12.32173	(05122824)	436844.28	3723973.75	11.75631	(05122824)
436994.28	3723973.75	12.78247	(05021324)	437044.28	3723973.75	11.68086	(05021324)
437094.28	3723973.75	8.73574	(05021324)	437144.28	3723973.75	6.38704	(07120724)
437194.28	3723973.75	4.52941	(07120724)	437244.28	3723973.75	4.92676	(07011224)
437294.28	3723973.75	6.53020	(07011224)	437344.28	3723973.75	4.44317	(07011224)
437394.28	3723973.75	4.37693	(07011224)	437444.28	3723973.75	4.65389	(07011224)
436244.28	3724023.75	6.00187	(07010924)	436294.28	3724023.75	6.63789	(07010924)
436344.28	3724023.75	7.33619	(07010924)	436394.28	3724023.75	8.02793	(07010924)
436444.28	3724023.75	9.30743	(05122024)	436494.28	3724023.75	10.85194	(05122024)
436544.28	3724023.75	11.62496	(05122024)	436594.28	3724023.75	13.25834	(07112924)
436644.28	3724023.75	13.61152	(07011424)	436694.28	3724023.75	14.06281	(05122824)
436744.28	3724023.75	15.66404	(05122824)	436794.28	3724023.75	16.36060	(05122824)
436844.28	3724023.75	15.54102	(05122824)	437044.28	3724023.75	11.02737	(05021324)
437094.28	3724023.75	8.77698	(07120724)	437144.28	3724023.75	9.01478	(07011224)
437194.28	3724023.75	8.93937	(07011224)	437244.28	3724023.75	8.25170	(07011224)
437294.28	3724023.75	7.55354	(07011224)	437344.28	3724023.75	6.67270	(07011224)
437394.28	3724023.75	6.32331	(07011224)	437444.28	3724023.75	5.53292	(07011224)
436244.28	3724073.75	6.52610	(07012924)	436294.28	3724073.75	6.92488	(07012924)
436344.28	3724073.75	7.40890	(07012924)	436394.28	3724073.75	8.09839	(07010924)
436444.28	3724073.75	9.23813	(07010924)	436494.28	3724073.75	10.81684	(07010924)
436544.28	3724073.75	13.45699	(05122024)	436594.28	3724073.75	17.58233	(05122024)
436644.28	3724073.75	21.69222	(07011424)	437044.28	3724073.75	12.05492	(07011224)
437094.28	3724073.75	10.96544	(07011224)	437144.28	3724073.75	10.03490	(07011224)
437194.28	3724073.75	8.87614	(07011224)	437244.28	3724073.75	7.90598	(07011224)
437294.28	3724073.75	7.17348	(07011224)	437344.28	3724073.75	6.62805	(07011224)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724073.75	5.93663	(07011224)	437444.28	3724073.75	3.49022	(07011224)
436244.28	3724123.75	6.75078	(07012924)	436294.28	3724123.75	7.20214	(07012924)
436344.28	3724123.75	7.86142	(07012924)	436394.28	3724123.75	8.80883	(07012924)
436444.28	3724123.75	9.88037	(07012924)	436494.28	3724123.75	11.36782	(07012924)
436544.28	3724123.75	14.25837	(07012924)	436594.28	3724123.75	20.02175	(06010924)
437044.28	3724123.75	12.52859	(07011224)	437094.28	3724123.75	10.75201	(07011224)
437144.28	3724123.75	9.67137	(07011224)	437194.28	3724123.75	8.70971	(07011224)
437244.28	3724123.75	7.72643	(07011224)	437294.28	3724123.75	7.02270	(07011224)
437344.28	3724123.75	5.80625	(07011224)	437394.28	3724123.75	3.30459	(07011224)
437444.28	3724123.75	2.95570	(07122224)	436244.28	3724173.75	6.67737	(07121224)
436294.28	3724173.75	7.17780	(07121224)	436344.28	3724173.75	7.87982	(07121224)
436394.28	3724173.75	8.90477	(07012924)	436444.28	3724173.75	10.65185	(07122924)
436494.28	3724173.75	13.44707	(07122924)	436544.28	3724173.75	17.49564	(07122924)
437094.28	3724173.75	10.72237	(07011224)	437144.28	3724173.75	9.32292	(07011224)
437194.28	3724173.75	8.14566	(07011224)	437244.28	3724173.75	6.89305	(07011224)
437294.28	3724173.75	4.99947	(07011224)	437344.28	3724173.75	3.36403	(07122224)
437394.28	3724173.75	3.03073	(07122224)	437444.28	3724173.75	2.74783	(07122224)
436244.28	3724223.75	6.54689	(07121224)	436294.28	3724223.75	7.14552	(07122924)
436344.28	3724223.75	8.21557	(07122924)	436394.28	3724223.75	9.76932	(07122924)
436444.28	3724223.75	12.15114	(07122924)	436494.28	3724223.75	15.33333	(07122924)
436544.28	3724223.75	19.67012	(07122924)	437094.28	3724223.75	10.03582	(07011224)
437144.28	3724223.75	8.25220	(07011224)	437194.28	3724223.75	6.89627	(07122224)
437244.28	3724223.75	6.03554	(07122224)	437294.28	3724223.75	5.38114	(07122224)
437344.28	3724223.75	3.30058	(07122224)	437394.28	3724223.75	2.42224	(07122224)
437444.28	3724223.75	1.90849	(07110824)	436244.28	3724273.75	7.28198	(07122924)
436294.28	3724273.75	7.85519	(07122924)	436344.28	3724273.75	8.85325	(07122924)
436394.28	3724273.75	10.36695	(07122924)	436444.28	3724273.75	12.61169	(07122924)
436494.28	3724273.75	16.03873	(07122924)	436544.28	3724273.75	20.34813	(07122924)
437094.28	3724273.75	7.72913	(07011224)	437144.28	3724273.75	6.32338	(07122224)
437194.28	3724273.75	5.31860	(07122224)	437244.28	3724273.75	4.23933	(07122224)
437294.28	3724273.75	3.39447	(07122224)	437344.28	3724273.75	2.50526	(07122224)
437394.28	3724273.75	2.04009	(07110824)	437444.28	3724273.75	1.83610	(07110824)
436244.28	3724323.75	7.58272	(07122924)	436294.28	3724323.75	8.10326	(07122924)
436344.28	3724323.75	8.70447	(07122924)	436394.28	3724323.75	10.05658	(07122924)
436444.28	3724323.75	12.10521	(07122924)	436494.28	3724323.75	15.54434	(07122924)
436544.28	3724323.75	19.98975	(07122924)	436594.28	3724323.75	20.04631	(07122924)
437094.28	3724323.75	8.44290	(06122324)	437144.28	3724323.75	7.43310	(06122324)
437194.28	3724323.75	6.26802	(06122324)	437244.28	3724323.75	4.94790	(06122324)
437294.28	3724323.75	3.80346	(06122324)	437344.28	3724323.75	2.09911	(06122324)
437394.28	3724323.75	1.79089	(07110824)	437444.28	3724323.75	1.58815	(07110824)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724373.75	6.70424	(05121624)	436294.28	3724373.75	6.87067	(05121624)
436344.28	3724373.75	6.94227	(05121624)	436394.28	3724373.75	7.70675	(05121624)
436444.28	3724373.75	9.03372	(07122924)	436494.28	3724373.75	11.65652	(07122924)
436544.28	3724373.75	15.82868	(07122924)	436594.28	3724373.75	17.64157	(07122924)
437144.28	3724373.75	8.10577	(06122324)	437194.28	3724373.75	7.04211	(06122324)
437244.28	3724373.75	6.11413	(06122324)	437294.28	3724373.75	5.17739	(06122324)
437344.28	3724373.75	4.20409	(06122324)	437394.28	3724373.75	3.02155	(06122324)
437444.28	3724373.75	1.47727	(06122324)	436244.28	3724423.75	6.24269	(05121624)
436294.28	3724423.75	6.17972	(05121624)	436344.28	3724423.75	6.76651	(06013024)
436394.28	3724423.75	7.66296	(06013024)	436444.28	3724423.75	8.96983	(06013024)
436494.28	3724423.75	11.31180	(05012124)	436544.28	3724423.75	14.91856	(05012124)
436594.28	3724423.75	15.32943	(05122624)	437194.28	3724423.75	7.29306	(06122324)
437244.28	3724423.75	6.49866	(06122324)	437294.28	3724423.75	5.79432	(06122324)
437344.28	3724423.75	5.11855	(06122324)	437394.28	3724423.75	4.37893	(06122324)
437444.28	3724423.75	2.82888	(06122324)	436244.28	3724473.75	6.05321	(06013024)
436294.28	3724473.75	6.57883	(06013024)	436344.28	3724473.75	7.83270	(06013024)
436394.28	3724473.75	8.60308	(06013024)	436444.28	3724473.75	9.17610	(06013024)
436494.28	3724473.75	10.78565	(06121924)	436544.28	3724473.75	14.76925	(05122624)
436594.28	3724473.75	16.58790	(05122624)	437194.28	3724473.75	7.29153	(06122324)
437244.28	3724473.75	6.71282	(06122324)	437294.28	3724473.75	6.08234	(06122324)
437344.28	3724473.75	5.53233	(06122324)	437394.28	3724473.75	4.98120	(06122324)
437444.28	3724473.75	4.57615	(06122324)	436244.28	3724523.75	6.58832	(06013024)
436294.28	3724523.75	7.12322	(06013024)	436344.28	3724523.75	7.82707	(06013024)
436394.28	3724523.75	8.03557	(06013024)	436444.28	3724523.75	9.20283	(06121924)
436494.28	3724523.75	10.57592	(05122624)	436544.28	3724523.75	14.39472	(05122624)
436594.28	3724523.75	14.38153	(05122624)	437244.28	3724523.75	6.69187	(06122724)
437294.28	3724523.75	5.91253	(06122324)	437344.28	3724523.75	5.60975	(06122324)
437394.28	3724523.75	5.25389	(06122324)	437444.28	3724523.75	5.01173	(06122324)
436244.28	3724573.75	6.48538	(06013024)	436294.28	3724573.75	6.45092	(06013024)
436344.28	3724573.75	7.27281	(06121924)	436394.28	3724573.75	8.64476	(06121924)
436444.28	3724573.75	8.99642	(06121924)	436494.28	3724573.75	11.29632	(05122624)
436544.28	3724573.75	12.22871	(05122624)	436594.28	3724573.75	12.14755	(05123124)
437244.28	3724573.75	6.75079	(06122724)	437294.28	3724573.75	6.17798	(06122724)
437344.28	3724573.75	5.41944	(06122724)	437394.28	3724573.75	4.92990	(06122324)
437444.28	3724573.75	4.93989	(06122324)	436244.28	3724623.75	5.69808	(07112224)
436294.28	3724623.75	6.72422	(06121924)	436344.28	3724623.75	7.58718	(06121924)
436394.28	3724623.75	7.90744	(06121924)	436444.28	3724623.75	9.39230	(05122624)
436494.28	3724623.75	10.22531	(05122624)	436544.28	3724623.75	9.74126	(05123124)
436594.28	3724623.75	9.40133	(05123124)	437244.28	3724623.75	6.58113	(07020724)
437294.28	3724623.75	5.92147	(06122724)	437344.28	3724623.75	5.58831	(06122724)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724623.75	5.17065	(06122724)	437444.28	3724623.75	4.58651	(06122724)
436244.28	3724673.75	6.21592	(06121924)	436294.28	3724673.75	6.75526	(06121924)
436344.28	3724673.75	6.76616	(06121924)	436394.28	3724673.75	8.18054	(05122624)
436444.28	3724673.75	9.19733	(05122624)	436494.28	3724673.75	8.44468	(05122624)
436544.28	3724673.75	8.37316m	(05012424)	436594.28	3724673.75	8.17553	(06121024)
437194.28	3724673.75	5.21331	(07020724)	437244.28	3724673.75	5.80271	(07020724)
437294.28	3724673.75	5.88022	(07020724)	437344.28	3724673.75	5.39922	(07020724)
437394.28	3724673.75	5.09047	(06122724)	437444.28	3724673.75	4.87853	(06122724)
436244.28	3724723.75	6.19154	(06121924)	436294.28	3724723.75	6.06652	(06121924)
436344.28	3724723.75	6.82468	(05122624)	436394.28	3724723.75	8.18824	(05122624)
436444.28	3724723.75	7.95730	(05122624)	436494.28	3724723.75	7.46173m	(05012424)
436544.28	3724723.75	7.54642	(06121024)	436594.28	3724723.75	7.00639	(06121024)
437144.28	3724723.75	7.45247	(05020724)	437194.28	3724723.75	5.99295	(05020724)
437244.28	3724723.75	4.50099	(07020724)	437294.28	3724723.75	5.11302	(07020724)
437344.28	3724723.75	5.21669	(07020724)	437394.28	3724723.75	5.03619	(07020724)
437444.28	3724723.75	4.60733	(06122724)	436244.28	3724773.75	5.43917	(06121924)
436294.28	3724773.75	6.22073	(05122624)	436344.28	3724773.75	7.18140	(05122624)
436394.28	3724773.75	6.62862	(05122624)	436444.28	3724773.75	5.95373	(05123124)
436494.28	3724773.75	6.97749m	(05012424)	436544.28	3724773.75	7.07788	(06121024)
436594.28	3724773.75	6.20385	(06121024)	437094.28	3724773.75	7.27810	(06112424)
437144.28	3724773.75	7.02147	(05020724)	437194.28	3724773.75	5.99978	(05020724)
437244.28	3724773.75	4.79562	(05020724)	437294.28	3724773.75	3.92794	(07020724)
437344.28	3724773.75	4.48493	(07020724)	437394.28	3724773.75	4.87366	(07020724)
437444.28	3724773.75	4.84332	(07020724)	436244.28	3724823.75	5.24192	(05122624)
436294.28	3724823.75	6.40798	(05122624)	436344.28	3724823.75	6.31191	(05122624)
436394.28	3724823.75	4.72103	(05123124)	436444.28	3724823.75	4.58251m	(05012424)
436494.28	3724823.75	6.40052	(06121024)	436544.28	3724823.75	6.72516	(06121024)
436594.28	3724823.75	5.56092	(06121024)	437094.28	3724823.75	6.79484	(06112424)
437144.28	3724823.75	6.36204	(06112424)	437194.28	3724823.75	5.49567	(05020724)
437244.28	3724823.75	5.59377	(05020724)	437294.28	3724823.75	3.89358	(05020724)
437344.28	3724823.75	3.45592	(07020724)	437394.28	3724823.75	4.15615	(07020724)
437444.28	3724823.75	4.52388	(07020724)	436244.28	3724873.75	5.37770	(05122624)
436294.28	3724873.75	6.08846	(05122624)	436344.28	3724873.75	4.33659	(05123124)
436394.28	3724873.75	3.79489m	(05012424)	436444.28	3724873.75	5.37736m	(05012424)
436494.28	3724873.75	6.20301	(06121024)	436544.28	3724873.75	6.05545	(06121024)
436594.28	3724873.75	5.34749	(06121024)	437044.28	3724873.75	5.56406	(06112424)
437094.28	3724873.75	6.21633	(06112424)	437144.28	3724873.75	6.25152	(06112424)
437194.28	3724873.75	4.59045	(05020724)	437244.28	3724873.75	5.09861	(05020724)
437294.28	3724873.75	4.63246	(05020724)	437344.28	3724873.75	3.28153	(05020724)
437394.28	3724873.75	3.11536	(07020724)	437444.28	3724873.75	3.73532	(07020724)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724923.75	5.30372	(05122624)	436294.28	3724923.75	5.32092	(05122624)
436344.28	3724923.75	4.90109m	(05012424)	436394.28	3724923.75	3.51257m	(05012424)
436444.28	3724923.75	4.25670	(05012224)	436494.28	3724923.75	5.59079	(06121024)
436544.28	3724923.75	4.79193	(06121024)	436594.28	3724923.75	3.95799	(05020524)
436994.28	3724923.75	3.57026	(05122224)	437044.28	3724923.75	3.80736	(06112424)
437094.28	3724923.75	5.53110	(06112424)	437144.28	3724923.75	5.90414	(06112424)
437194.28	3724923.75	4.24123	(06112424)	437244.28	3724923.75	4.21008	(05020724)
437294.28	3724923.75	5.10522	(05020724)	437344.28	3724923.75	4.01065	(05020724)
437394.28	3724923.75	2.77756	(05020724)	437444.28	3724923.75	2.71072	(07020724)
436244.28	3724973.75	4.69453	(05122624)	436294.28	3724973.75	4.68452	(05123124)
436344.28	3724973.75	4.42433m	(05012424)	436394.28	3724973.75	3.29480	(07111824)
436444.28	3724973.75	3.78281	(06121024)	436494.28	3724973.75	4.88754	(06121024)
436544.28	3724973.75	3.91933	(06121024)	436594.28	3724973.75	3.37929	(05020524)
436944.28	3724973.75	3.29399	(05122224)	436994.28	3724973.75	3.31018	(05122224)
437044.28	3724973.75	3.69126	(05122224)	437094.28	3724973.75	5.01158	(06112424)
437144.28	3724973.75	5.46012	(06112424)	437194.28	3724973.75	4.29562	(06112424)
437244.28	3724973.75	3.51826	(05020724)	437294.28	3724973.75	4.69829	(05020724)
437344.28	3724973.75	4.47121	(05020724)	437394.28	3724973.75	3.45480	(05020724)
437444.28	3724973.75	2.22379	(05020724)	436244.28	3725023.75	4.05383	(05123124)
436294.28	3725023.75	4.61406m	(05012424)	436344.28	3725023.75	4.83414m	(05012424)
436394.28	3725023.75	4.34959	(05012224)	436444.28	3725023.75	3.54528	(06121024)
436494.28	3725023.75	3.58935	(06121024)	436544.28	3725023.75	3.08947	(06121024)
436594.28	3725023.75	3.29000	(05020524)	436844.28	3725023.75	2.57114	(05121824)
436894.28	3725023.75	2.72344	(05122224)	436944.28	3725023.75	3.12356	(05122224)
436994.28	3725023.75	3.46678	(05122224)	437044.28	3725023.75	4.05467	(05122224)
437094.28	3725023.75	4.35569	(06112424)	437144.28	3725023.75	4.97744	(06112424)
437194.28	3725023.75	4.09246	(06112424)	437244.28	3725023.75	3.38542	(06112424)
437294.28	3725023.75	4.15877	(05020724)	437344.28	3725023.75	4.65630	(05020724)
437394.28	3725023.75	3.98145	(05020724)	437444.28	3725023.75	2.88756	(05020724)
436244.28	3725073.75	3.77988m	(05012424)	436294.28	3725073.75	4.04790m	(05012424)
436344.28	3725073.75	3.97174m	(05012424)	436394.28	3725073.75	4.66648	(06121024)
436444.28	3725073.75	4.54553	(06121024)	436494.28	3725073.75	3.88783	(06121024)
436544.28	3725073.75	2.82653	(06121224)	436594.28	3725073.75	3.20679	(05020524)
436644.28	3725073.75	3.59588	(05020524)	436694.28	3725073.75	3.60091	(05020524)
436744.28	3725073.75	3.39241	(05020524)	436794.28	3725073.75	2.74224	(05020524)
436844.28	3725073.75	2.45901	(05121824)	436894.28	3725073.75	2.44939	(05121824)
436944.28	3725073.75	2.94128	(05122224)	436994.28	3725073.75	3.10791	(05122224)
437044.28	3725073.75	3.39411	(05122224)	437094.28	3725073.75	3.90346	(05122224)
437144.28	3725073.75	4.41625	(06112424)	437194.28	3725073.75	3.72488	(06112424)
437244.28	3725073.75	3.27431	(06112424)	437294.28	3725073.75	3.44158	(05020724)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437344.28	3725073.75	4.57867	(05020724)	437394.28	3725073.75	4.27857	(05020724)
437444.28	3725073.75	3.47267	(05020724)	436244.28	3725123.75	3.73420m	(05012424)
436294.28	3725123.75	3.76874m	(05012424)	436344.28	3725123.75	3.66944	(06121024)
436394.28	3725123.75	4.23409	(06121024)	436444.28	3725123.75	4.31634	(06121024)
436494.28	3725123.75	4.23718	(06121224)	436544.28	3725123.75	3.59678	(06121224)
436594.28	3725123.75	3.24950	(05020524)	436644.28	3725123.75	3.43537	(05020524)
436694.28	3725123.75	3.37833	(05020524)	436744.28	3725123.75	3.10700	(05020524)
436794.28	3725123.75	2.47550	(05020524)	436844.28	3725123.75	2.38634	(05121824)
436894.28	3725123.75	2.38082	(05121824)	436944.28	3725123.75	2.93061	(05122224)
436994.28	3725123.75	3.27222	(05122224)	437044.28	3725123.75	3.56761	(05122224)
437094.28	3725123.75	3.96094	(05122224)	437144.28	3725123.75	3.73815	(06112424)
437194.28	3725123.75	3.39155	(06112424)	437244.28	3725123.75	3.19613	(06112424)
437294.28	3725123.75	3.30333	(06112424)	437344.28	3725123.75	3.76901	(05020724)
437394.28	3725123.75	4.31534	(05020724)	437444.28	3725123.75	3.86038	(05020724)
436244.28	3725173.75	4.00510m	(05012424)	436294.28	3725173.75	3.48143	(06122624)
436344.28	3725173.75	3.76599	(06121024)	436394.28	3725173.75	4.21628	(06121024)
436444.28	3725173.75	4.18241	(06121024)	436494.28	3725173.75	3.98465	(06121224)
436544.28	3725173.75	3.38419	(06121224)	436594.28	3725173.75	3.61832	(05020524)
436644.28	3725173.75	3.34927	(05020524)	436694.28	3725173.75	3.17451	(05020524)
436744.28	3725173.75	2.88476	(05020524)	436794.28	3725173.75	2.26403	(05020524)
436844.28	3725173.75	2.39047	(05121824)	436894.28	3725173.75	2.42265	(05121824)
436944.28	3725173.75	2.99164	(05122224)	436994.28	3725173.75	3.64149	(05122224)
437044.28	3725173.75	3.87802	(05122224)	437094.28	3725173.75	3.95678	(05122224)
437144.28	3725173.75	3.16059	(06112424)	437194.28	3725173.75	3.34880	(06112424)
437244.28	3725173.75	3.16447	(06112424)	437294.28	3725173.75	3.25928	(06112424)
437344.28	3725173.75	3.03578	(06112424)	437394.28	3725173.75	3.98310	(05020724)
437444.28	3725173.75	3.99764	(05020724)	436244.28	3725223.75	3.57713m	(05012424)
436294.28	3725223.75	3.64287	(05012224)	436344.28	3725223.75	3.83550	(06121024)
436394.28	3725223.75	4.07933	(06121024)	436444.28	3725223.75	3.86019	(06121224)
436494.28	3725223.75	3.21586	(06121224)	436544.28	3725223.75	2.38695	(05020524)
436594.28	3725223.75	2.96630	(05020524)	436644.28	3725223.75	3.09997	(05020524)
436694.28	3725223.75	2.99560	(05020524)	436744.28	3725223.75	2.69147	(05020524)
436794.28	3725223.75	2.10475	(05121824)	436844.28	3725223.75	2.24272	(05121824)
436894.28	3725223.75	2.27011	(05121824)	436944.28	3725223.75	2.51375	(05122224)
436994.28	3725223.75	3.28962	(05122224)	437044.28	3725223.75	3.70018	(05122224)
437094.28	3725223.75	3.78685	(05122224)	437144.28	3725223.75	3.19095	(05122224)
437194.28	3725223.75	3.03661	(06112424)	437244.28	3725223.75	3.14560	(06112424)
437294.28	3725223.75	3.41467	(06112424)	437344.28	3725223.75	3.47593	(06112424)
437394.28	3725223.75	3.59985	(05020724)	437444.28	3725223.75	3.91119	(05020724)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
436244.28	3723773.75	0.00480	(07121124)	436294.28	3723773.75	0.00530	(07121124)
436344.28	3723773.75	0.00546	(07121124)	436394.28	3723773.75	0.00578	(07011324)
436444.28	3723773.75	0.00674	(05020224)	436494.28	3723773.75	0.00816	(05020224)
436544.28	3723773.75	0.00933	(05013124)	436594.28	3723773.75	0.01057	(05013124)
436644.28	3723773.75	0.01218	(05112724)	436694.28	3723773.75	0.01355	(05112724)
436744.28	3723773.75	0.01351	(05112724)	436794.28	3723773.75	0.01222	(05112724)
436844.28	3723773.75	0.00970	(05112724)	436894.28	3723773.75	0.00840	(06012324)
436944.28	3723773.75	0.00666	(06012324)	436994.28	3723773.75	0.00656	(06062724)
437044.28	3723773.75	0.00724	(06071124)	437094.28	3723773.75	0.00815	(06082724)
437144.28	3723773.75	0.00858	(06082724)	437194.28	3723773.75	0.00823	(06072124)
437244.28	3723773.75	0.00771	(06072124)	437294.28	3723773.75	0.00670	(06072124)
437344.28	3723773.75	0.00597	(05081924)	437394.28	3723773.75	0.00536	(07091124)
437444.28	3723773.75	0.00486	(07091124)	436244.28	3723823.75	0.00530	(06121824)
436294.28	3723823.75	0.00564	(07121124)	436344.28	3723823.75	0.00627	(07121124)
436394.28	3723823.75	0.00654	(07011324)	436444.28	3723823.75	0.00704	(07011324)
436494.28	3723823.75	0.00872	(05020224)	436544.28	3723823.75	0.01039	(05013124)
436594.28	3723823.75	0.01224	(05013124)	436644.28	3723823.75	0.01353	(05112724)
436694.28	3723823.75	0.01529	(05112724)	436744.28	3723823.75	0.01565	(05112724)
436794.28	3723823.75	0.01457	(05112724)	436844.28	3723823.75	0.01181	(05112724)
436894.28	3723823.75	0.00996	(06012324)	436944.28	3723823.75	0.00828	(06062724)
436994.28	3723823.75	0.00820	(06071124)	437044.28	3723823.75	0.00911	(06082724)
437094.28	3723823.75	0.01033	(06082724)	437144.28	3723823.75	0.01007	(06082724)
437194.28	3723823.75	0.00940	(06072124)	437244.28	3723823.75	0.00806	(06072124)
437294.28	3723823.75	0.00714	(05081924)	437344.28	3723823.75	0.00644	(07091124)
437394.28	3723823.75	0.00574	(07091124)	437444.28	3723823.75	0.00494	(07091124)
436244.28	3723873.75	0.00583	(06121824)	436294.28	3723873.75	0.00645	(06121824)
436344.28	3723873.75	0.00688	(06121824)	436394.28	3723873.75	0.00755	(07121124)
436444.28	3723873.75	0.00817	(07011324)	436494.28	3723873.75	0.00905	(05020224)
436544.28	3723873.75	0.01152	(05020224)	436594.28	3723873.75	0.01431	(05013124)
436644.28	3723873.75	0.01571	(05013124)	436694.28	3723873.75	0.01794	(05112724)
436744.28	3723873.75	0.01845	(05112724)	436794.28	3723873.75	0.01742	(05112724)
436844.28	3723873.75	0.01469	(05112724)	436894.28	3723873.75	0.01177	(06012324)
436944.28	3723873.75	0.01057	(06053024)	436994.28	3723873.75	0.01159	(06053024)
437044.28	3723873.75	0.01184	(06082724)	437094.28	3723873.75	0.01243	(06082724)
437144.28	3723873.75	0.01161	(06072124)	437194.28	3723873.75	0.00981	(06072124)
437244.28	3723873.75	0.00861	(05081924)	437294.28	3723873.75	0.00771	(07091124)
437344.28	3723873.75	0.00674	(07091124)	437394.28	3723873.75	0.00569	(07091124)
437444.28	3723873.75	0.00491	(05051924)	436244.28	3723923.75	0.00596	(06121824)
436294.28	3723923.75	0.00697	(06121824)	436344.28	3723923.75	0.00793	(06121824)
436394.28	3723923.75	0.00868	(06121824)	436444.28	3723923.75	0.00935	(07121124)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
436494.28	3723923.75	0.01057	(07011324)	436544.28	3723923.75	0.01261	(05020224)
436594.28	3723923.75	0.01687	(05013124)	436644.28	3723923.75	0.01959	(05013124)
436694.28	3723923.75	0.02214	(05112724)	436744.28	3723923.75	0.02330	(05112724)
436794.28	3723923.75	0.02278	(05112724)	436844.28	3723923.75	0.01857	(05112724)
436944.28	3723923.75	0.01477	(06053024)	436994.28	3723923.75	0.01629	(06082724)
437044.28	3723923.75	0.01598	(06082724)	437094.28	3723923.75	0.01407	(06072124)
437144.28	3723923.75	0.01248	(06061424)	437194.28	3723923.75	0.01087	(06061424)
437244.28	3723923.75	0.00960	(06061424)	437294.28	3723923.75	0.00807	(06061424)
437344.28	3723923.75	0.00662	(06061424)	437394.28	3723923.75	0.00560	(05051924)
437444.28	3723923.75	0.00467	(05051924)	436244.28	3723973.75	0.00560	(06121824)
436294.28	3723973.75	0.00690	(06121824)	436344.28	3723973.75	0.00836	(06121824)
436394.28	3723973.75	0.00987	(06121824)	436444.28	3723973.75	0.01130	(06121824)
436494.28	3723973.75	0.01236	(07121124)	436544.28	3723973.75	0.01425	(07011324)
436594.28	3723973.75	0.01985	(05013124)	436644.28	3723973.75	0.02524	(05013124)
436694.28	3723973.75	0.02825	(05112724)	436744.28	3723973.75	0.03018	(05112724)
436794.28	3723973.75	0.03030	(05112724)	436844.28	3723973.75	0.02532	(05112724)
436994.28	3723973.75	0.02256	(06082724)	437044.28	3723973.75	0.02079	(06072124)
437094.28	3723973.75	0.01562	(05081924)	437144.28	3723973.75	0.01402	(06061424)
437194.28	3723973.75	0.01232	(06061424)	437244.28	3723973.75	0.00985	(06061424)
437294.28	3723973.75	0.00750	(06061424)	437344.28	3723973.75	0.00626	(06061424)
437394.28	3723973.75	0.00505	(06061324)	437444.28	3723973.75	0.00418	(06061324)
436244.28	3724023.75	0.00534	(07012224)	436294.28	3724023.75	0.00624	(06121824)
436344.28	3724023.75	0.00798	(06121824)	436394.28	3724023.75	0.01005	(06121824)
436444.28	3724023.75	0.01249	(06121824)	436494.28	3724023.75	0.01540	(06121824)
436544.28	3724023.75	0.01796	(06121824)	436594.28	3724023.75	0.02369	(05013124)
436644.28	3724023.75	0.03458	(05013124)	436694.28	3724023.75	0.03875	(05112724)
436744.28	3724023.75	0.04236	(05112724)	436794.28	3724023.75	0.04194	(05112724)
436844.28	3724023.75	0.03600	(05112724)	437044.28	3724023.75	0.02478	(06052324)
437094.28	3724023.75	0.01858	(06061424)	437144.28	3724023.75	0.01416	(06061424)
437194.28	3724023.75	0.01143	(06061424)	437244.28	3724023.75	0.00886	(06061424)
437294.28	3724023.75	0.00685	(06061424)	437344.28	3724023.75	0.00563	(06061324)
437394.28	3724023.75	0.00463	(05040724)	437444.28	3724023.75	0.00430	(05040724)
436244.28	3724073.75	0.00532	(07012224)	436294.28	3724073.75	0.00618	(07012224)
436344.28	3724073.75	0.00719	(07012224)	436394.28	3724073.75	0.00924	(06121824)
436444.28	3724073.75	0.01218	(06121824)	436494.28	3724073.75	0.01621	(06121824)
436544.28	3724073.75	0.02221	(06121824)	436594.28	3724073.75	0.03113	(06121824)
436644.28	3724073.75	0.05530	(05013124)	437044.28	3724073.75	0.02875	(06061424)
437094.28	3724073.75	0.02039	(06061424)	437144.28	3724073.75	0.01442	(06061424)
437194.28	3724073.75	0.01063	(06061424)	437244.28	3724073.75	0.00799	(06061324)
437294.28	3724073.75	0.00651	(05040724)	437344.28	3724073.75	0.00574	(05040724)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
437394.28	3724073.75	0.00516	(05040724)	437444.28	3724073.75	0.00485	(05040724)
436244.28	3724123.75	0.00476	(07012224)	436294.28	3724123.75	0.00571	(07012224)
436344.28	3724123.75	0.00696	(07012224)	436394.28	3724123.75	0.00849	(07012224)
436444.28	3724123.75	0.01069	(06121824)	436494.28	3724123.75	0.01464	(06121824)
436544.28	3724123.75	0.02034	(06121824)	436594.28	3724123.75	0.03377	(07121124)
437044.28	3724123.75	0.02817	(06061424)	437094.28	3724123.75	0.01983	(06061424)
437144.28	3724123.75	0.01367	(06061424)	437194.28	3724123.75	0.01008	(05040724)
437244.28	3724123.75	0.00832	(05040724)	437294.28	3724123.75	0.00712	(05040724)
437344.28	3724123.75	0.00622	(05040724)	437394.28	3724123.75	0.00563	(05040724)
437444.28	3724123.75	0.00480	(05040724)	436244.28	3724173.75	0.00475	(05111824)
436294.28	3724173.75	0.00549	(05111824)	436344.28	3724173.75	0.00641	(05111824)
436394.28	3724173.75	0.00794	(07120924)	436444.28	3724173.75	0.01040	(07112424)
436494.28	3724173.75	0.01431	(07112424)	436544.28	3724173.75	0.02072	(07112424)
437094.28	3724173.75	0.01888	(05040724)	437144.28	3724173.75	0.01401	(05040724)
437194.28	3724173.75	0.01068	(05040724)	437244.28	3724173.75	0.00861	(05040724)
437294.28	3724173.75	0.00756	(05040724)	437344.28	3724173.75	0.00646	(05040724)
437394.28	3724173.75	0.00541	(06031024)	437444.28	3724173.75	0.00466	(06031024)
436244.28	3724223.75	0.00479	(06122824)	436294.28	3724223.75	0.00561	(06122824)
436344.28	3724223.75	0.00667	(06122824)	436394.28	3724223.75	0.00806	(06122824)
436444.28	3724223.75	0.01032	(07112424)	436494.28	3724223.75	0.01461	(07112424)
436544.28	3724223.75	0.02252	(07112424)	437094.28	3724223.75	0.01883	(05040724)
437144.28	3724223.75	0.01372	(05040724)	437194.28	3724223.75	0.01030	(05040724)
437244.28	3724223.75	0.00807	(05040724)	437294.28	3724223.75	0.00673	(06031024)
437344.28	3724223.75	0.00592	(06031024)	437394.28	3724223.75	0.00507	(06031024)
437444.28	3724223.75	0.00440	(06031024)	436244.28	3724273.75	0.00517	(07011524)
436294.28	3724273.75	0.00611	(07021724)	436344.28	3724273.75	0.00749	(07021724)
436394.28	3724273.75	0.00942	(07021724)	436444.28	3724273.75	0.01183	(07021724)
436494.28	3724273.75	0.01454	(07011524)	436544.28	3724273.75	0.02234	(07112424)
437094.28	3724273.75	0.02013	(06040524)	437144.28	3724273.75	0.01383	(06040524)
437194.28	3724273.75	0.00965	(06040524)	437244.28	3724273.75	0.00747	(06031024)
437294.28	3724273.75	0.00604	(06031024)	437344.28	3724273.75	0.00502	(06031024)
437394.28	3724273.75	0.00425	(06031024)	437444.28	3724273.75	0.00393	(06112024)
436244.28	3724323.75	0.00530	(07011524)	436294.28	3724323.75	0.00663	(07021724)
436344.28	3724323.75	0.00821	(07021724)	436394.28	3724323.75	0.01001	(07021724)
436444.28	3724323.75	0.01232	(07021724)	436494.28	3724323.75	0.01516	(07011524)
436544.28	3724323.75	0.02058	(07011524)	436594.28	3724323.75	0.03667	(07112424)
437094.28	3724323.75	0.02219	(06040524)	437144.28	3724323.75	0.01583	(06040524)
437194.28	3724323.75	0.01159	(06040524)	437244.28	3724323.75	0.00886	(06040524)
437294.28	3724323.75	0.00694	(06040524)	437344.28	3724323.75	0.00580	(06040524)
437394.28	3724323.75	0.00487	(06040524)	437444.28	3724323.75	0.00399	(06040524)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
436244.28	3724373.75	0.00533	(07021724)	436294.28	3724373.75	0.00650	(07021724)
436344.28	3724373.75	0.00807	(07021724)	436394.28	3724373.75	0.00963	(07021724)
436444.28	3724373.75	0.01162	(07021724)	436494.28	3724373.75	0.01411	(05010724)
436544.28	3724373.75	0.02118	(05010724)	436594.28	3724373.75	0.03729	(05010724)
437144.28	3724373.75	0.01606	(06040524)	437194.28	3724373.75	0.01252	(06040524)
437244.28	3724373.75	0.00987	(06040524)	437294.28	3724373.75	0.00785	(06040524)
437344.28	3724373.75	0.00635	(06040524)	437394.28	3724373.75	0.00533	(06040524)
437444.28	3724373.75	0.00454	(06040524)	436244.28	3724423.75	0.00509	(07021724)
436294.28	3724423.75	0.00611	(07021724)	436344.28	3724423.75	0.00699	(07021724)
436394.28	3724423.75	0.00826	(07021924)	436444.28	3724423.75	0.01066	(07021924)
436494.28	3724423.75	0.01455	(05010724)	436544.28	3724423.75	0.02174	(05010724)
436594.28	3724423.75	0.03517	(05010724)	437194.28	3724423.75	0.01235	(06040524)
437244.28	3724423.75	0.01007	(06040524)	437294.28	3724423.75	0.00825	(06040524)
437344.28	3724423.75	0.00681	(06040524)	437394.28	3724423.75	0.00564	(06040524)
437444.28	3724423.75	0.00492	(06040524)	436244.28	3724473.75	0.00479	(05010724)
436294.28	3724473.75	0.00560	(07021924)	436344.28	3724473.75	0.00674	(07021924)
436394.28	3724473.75	0.00845	(07021924)	436444.28	3724473.75	0.01066	(07021924)
436494.28	3724473.75	0.01287	(05022124)	436544.28	3724473.75	0.01821	(05022124)
436594.28	3724473.75	0.02712	(05022124)	437194.28	3724473.75	0.01112	(06040524)
437244.28	3724473.75	0.00947	(06040524)	437294.28	3724473.75	0.00805	(06040524)
437344.28	3724473.75	0.00685	(06040524)	437394.28	3724473.75	0.00580	(06040524)
437444.28	3724473.75	0.00500	(06040524)	436244.28	3724523.75	0.00479	(07021924)
436294.28	3724523.75	0.00575	(07021924)	436344.28	3724523.75	0.00659	(07021924)
436394.28	3724523.75	0.00757	(07021924)	436444.28	3724523.75	0.00956	(05022124)
436494.28	3724523.75	0.01255	(05022124)	436544.28	3724523.75	0.01540	(05022124)
436594.28	3724523.75	0.02124	(05012824)	437244.28	3724523.75	0.00827	(06040524)
437294.28	3724523.75	0.00735	(06040524)	437344.28	3724523.75	0.00647	(06040524)
437394.28	3724523.75	0.00566	(06040524)	437444.28	3724523.75	0.00494	(06040524)
436244.28	3724573.75	0.00470	(07021924)	436294.28	3724573.75	0.00532	(07021924)
436344.28	3724573.75	0.00572	(07021924)	436394.28	3724573.75	0.00709	(05022124)
436444.28	3724573.75	0.00902	(05022124)	436494.28	3724573.75	0.01099	(05022124)
436544.28	3724573.75	0.01342	(05012824)	436594.28	3724573.75	0.01602	(05012824)
437244.28	3724573.75	0.00675	(06040524)	437294.28	3724573.75	0.00631	(06040524)
437344.28	3724573.75	0.00579	(06040524)	437394.28	3724573.75	0.00523	(06040524)
437444.28	3724573.75	0.00468	(06040524)	436244.28	3724623.75	0.00414	(07021924)
436294.28	3724623.75	0.00441	(05022124)	436344.28	3724623.75	0.00558	(05022124)
436394.28	3724623.75	0.00703	(05022124)	436444.28	3724623.75	0.00828	(05022124)
436494.28	3724623.75	0.00964	(05012824)	436544.28	3724623.75	0.01179	(05012824)
436594.28	3724623.75	0.01459	(05010824)	437244.28	3724623.75	0.00708	(05050624)
437294.28	3724623.75	0.00560	(05050624)	437344.28	3724623.75	0.00492	(06040524)

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
437394.28	3724623.75	0.00462	(06040524)	437444.28	3724623.75	0.00426	(06040524)
436244.28	3724673.75	0.00363	(05022124)	436294.28	3724673.75	0.00450	(05022124)
436344.28	3724673.75	0.00550	(05022124)	436394.28	3724673.75	0.00677	(05022124)
436444.28	3724673.75	0.00757	(05022124)	436494.28	3724673.75	0.00900	(05012824)
436544.28	3724673.75	0.01003	(05012824)	436594.28	3724673.75	0.01303	(05010824)
437194.28	3724673.75	0.00793	(05050624)	437244.28	3724673.75	0.00697	(05050624)
437294.28	3724673.75	0.00585	(05050624)	437344.28	3724673.75	0.00472	(05050624)
437394.28	3724673.75	0.00390	(06040524)	437444.28	3724673.75	0.00374	(06040524)
436244.28	3724723.75	0.00376	(05022124)	436294.28	3724723.75	0.00454	(05022124)
436344.28	3724723.75	0.00524	(05022124)	436394.28	3724723.75	0.00651	(05022124)
436444.28	3724723.75	0.00724	(05012824)	436494.28	3724723.75	0.00807	(05012824)
436544.28	3724723.75	0.00847	(05012824)	436594.28	3724723.75	0.01175	(05010824)
437144.28	3724723.75	0.00709	(05050624)	437194.28	3724723.75	0.00704	(05050624)
437244.28	3724723.75	0.00649	(05050624)	437294.28	3724723.75	0.00576	(05050624)
437344.28	3724723.75	0.00490	(05050624)	437394.28	3724723.75	0.00404	(05050624)
437444.28	3724723.75	0.00324	(05050624)	436244.28	3724773.75	0.00380	(05022124)
436294.28	3724773.75	0.00476	(05022124)	436344.28	3724773.75	0.00509	(05022124)
436394.28	3724773.75	0.00610	(05022124)	436444.28	3724773.75	0.00703	(05012824)
436494.28	3724773.75	0.00715	(05012824)	436544.28	3724773.75	0.00779	(05010824)
436594.28	3724773.75	0.01050	(05010824)	437094.28	3724773.75	0.00661	(05060824)
437144.28	3724773.75	0.00566	(05060824)	437194.28	3724773.75	0.00597	(05050624)
437244.28	3724773.75	0.00578	(05050624)	437294.28	3724773.75	0.00541	(05050624)
437344.28	3724773.75	0.00484	(05050624)	437394.28	3724773.75	0.00418	(05050624)
437444.28	3724773.75	0.00350	(05050624)	436244.28	3724823.75	0.00362	(05022124)
436294.28	3724823.75	0.00466	(05022124)	436344.28	3724823.75	0.00515	(05022124)
436394.28	3724823.75	0.00587	(05012824)	436444.28	3724823.75	0.00646	(05012824)
436494.28	3724823.75	0.00614	(05012824)	436544.28	3724823.75	0.00754	(05010824)
436594.28	3724823.75	0.00936	(05010824)	437094.28	3724823.75	0.00587	(05060824)
437144.28	3724823.75	0.00526	(05060824)	437194.28	3724823.75	0.00486	(05050624)
437244.28	3724823.75	0.00498	(05050624)	437294.28	3724823.75	0.00487	(05050624)
437344.28	3724823.75	0.00457	(05050624)	437394.28	3724823.75	0.00413	(05050624)
437444.28	3724823.75	0.00360	(05050624)	436244.28	3724873.75	0.00338	(05022124)
436294.28	3724873.75	0.00413	(05020624)	436344.28	3724873.75	0.00481	(05012824)
436394.28	3724873.75	0.00555	(05012824)	436444.28	3724873.75	0.00544	(05012824)
436494.28	3724873.75	0.00584	(05010824)	436544.28	3724873.75	0.00718	(05010824)
436594.28	3724873.75	0.00829	(05010824)	437044.28	3724873.75	0.00581	(06050424)
437094.28	3724873.75	0.00519	(05060824)	437144.28	3724873.75	0.00482	(05060824)
437194.28	3724873.75	0.00432	(05060824)	437244.28	3724873.75	0.00418	(05050624)
437294.28	3724873.75	0.00425	(05050624)	437344.28	3724873.75	0.00417	(05050624)
437394.28	3724873.75	0.00392	(05050624)	437444.28	3724873.75	0.00356	(05050624)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
436244.28	3724923.75	0.00340	(05020624)	436294.28	3724923.75	0.00393	(05020624)
436344.28	3724923.75	0.00442	(05012824)	436394.28	3724923.75	0.00501	(05012824)
436444.28	3724923.75	0.00480	(05012824)	436494.28	3724923.75	0.00573	(05010824)
436544.28	3724923.75	0.00669	(05010824)	436594.28	3724923.75	0.00788	(06010224)
436994.28	3724923.75	0.00605	(05052324)	437044.28	3724923.75	0.00522	(06050424)
437094.28	3724923.75	0.00472	(06050424)	437144.28	3724923.75	0.00437	(05060824)
437194.28	3724923.75	0.00405	(05060824)	437244.28	3724923.75	0.00355	(05091324)
437294.28	3724923.75	0.00362	(05050624)	437344.28	3724923.75	0.00369	(05050624)
437394.28	3724923.75	0.00361	(05050624)	437444.28	3724923.75	0.00340	(05050624)
436244.28	3724973.75	0.00326	(05020624)	436294.28	3724973.75	0.00366	(05012824)
436344.28	3724973.75	0.00414	(05012824)	436394.28	3724973.75	0.00436	(05012824)
436444.28	3724973.75	0.00438	(05010824)	436494.28	3724973.75	0.00540	(05010824)
436544.28	3724973.75	0.00623	(06010224)	436594.28	3724973.75	0.00714	(06010224)
436944.28	3724973.75	0.00590	(05052324)	436994.28	3724973.75	0.00551	(05052324)
437044.28	3724973.75	0.00473	(05052324)	437094.28	3724973.75	0.00427	(06050424)
437144.28	3724973.75	0.00391	(05060824)	437194.28	3724973.75	0.00375	(05060824)
437244.28	3724973.75	0.00339	(07022224)	437294.28	3724973.75	0.00301	(05050624)
437344.28	3724973.75	0.00318	(05050624)	437394.28	3724973.75	0.00323	(05050624)
437444.28	3724973.75	0.00316	(05050624)	436244.28	3725023.75	0.00307	(05020624)
436294.28	3725023.75	0.00347	(05012824)	436344.28	3725023.75	0.00363	(05012824)
436394.28	3725023.75	0.00359	(05012824)	436444.28	3725023.75	0.00419	(05010824)
436494.28	3725023.75	0.00494	(05010824)	436544.28	3725023.75	0.00584	(06010224)
436594.28	3725023.75	0.00630	(06010224)	436844.28	3725023.75	0.00548	(05101524)
436894.28	3725023.75	0.00514	(05052324)	436944.28	3725023.75	0.00523	(05052324)
436994.28	3725023.75	0.00493	(05052324)	437044.28	3725023.75	0.00436	(05052324)
437094.28	3725023.75	0.00391	(06051224)	437144.28	3725023.75	0.00357	(05071624)
437194.28	3725023.75	0.00343	(05060824)	437244.28	3725023.75	0.00324	(07022224)
437294.28	3725023.75	0.00282	(05091324)	437344.28	3725023.75	0.00268	(05050624)
437394.28	3725023.75	0.00283	(05050624)	437444.28	3725023.75	0.00286	(05050624)
436244.28	3725073.75	0.00298	(05012824)	436294.28	3725073.75	0.00317	(05012824)
436344.28	3725073.75	0.00315	(05012824)	436394.28	3725073.75	0.00326	(05010824)
436444.28	3725073.75	0.00416	(05010824)	436494.28	3725073.75	0.00466	(05010824)
436544.28	3725073.75	0.00542	(06010224)	436594.28	3725073.75	0.00576	(06010224)
436644.28	3725073.75	0.00605	(06010224)	436694.28	3725073.75	0.00629	(06010224)
436744.28	3725073.75	0.00605	(06010224)	436794.28	3725073.75	0.00544	(06010224)
436844.28	3725073.75	0.00493	(05101524)	436894.28	3725073.75	0.00449	(05052324)
436944.28	3725073.75	0.00465	(05052324)	436994.28	3725073.75	0.00452	(05052324)
437044.28	3725073.75	0.00411	(05052324)	437094.28	3725073.75	0.00364	(06082424)
437144.28	3725073.75	0.00338	(06051224)	437194.28	3725073.75	0.00316	(05071624)
437244.28	3725073.75	0.00304	(07022224)	437294.28	3725073.75	0.00270	(07022224)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE 1ST HIGHEST 24-HR DRY DEPOSITION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): AREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** DEPO OF PM IN GRAMS/M**2 **

X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	DEPO	(YYMMDDHH)
437344.28	3725073.75	0.00240	(05091324)	437394.28	3725073.75	0.00242	(05050624)
437444.28	3725073.75	0.00253	(05050624)	436244.28	3725123.75	0.00281	(05012824)
436294.28	3725123.75	0.00287	(05012824)	436344.28	3725123.75	0.00275	(05012824)
436394.28	3725123.75	0.00286	(05010824)	436444.28	3725123.75	0.00338	(05010824)
436494.28	3725123.75	0.00405	(05010824)	436544.28	3725123.75	0.00477	(06010224)
436594.28	3725123.75	0.00547	(06010224)	436644.28	3725123.75	0.00563	(06010224)
436694.28	3725123.75	0.00560	(06010224)	436744.28	3725123.75	0.00533	(06010224)
436794.28	3725123.75	0.00486	(06010224)	436844.28	3725123.75	0.00441	(05101524)
436894.28	3725123.75	0.00395	(05101524)	436944.28	3725123.75	0.00409	(05052324)
436994.28	3725123.75	0.00405	(05052324)	437044.28	3725123.75	0.00378	(05052324)
437094.28	3725123.75	0.00339	(06082424)	437144.28	3725123.75	0.00320	(06051224)
437194.28	3725123.75	0.00296	(05071624)	437244.28	3725123.75	0.00280	(05102724)
437294.28	3725123.75	0.00260	(07022224)	437344.28	3725123.75	0.00232	(05091324)
437394.28	3725123.75	0.00207	(05091324)	437444.28	3725123.75	0.00220	(05050624)
436244.28	3725173.75	0.00264	(05012824)	436294.28	3725173.75	0.00256	(05012824)
436344.28	3725173.75	0.00236	(05012824)	436394.28	3725173.75	0.00286	(05010824)
436444.28	3725173.75	0.00336	(05010824)	436494.28	3725173.75	0.00383	(05010824)
436544.28	3725173.75	0.00427	(06010224)	436594.28	3725173.75	0.00490	(06010224)
436644.28	3725173.75	0.00512	(06010224)	436694.28	3725173.75	0.00500	(06010224)
436744.28	3725173.75	0.00476	(06010224)	436794.28	3725173.75	0.00432	(06010224)
436844.28	3725173.75	0.00398	(05101524)	436894.28	3725173.75	0.00360	(05101524)
436944.28	3725173.75	0.00361	(05052324)	436994.28	3725173.75	0.00363	(05052324)
437044.28	3725173.75	0.00347	(05052324)	437094.28	3725173.75	0.00316	(06082424)
437144.28	3725173.75	0.00303	(06082424)	437194.28	3725173.75	0.00280	(06051224)
437244.28	3725173.75	0.00264	(05071624)	437294.28	3725173.75	0.00244	(07022224)
437344.28	3725173.75	0.00223	(07022224)	437394.28	3725173.75	0.00202	(05091324)
437444.28	3725173.75	0.00189	(05050624)	436244.28	3725223.75	0.00243	(05012824)
436294.28	3725223.75	0.00226	(05012824)	436344.28	3725223.75	0.00232	(05010824)
436394.28	3725223.75	0.00281	(05010824)	436444.28	3725223.75	0.00341	(05010824)
436494.28	3725223.75	0.00380	(06010224)	436544.28	3725223.75	0.00435	(06010224)
436594.28	3725223.75	0.00458	(06010224)	436644.28	3725223.75	0.00460	(06010224)
436694.28	3725223.75	0.00450	(06010224)	436744.28	3725223.75	0.00425	(06010224)
436794.28	3725223.75	0.00386	(06010224)	436844.28	3725223.75	0.00367	(05101524)
436894.28	3725223.75	0.00335	(05101524)	436944.28	3725223.75	0.00327	(05052324)
436994.28	3725223.75	0.00332	(05052324)	437044.28	3725223.75	0.00321	(05052324)
437094.28	3725223.75	0.00296	(05052324)	437144.28	3725223.75	0.00287	(06082424)
437194.28	3725223.75	0.00268	(06051224)	437244.28	3725223.75	0.00248	(05071624)
437294.28	3725223.75	0.00232	(05071624)	437344.28	3725223.75	0.00212	(07022224)
437394.28	3725223.75	0.00194	(05091324)	437444.28	3725223.75	0.00179	(05071224)

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE SUMMARY OF MAXIMUM ANNUAL (3 YRS) RESULTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	2.58158 AT (436594.28, 3724123.75, 184.21, 203.00, 2.00)	DC	
	2ND HIGHEST VALUE IS	2.33068 AT (436594.28, 3724323.75, 198.62, 203.00, 2.00)	DC	
	3RD HIGHEST VALUE IS	2.30048 AT (436644.28, 3724073.75, 182.48, 197.00, 2.00)	DC	
	4TH HIGHEST VALUE IS	2.01514 AT (436594.28, 3724373.75, 198.01, 204.00, 2.00)	DC	
	5TH HIGHEST VALUE IS	1.96512 AT (436544.28, 3724223.75, 187.17, 203.00, 2.00)	DC	
	6TH HIGHEST VALUE IS	1.90246 AT (436544.28, 3724273.75, 188.78, 204.00, 2.00)	DC	
	7TH HIGHEST VALUE IS	1.82869 AT (436544.28, 3724173.75, 183.64, 203.00, 2.00)	DC	
	8TH HIGHEST VALUE IS	1.73600 AT (436594.28, 3724073.75, 177.81, 203.00, 2.00)	DC	
	9TH HIGHEST VALUE IS	1.69792 AT (436544.28, 3724323.75, 188.29, 204.00, 2.00)	DC	
	10TH HIGHEST VALUE IS	1.57334 AT (436594.28, 3724423.75, 198.76, 204.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	21.69222	ON 07011424: AT (436644.28, 3724073.75, 182.48, 197.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE SUMMARY OF MAXIMUM ANNUAL (3 YRS) RESULTS ***

** DEPO OF PM IN GRAMS/M**2/YR **

GROUP ID		DRY DEPO	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)				NETWORK OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	2.67412 AT	(437044.28,	3724123.75,	172.66,	238.00, 2.00)	DC	
	2ND HIGHEST VALUE IS	2.52489 AT	(437044.28,	3724073.75,	172.56,	238.00, 2.00)	DC	
	3RD HIGHEST VALUE IS	2.08999 AT	(437044.28,	3724023.75,	173.15,	238.00, 2.00)	DC	
	4TH HIGHEST VALUE IS	1.86921 AT	(436844.28,	3724023.75,	168.78,	238.00, 2.00)	DC	
	5TH HIGHEST VALUE IS	1.82991 AT	(437094.28,	3724173.75,	175.28,	238.00, 2.00)	DC	
	6TH HIGHEST VALUE IS	1.82975 AT	(437094.28,	3724123.75,	175.10,	238.00, 2.00)	DC	
	7TH HIGHEST VALUE IS	1.74260 AT	(437094.28,	3724073.75,	176.86,	238.00, 2.00)	DC	
	8TH HIGHEST VALUE IS	1.73323 AT	(437094.28,	3724223.75,	176.74,	238.00, 2.00)	DC	
	9TH HIGHEST VALUE IS	1.62170 AT	(436794.28,	3724023.75,	175.24,	233.00, 2.00)	DC	
	10TH HIGHEST VALUE IS	1.57203 AT	(436994.28,	3723973.75,	168.47,	238.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** DEPO OF PM IN GRAMS/M**2 **

GROUP ID		DRY DEPO	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.05530	ON 05013124:	AT (436644.28, 3724073.75, 182.48, 197.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DDEP TOXICS ELEV FLGPOL DRYDPL WETDPL

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 7 Warning Message(s)
A Total of 172 Informational Message(s)

A Total of 1 Calm Hours Identified

A Total of 171 Missing Hours Identified (0.65 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
CO W320 23 URBOPT:Input Parameter May Be Out-of-Range for Parameter URBAN Z0
MX W420 2481 METQA :Wind Speed Out-of-Range. KURDAT= 05041409
MX W432 2481 METQA :Friction Velocity Out-of-Range. KURDAT= 05041409
MX W420 13135 METQA :Wind Speed Out-of-Range. KURDAT= 06070207
MX W432 13135 METQA :Friction Velocity Out-of-Range. KURDAT= 06070207
MX W420 13448 METQA :Wind Speed Out-of-Range. KURDAT= 06071508
MX W432 13448 METQA :Friction Velocity Out-of-Range. KURDAT= 06071508

****
*** AERMOD Finishes Successfully ***
****

CONC DFAULT ELEV FLGPOL

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

  -- DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION. DDPLETE = F
**Model Uses NO WET DEPLETION. WDPLETE = F
**NO GAS DRY DEPOSITION Data Provided.

**Model Uses URBAN Dispersion Algorithm for the SBL for 16 Source(s),
  for Total of 1 Urban Area(s):
  Urban Population = 2000000.0 ; Urban Roughness Length = 0.350 m

**Model Uses Regulatory DEFAULT Options:
          1. Stack-tip Downwash.
          2. Model Accounts for ELEVated Terrain Effects.
          3. Use Calms Processing Routine.
          4. Use Missing Data Processing Routine.
          5. No Exponential Decay for URBAN/Non-SO2

**Model Accepts FLAGPOLE Receptor Heights.

**Model Calculates 3 Short Term Average(s) of: 1-HR 8-HR 24-HR
    and Calculates ANNUAL Averages

**This Run Includes: 16 Source(s); 1 Source Group(s); and 558 Receptor(s)

**The Model Assumes A Pollutant Type of: NOX

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
        Model Outputs Tables of ANNUAL Averages by Receptor
        Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
        Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 170.08 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
                 Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
                 Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.3 MB of RAM.

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
VOL01	0	0.10000E+01	436680.0	3724140.0	191.4	5.00	16.95	2.33	YES	HROFDY
VOL02	0	0.10000E+01	436680.0	3724213.0	194.2	5.00	16.95	2.33	YES	HROFDY
VOL03	0	0.10000E+01	436680.0	3724286.0	190.6	5.00	16.95	2.33	YES	HROFDY
VOL04	0	0.10000E+01	436680.0	3724359.0	193.7	5.00	16.95	2.33	YES	HROFDY
VOL05	0	0.10000E+01	436753.0	3724140.0	189.0	5.00	16.95	2.33	YES	HROFDY
VOL06	0	0.10000E+01	436753.0	3724213.0	183.1	5.00	16.95	2.33	YES	HROFDY
VOL07	0	0.10000E+01	436753.0	3724286.0	183.3	5.00	16.95	2.33	YES	HROFDY
VOL08	0	0.10000E+01	436753.0	3724359.0	187.1	5.00	16.95	2.33	YES	HROFDY
VOL09	0	0.10000E+01	436826.0	3724140.0	178.5	5.00	16.95	2.33	YES	HROFDY
VOL10	0	0.10000E+01	436826.0	3724213.0	176.4	5.00	16.95	2.33	YES	HROFDY
VOL11	0	0.10000E+01	436826.0	3724286.0	189.7	5.00	16.95	2.33	YES	HROFDY
VOL12	0	0.10000E+01	436826.0	3724359.0	199.5	5.00	16.95	2.33	YES	HROFDY
VOL13	0	0.10000E+01	436899.0	3724140.0	170.9	5.00	16.95	2.33	YES	HROFDY
VOL14	0	0.10000E+01	436899.0	3724213.0	181.7	5.00	16.95	2.33	YES	HROFDY
VOL15	0	0.10000E+01	436899.0	3724286.0	188.7	5.00	16.95	2.33	YES	HROFDY
VOL16	0	0.10000E+01	436899.0	3724359.0	192.9	5.00	16.95	2.33	YES	HROFDY

CONC DFAULT ELEV FLGPOL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 , VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,□

CONC DFAULT ELEV FLGPOL

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
SOURCE ID = VOL01 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL02 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL03 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL04 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL05 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

CONC DFAULT ELEV FLGPOL

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
SOURCE ID = VOL06 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL07 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL08 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL09 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00
SOURCE ID = VOL10 ; SOURCE TYPE = VOLUME :											
1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

CONC DFAULT ELEV FLGPOL

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

SOURCE ID = VOL11 ; SOURCE TYPE = VOLUME :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

SOURCE ID = VOL14 ; SOURCE TYPE = VOLUME :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

SOURCE ID = VOL15 ; SOURCE TYPE = VOLUME :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

CONC   DFAULT ELEV   FLGPOL

                        * SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

SOURCE ID = VOL16   ; SOURCE TYPE = VOLUME   :

1	.00000E+00	2	.00000E+00	3	.00000E+00	4	.00000E+00	5	.00000E+00	6	.00000E+00
7	.00000E+00	8	.10000E+01	9	.10000E+01	10	.10000E+01	11	.10000E+01	12	.10000E+01
13	.10000E+01	14	.10000E+01	15	.10000E+01	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.00000E+00	22	.00000E+00	23	.00000E+00	24	.00000E+00

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436244.3,	3723773.8,	155.7,	155.7,	2.0);	(	436294.3,	3723773.8,	156.7,	156.7,	2.0);
(	436344.3,	3723773.8,	155.4,	159.0,	2.0);	(	436394.3,	3723773.8,	152.3,	232.0,	2.0);
(	436444.3,	3723773.8,	150.6,	233.0,	2.0);	(	436494.3,	3723773.8,	150.0,	233.0,	2.0);
(	436544.3,	3723773.8,	148.4,	233.0,	2.0);	(	436594.3,	3723773.8,	148.3,	233.0,	2.0);
(	436644.3,	3723773.8,	151.7,	233.0,	2.0);	(	436694.3,	3723773.8,	154.6,	233.0,	2.0);
(	436744.3,	3723773.8,	156.5,	238.0,	2.0);	(	436794.3,	3723773.8,	159.6,	238.0,	2.0);
(	436844.3,	3723773.8,	162.7,	238.0,	2.0);	(	436894.3,	3723773.8,	168.3,	238.0,	2.0);
(	436944.3,	3723773.8,	179.3,	233.0,	2.0);	(	436994.3,	3723773.8,	194.5,	233.0,	2.0);
(	437044.3,	3723773.8,	212.4,	233.0,	2.0);	(	437094.3,	3723773.8,	224.8,	224.8,	2.0);
(	437144.3,	3723773.8,	220.7,	225.0,	2.0);	(	437194.3,	3723773.8,	216.3,	233.0,	2.0);
(	437244.3,	3723773.8,	217.2,	233.0,	2.0);	(	437294.3,	3723773.8,	219.7,	233.0,	2.0);
(	437344.3,	3723773.8,	222.8,	232.0,	2.0);	(	437394.3,	3723773.8,	218.9,	233.0,	2.0);
(	437444.3,	3723773.8,	212.1,	233.0,	2.0);	(	436244.3,	3723823.8,	158.1,	158.1,	2.0);
(	436294.3,	3723823.8,	159.0,	159.0,	2.0);	(	436344.3,	3723823.8,	158.9,	158.9,	2.0);
(	436394.3,	3723823.8,	156.4,	226.0,	2.0);	(	436444.3,	3723823.8,	154.0,	233.0,	2.0);
(	436494.3,	3723823.8,	152.9,	233.0,	2.0);	(	436544.3,	3723823.8,	151.7,	233.0,	2.0);
(	436594.3,	3723823.8,	150.9,	233.0,	2.0);	(	436644.3,	3723823.8,	151.0,	233.0,	2.0);
(	436694.3,	3723823.8,	152.1,	238.0,	2.0);	(	436744.3,	3723823.8,	153.8,	238.0,	2.0);
(	436794.3,	3723823.8,	156.2,	238.0,	2.0);	(	436844.3,	3723823.8,	158.7,	238.0,	2.0);
(	436894.3,	3723823.8,	163.9,	238.0,	2.0);	(	436944.3,	3723823.8,	171.3,	238.0,	2.0);
(	436994.3,	3723823.8,	177.4,	238.0,	2.0);	(	437044.3,	3723823.8,	196.1,	233.0,	2.0);
(	437094.3,	3723823.8,	219.9,	233.0,	2.0);	(	437144.3,	3723823.8,	224.6,	233.0,	2.0);
(	437194.3,	3723823.8,	223.6,	233.0,	2.0);	(	437244.3,	3723823.8,	224.1,	233.0,	2.0);
(	437294.3,	3723823.8,	227.1,	232.0,	2.0);	(	437344.3,	3723823.8,	228.1,	228.1,	2.0);
(	437394.3,	3723823.8,	223.4,	232.0,	2.0);	(	437444.3,	3723823.8,	217.2,	233.0,	2.0);
(	436244.3,	3723873.8,	158.6,	158.6,	2.0);	(	436294.3,	3723873.8,	159.5,	159.5,	2.0);
(	436344.3,	3723873.8,	159.8,	159.8,	2.0);	(	436394.3,	3723873.8,	158.5,	158.5,	2.0);
(	436444.3,	3723873.8,	157.4,	233.0,	2.0);	(	436494.3,	3723873.8,	156.8,	233.0,	2.0);
(	436544.3,	3723873.8,	155.7,	233.0,	2.0);	(	436594.3,	3723873.8,	154.8,	233.0,	2.0);
(	436644.3,	3723873.8,	155.1,	233.0,	2.0);	(	436694.3,	3723873.8,	154.8,	238.0,	2.0);
(	436744.3,	3723873.8,	153.4,	238.0,	2.0);	(	436794.3,	3723873.8,	153.0,	238.0,	2.0);
(	436844.3,	3723873.8,	157.8,	238.0,	2.0);	(	436894.3,	3723873.8,	161.0,	238.0,	2.0);
(	436944.3,	3723873.8,	165.3,	238.0,	2.0);	(	436994.3,	3723873.8,	172.6,	238.0,	2.0);
(	437044.3,	3723873.8,	182.1,	238.0,	2.0);	(	437094.3,	3723873.8,	203.8,	233.0,	2.0);
(	437144.3,	3723873.8,	226.4,	233.0,	2.0);	(	437194.3,	3723873.8,	231.2,	233.0,	2.0);
(	437244.3,	3723873.8,	232.0,	232.0,	2.0);	(	437294.3,	3723873.8,	230.6,	230.6,	2.0);
(	437344.3,	3723873.8,	230.9,	230.9,	2.0);	(	437394.3,	3723873.8,	225.1,	233.0,	2.0);
(	437444.3,	3723873.8,	218.0,	233.0,	2.0);	(	436244.3,	3723923.8,	159.2,	159.2,	2.0);
(	436294.3,	3723923.8,	160.0,	160.0,	2.0);	(	436344.3,	3723923.8,	160.2,	160.2,	2.0);
(	436394.3,	3723923.8,	159.7,	202.0,	2.0);	(	436444.3,	3723923.8,	158.4,	232.0,	2.0);
(	436494.3,	3723923.8,	160.4,	233.0,	2.0);	(	436544.3,	3723923.8,	159.1,	233.0,	2.0);
(	436594.3,	3723923.8,	159.5,	233.0,	2.0);	(	436644.3,	3723923.8,	160.9,	233.0,	2.0);
(	436694.3,	3723923.8,	161.7,	233.0,	2.0);	(	436744.3,	3723923.8,	160.8,	238.0,	2.0);
(	436794.3,	3723923.8,	160.9,	238.0,	2.0);	(	436844.3,	3723923.8,	157.3,	238.0,	2.0);
(	436944.3,	3723923.8,	163.2,	238.0,	2.0);	(	436994.3,	3723923.8,	168.7,	238.0,	2.0);

CONC DFAULT ELEV FLGPOL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(437044.3,	3723923.8,	176.6,	238.0,	2.0);	(437094.3,	3723923.8,	188.6,	238.0,	2.0);
(437144.3,	3723923.8,	210.2,	233.0,	2.0);	(437194.3,	3723923.8,	227.1,	233.0,	2.0);
(437244.3,	3723923.8,	221.6,	233.0,	2.0);	(437294.3,	3723923.8,	213.4,	233.0,	2.0);
(437344.3,	3723923.8,	226.4,	233.0,	2.0);	(437394.3,	3723923.8,	223.9,	233.0,	2.0);
(437444.3,	3723923.8,	220.1,	231.0,	2.0);	(436244.3,	3723973.8,	159.2,	159.2,	2.0);
(436294.3,	3723973.8,	160.0,	160.0,	2.0);	(436344.3,	3723973.8,	161.4,	202.0,	2.0);
(436394.3,	3723973.8,	161.7,	203.0,	2.0);	(436444.3,	3723973.8,	162.4,	203.0,	2.0);
(436494.3,	3723973.8,	163.8,	232.0,	2.0);	(436544.3,	3723973.8,	162.8,	233.0,	2.0);
(436594.3,	3723973.8,	163.6,	233.0,	2.0);	(436644.3,	3723973.8,	167.6,	233.0,	2.0);
(436694.3,	3723973.8,	167.4,	233.0,	2.0);	(436744.3,	3723973.8,	167.3,	233.0,	2.0);
(436794.3,	3723973.8,	167.8,	238.0,	2.0);	(436844.3,	3723973.8,	163.1,	238.0,	2.0);
(436994.3,	3723973.8,	168.5,	238.0,	2.0);	(437044.3,	3723973.8,	174.4,	238.0,	2.0);
(437094.3,	3723973.8,	180.8,	238.0,	2.0);	(437144.3,	3723973.8,	196.4,	238.0,	2.0);
(437194.3,	3723973.8,	209.2,	233.0,	2.0);	(437244.3,	3723973.8,	206.3,	238.0,	2.0);
(437294.3,	3723973.8,	197.9,	238.0,	2.0);	(437344.3,	3723973.8,	211.3,	238.0,	2.0);
(437394.3,	3723973.8,	210.0,	238.0,	2.0);	(437444.3,	3723973.8,	206.4,	238.0,	2.0);
(436244.3,	3724023.8,	158.7,	158.7,	2.0);	(436294.3,	3724023.8,	160.9,	202.0,	2.0);
(436344.3,	3724023.8,	163.1,	202.0,	2.0);	(436394.3,	3724023.8,	163.7,	203.0,	2.0);
(436444.3,	3724023.8,	164.5,	203.0,	2.0);	(436494.3,	3724023.8,	167.7,	203.0,	2.0);
(436544.3,	3724023.8,	168.3,	203.0,	2.0);	(436594.3,	3724023.8,	170.7,	233.0,	2.0);
(436644.3,	3724023.8,	175.1,	233.0,	2.0);	(436694.3,	3724023.8,	174.2,	233.0,	2.0);
(436744.3,	3724023.8,	175.6,	233.0,	2.0);	(436794.3,	3724023.8,	175.2,	233.0,	2.0);
(436844.3,	3724023.8,	168.8,	238.0,	2.0);	(437044.3,	3724023.8,	173.1,	238.0,	2.0);
(437094.3,	3724023.8,	178.9,	238.0,	2.0);	(437144.3,	3724023.8,	185.8,	238.0,	2.0);
(437194.3,	3724023.8,	191.9,	238.0,	2.0);	(437244.3,	3724023.8,	191.8,	238.0,	2.0);
(437294.3,	3724023.8,	192.1,	238.0,	2.0);	(437344.3,	3724023.8,	197.6,	238.0,	2.0);
(437394.3,	3724023.8,	193.4,	238.0,	2.0);	(437444.3,	3724023.8,	199.7,	238.0,	2.0);
(436244.3,	3724073.8,	160.2,	202.0,	2.0);	(436294.3,	3724073.8,	161.8,	203.0,	2.0);
(436344.3,	3724073.8,	164.6,	203.0,	2.0);	(436394.3,	3724073.8,	167.9,	203.0,	2.0);
(436444.3,	3724073.8,	168.8,	203.0,	2.0);	(436494.3,	3724073.8,	171.6,	203.0,	2.0);
(436544.3,	3724073.8,	174.1,	203.0,	2.0);	(436594.3,	3724073.8,	177.8,	203.0,	2.0);
(436644.3,	3724073.8,	182.5,	197.0,	2.0);	(437044.3,	3724073.8,	172.6,	238.0,	2.0);
(437094.3,	3724073.8,	176.9,	238.0,	2.0);	(437144.3,	3724073.8,	179.9,	238.0,	2.0);
(437194.3,	3724073.8,	182.6,	238.0,	2.0);	(437244.3,	3724073.8,	185.0,	238.0,	2.0);
(437294.3,	3724073.8,	188.2,	238.0,	2.0);	(437344.3,	3724073.8,	191.4,	238.0,	2.0);
(437394.3,	3724073.8,	197.8,	238.0,	2.0);	(437444.3,	3724073.8,	214.9,	238.0,	2.0);
(436244.3,	3724123.8,	160.6,	202.0,	2.0);	(436294.3,	3724123.8,	161.5,	203.0,	2.0);
(436344.3,	3724123.8,	165.9,	203.0,	2.0);	(436394.3,	3724123.8,	171.2,	203.0,	2.0);
(436444.3,	3724123.8,	173.6,	203.0,	2.0);	(436494.3,	3724123.8,	175.8,	203.0,	2.0);
(436544.3,	3724123.8,	180.0,	203.0,	2.0);	(436594.3,	3724123.8,	184.2,	203.0,	2.0);
(437044.3,	3724123.8,	172.7,	238.0,	2.0);	(437094.3,	3724123.8,	175.1,	238.0,	2.0);
(437144.3,	3724123.8,	177.6,	238.0,	2.0);	(437194.3,	3724123.8,	181.7,	238.0,	2.0);
(437244.3,	3724123.8,	186.4,	238.0,	2.0);	(437294.3,	3724123.8,	191.2,	238.0,	2.0);
(437344.3,	3724123.8,	198.5,	238.0,	2.0);	(437394.3,	3724123.8,	214.0,	238.0,	2.0);
(437444.3,	3724123.8,	228.7,	238.0,	2.0);	(436244.3,	3724173.8,	154.6,	204.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436294.3,	3724173.8,	160.3,	204.0,	2.0);	(	436344.3,	3724173.8,	167.0,	204.0,	2.0);
(	436394.3,	3724173.8,	172.4,	203.0,	2.0);	(	436444.3,	3724173.8,	176.7,	203.0,	2.0);
(	436494.3,	3724173.8,	180.1,	203.0,	2.0);	(	436544.3,	3724173.8,	183.6,	203.0,	2.0);
(	437094.3,	3724173.8,	175.3,	238.0,	2.0);	(	437144.3,	3724173.8,	177.8,	238.0,	2.0);
(	437194.3,	3724173.8,	181.1,	238.0,	2.0);	(	437244.3,	3724173.8,	186.9,	238.0,	2.0);
(	437294.3,	3724173.8,	200.6,	238.0,	2.0);	(	437344.3,	3724173.8,	212.2,	238.0,	2.0);
(	437394.3,	3724173.8,	223.4,	238.0,	2.0);	(	437444.3,	3724173.8,	228.7,	238.0,	2.0);
(	436244.3,	3724223.8,	159.7,	204.0,	2.0);	(	436294.3,	3724223.8,	160.9,	204.0,	2.0);
(	436344.3,	3724223.8,	165.7,	204.0,	2.0);	(	436394.3,	3724223.8,	171.4,	204.0,	2.0);
(	436444.3,	3724223.8,	177.0,	204.0,	2.0);	(	436494.3,	3724223.8,	182.6,	203.0,	2.0);
(	436544.3,	3724223.8,	187.2,	203.0,	2.0);	(	437094.3,	3724223.8,	176.7,	238.0,	2.0);
(	437144.3,	3724223.8,	178.5,	238.0,	2.0);	(	437194.3,	3724223.8,	181.0,	238.0,	2.0);
(	437244.3,	3724223.8,	184.9,	238.0,	2.0);	(	437294.3,	3724223.8,	192.6,	238.0,	2.0);
(	437344.3,	3724223.8,	203.0,	238.0,	2.0);	(	437394.3,	3724223.8,	208.1,	238.0,	2.0);
(	437444.3,	3724223.8,	217.0,	238.0,	2.0);	(	436244.3,	3724273.8,	170.1,	178.0,	2.0);
(	436294.3,	3724273.8,	164.5,	204.0,	2.0);	(	436344.3,	3724273.8,	163.0,	214.0,	2.0);
(	436394.3,	3724273.8,	169.6,	208.0,	2.0);	(	436444.3,	3724273.8,	175.5,	204.0,	2.0);
(	436494.3,	3724273.8,	183.0,	204.0,	2.0);	(	436544.3,	3724273.8,	188.8,	204.0,	2.0);
(	437094.3,	3724273.8,	176.1,	238.0,	2.0);	(	437144.3,	3724273.8,	178.4,	238.0,	2.0);
(	437194.3,	3724273.8,	181.6,	238.0,	2.0);	(	437244.3,	3724273.8,	185.4,	238.0,	2.0);
(	437294.3,	3724273.8,	190.1,	238.0,	2.0);	(	437344.3,	3724273.8,	194.5,	238.0,	2.0);
(	437394.3,	3724273.8,	198.8,	238.0,	2.0);	(	437444.3,	3724273.8,	211.7,	238.0,	2.0);
(	436244.3,	3724323.8,	176.1,	176.1,	2.0);	(	436294.3,	3724323.8,	172.1,	179.0,	2.0);
(	436344.3,	3724323.8,	165.2,	214.0,	2.0);	(	436394.3,	3724323.8,	167.9,	214.0,	2.0);
(	436444.3,	3724323.8,	173.8,	214.0,	2.0);	(	436494.3,	3724323.8,	180.9,	207.0,	2.0);
(	436544.3,	3724323.8,	188.3,	204.0,	2.0);	(	436594.3,	3724323.8,	198.6,	203.0,	2.0);
(	437094.3,	3724323.8,	176.9,	238.0,	2.0);	(	437144.3,	3724323.8,	179.4,	238.0,	2.0);
(	437194.3,	3724323.8,	181.8,	238.0,	2.0);	(	437244.3,	3724323.8,	184.2,	238.0,	2.0);
(	437294.3,	3724323.8,	188.6,	238.0,	2.0);	(	437344.3,	3724323.8,	200.6,	238.0,	2.0);
(	437394.3,	3724323.8,	213.8,	238.0,	2.0);	(	437444.3,	3724323.8,	222.7,	233.0,	2.0);
(	436244.3,	3724373.8,	179.1,	179.1,	2.0);	(	436294.3,	3724373.8,	175.0,	179.0,	2.0);
(	436344.3,	3724373.8,	168.5,	214.0,	2.0);	(	436394.3,	3724373.8,	169.7,	215.0,	2.0);
(	436444.3,	3724373.8,	173.6,	215.0,	2.0);	(	436494.3,	3724373.8,	179.6,	214.0,	2.0);
(	436544.3,	3724373.8,	187.8,	207.0,	2.0);	(	436594.3,	3724373.8,	198.0,	204.0,	2.0);
(	437144.3,	3724373.8,	182.4,	238.0,	2.0);	(	437194.3,	3724373.8,	183.2,	238.0,	2.0);
(	437244.3,	3724373.8,	184.5,	238.0,	2.0);	(	437294.3,	3724373.8,	186.9,	238.0,	2.0);
(	437344.3,	3724373.8,	188.6,	238.0,	2.0);	(	437394.3,	3724373.8,	198.2,	238.0,	2.0);
(	437444.3,	3724373.8,	208.6,	238.0,	2.0);	(	436244.3,	3724423.8,	175.7,	180.0,	2.0);
(	436294.3,	3724423.8,	170.6,	183.0,	2.0);	(	436344.3,	3724423.8,	172.3,	214.0,	2.0);
(	436394.3,	3724423.8,	171.9,	215.0,	2.0);	(	436444.3,	3724423.8,	174.4,	215.0,	2.0);
(	436494.3,	3724423.8,	179.4,	215.0,	2.0);	(	436544.3,	3724423.8,	187.9,	212.0,	2.0);
(	436594.3,	3724423.8,	198.8,	204.0,	2.0);	(	437194.3,	3724423.8,	184.0,	238.0,	2.0);
(	437244.3,	3724423.8,	185.4,	238.0,	2.0);	(	437294.3,	3724423.8,	186.2,	238.0,	2.0);
(	437344.3,	3724423.8,	187.8,	238.0,	2.0);	(	437394.3,	3724423.8,	188.6,	238.0,	2.0);
(	437444.3,	3724423.8,	204.3,	238.0,	2.0);	(	436244.3,	3724473.8,	175.2,	175.2,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	436294.3,	3724473.8,	173.3,	215.0,	2.0);	(436344.3,	3724473.8,	178.1,	183.0,	2.0);
(	436394.3,	3724473.8,	177.1,	215.0,	2.0);	(436444.3,	3724473.8,	175.2,	216.0,	2.0);
(	436494.3,	3724473.8,	179.1,	216.0,	2.0);	(436544.3,	3724473.8,	186.6,	215.0,	2.0);
(	436594.3,	3724473.8,	196.6,	211.0,	2.0);	(437194.3,	3724473.8,	183.8,	238.0,	2.0);
(	437244.3,	3724473.8,	185.5,	238.0,	2.0);	(437294.3,	3724473.8,	186.2,	238.0,	2.0);
(	437344.3,	3724473.8,	187.5,	238.0,	2.0);	(437394.3,	3724473.8,	188.3,	238.0,	2.0);
(	437444.3,	3724473.8,	196.2,	238.0,	2.0);	(436244.3,	3724523.8,	177.1,	177.1,	2.0);
(	436294.3,	3724523.8,	176.0,	215.0,	2.0);	(436344.3,	3724523.8,	181.5,	181.5,	2.0);
(	436394.3,	3724523.8,	183.0,	214.0,	2.0);	(436444.3,	3724523.8,	176.9,	218.0,	2.0);
(	436494.3,	3724523.8,	179.6,	218.0,	2.0);	(436544.3,	3724523.8,	184.6,	216.0,	2.0);
(	436594.3,	3724523.8,	194.2,	215.0,	2.0);	(437244.3,	3724523.8,	185.0,	238.0,	2.0);
(	437294.3,	3724523.8,	187.4,	238.0,	2.0);	(437344.3,	3724523.8,	188.2,	238.0,	2.0);
(	437394.3,	3724523.8,	189.7,	238.0,	2.0);	(437444.3,	3724523.8,	193.0,	238.0,	2.0);
(	436244.3,	3724573.8,	178.8,	215.0,	2.0);	(436294.3,	3724573.8,	177.1,	216.0,	2.0);
(	436344.3,	3724573.8,	182.4,	215.0,	2.0);	(436394.3,	3724573.8,	185.6,	214.0,	2.0);
(	436444.3,	3724573.8,	182.8,	218.0,	2.0);	(436494.3,	3724573.8,	182.3,	218.0,	2.0);
(	436544.3,	3724573.8,	185.4,	218.0,	2.0);	(436594.3,	3724573.8,	191.4,	216.0,	2.0);
(	437244.3,	3724573.8,	185.4,	238.0,	2.0);	(437294.3,	3724573.8,	188.1,	238.0,	2.0);
(	437344.3,	3724573.8,	189.7,	238.0,	2.0);	(437394.3,	3724573.8,	190.5,	238.0,	2.0);
(	437444.3,	3724573.8,	192.2,	238.0,	2.0);	(436244.3,	3724623.8,	180.4,	215.0,	2.0);
(	436294.3,	3724623.8,	181.7,	216.0,	2.0);	(436344.3,	3724623.8,	184.3,	215.0,	2.0);
(	436394.3,	3724623.8,	189.1,	215.0,	2.0);	(436444.3,	3724623.8,	186.6,	218.0,	2.0);
(	436494.3,	3724623.8,	183.0,	233.0,	2.0);	(436544.3,	3724623.8,	187.1,	232.0,	2.0);
(	436594.3,	3724623.8,	196.1,	216.0,	2.0);	(437244.3,	3724623.8,	186.8,	233.0,	2.0);
(	437294.3,	3724623.8,	189.6,	233.0,	2.0);	(437344.3,	3724623.8,	190.0,	233.0,	2.0);
(	437394.3,	3724623.8,	191.5,	233.0,	2.0);	(437444.3,	3724623.8,	192.7,	233.0,	2.0);
(	436244.3,	3724673.8,	183.7,	216.0,	2.0);	(436294.3,	3724673.8,	183.5,	216.0,	2.0);
(	436344.3,	3724673.8,	186.6,	216.0,	2.0);	(436394.3,	3724673.8,	191.6,	215.0,	2.0);
(	436444.3,	3724673.8,	191.0,	216.0,	2.0);	(436494.3,	3724673.8,	184.5,	233.0,	2.0);
(	436544.3,	3724673.8,	186.7,	233.0,	2.0);	(436594.3,	3724673.8,	195.8,	218.0,	2.0);
(	437194.3,	3724673.8,	186.7,	233.0,	2.0);	(437244.3,	3724673.8,	187.2,	233.0,	2.0);
(	437294.3,	3724673.8,	188.9,	233.0,	2.0);	(437344.3,	3724673.8,	189.8,	233.0,	2.0);
(	437394.3,	3724673.8,	191.4,	233.0,	2.0);	(437444.3,	3724673.8,	193.2,	233.0,	2.0);
(	436244.3,	3724723.8,	188.8,	215.0,	2.0);	(436294.3,	3724723.8,	190.5,	216.0,	2.0);
(	436344.3,	3724723.8,	188.4,	231.0,	2.0);	(436394.3,	3724723.8,	195.2,	215.0,	2.0);
(	436444.3,	3724723.8,	194.5,	216.0,	2.0);	(436494.3,	3724723.8,	186.0,	233.0,	2.0);
(	436544.3,	3724723.8,	188.5,	233.0,	2.0);	(436594.3,	3724723.8,	198.2,	232.0,	2.0);
(	437144.3,	3724723.8,	195.5,	226.0,	2.0);	(437194.3,	3724723.8,	194.4,	220.0,	2.0);
(	437244.3,	3724723.8,	188.4,	220.0,	2.0);	(437294.3,	3724723.8,	189.7,	233.0,	2.0);
(	437344.3,	3724723.8,	189.0,	233.0,	2.0);	(437394.3,	3724723.8,	191.0,	233.0,	2.0);
(	437444.3,	3724723.8,	193.2,	233.0,	2.0);	(436244.3,	3724773.8,	190.9,	216.0,	2.0);
(	436294.3,	3724773.8,	196.0,	215.0,	2.0);	(436344.3,	3724773.8,	192.4,	231.0,	2.0);
(	436394.3,	3724773.8,	201.0,	215.0,	2.0);	(436444.3,	3724773.8,	201.6,	215.0,	2.0);
(	436494.3,	3724773.8,	191.3,	233.0,	2.0);	(436544.3,	3724773.8,	189.3,	233.0,	2.0);
(	436594.3,	3724773.8,	199.8,	233.0,	2.0);	(437094.3,	3724773.8,	192.4,	228.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	437144.3,	3724773.8,	195.6,	227.0,	2.0);	(437194.3,	3724773.8,	201.0,	201.0,	2.0);
(	437244.3,	3724773.8,	190.8,	220.0,	2.0);	(437294.3,	3724773.8,	190.2,	217.0,	2.0);
(	437344.3,	3724773.8,	190.2,	217.0,	2.0);	(437394.3,	3724773.8,	192.1,	192.1,	2.0);
(	437444.3,	3724773.8,	194.0,	194.0,	2.0);	(436244.3,	3724823.8,	189.6,	216.0,	2.0);
(	436294.3,	3724823.8,	198.6,	216.0,	2.0);	(436344.3,	3724823.8,	200.6,	216.0,	2.0);
(	436394.3,	3724823.8,	207.6,	215.0,	2.0);	(436444.3,	3724823.8,	206.4,	215.0,	2.0);
(	436494.3,	3724823.8,	193.3,	233.0,	2.0);	(436544.3,	3724823.8,	192.9,	233.0,	2.0);
(	436594.3,	3724823.8,	200.8,	233.0,	2.0);	(437094.3,	3724823.8,	193.0,	228.0,	2.0);
(	437144.3,	3724823.8,	195.5,	228.0,	2.0);	(437194.3,	3724823.8,	204.5,	210.0,	2.0);
(	437244.3,	3724823.8,	196.2,	217.0,	2.0);	(437294.3,	3724823.8,	189.2,	220.0,	2.0);
(	437344.3,	3724823.8,	191.0,	220.0,	2.0);	(437394.3,	3724823.8,	193.6,	216.0,	2.0);
(	437444.3,	3724823.8,	194.4,	194.4,	2.0);	(436244.3,	3724873.8,	183.9,	233.0,	2.0);
(	436294.3,	3724873.8,	193.4,	232.0,	2.0);	(436344.3,	3724873.8,	209.1,	215.0,	2.0);
(	436394.3,	3724873.8,	212.6,	215.0,	2.0);	(436444.3,	3724873.8,	199.6,	233.0,	2.0);
(	436494.3,	3724873.8,	194.9,	233.0,	2.0);	(436544.3,	3724873.8,	196.8,	233.0,	2.0);
(	436594.3,	3724873.8,	199.4,	233.0,	2.0);	(437044.3,	3724873.8,	199.9,	228.0,	2.0);
(	437094.3,	3724873.8,	196.8,	228.0,	2.0);	(437144.3,	3724873.8,	196.1,	228.0,	2.0);
(	437194.3,	3724873.8,	208.4,	210.0,	2.0);	(437244.3,	3724873.8,	204.6,	217.0,	2.0);
(	437294.3,	3724873.8,	192.3,	220.0,	2.0);	(437344.3,	3724873.8,	191.6,	220.0,	2.0);
(	437394.3,	3724873.8,	194.4,	220.0,	2.0);	(437444.3,	3724873.8,	195.2,	195.2,	2.0);
(	436244.3,	3724923.8,	190.1,	233.0,	2.0);	(436294.3,	3724923.8,	193.0,	233.0,	2.0);
(	436344.3,	3724923.8,	200.5,	232.0,	2.0);	(436394.3,	3724923.8,	214.3,	214.3,	2.0);
(	436444.3,	3724923.8,	206.9,	233.0,	2.0);	(436494.3,	3724923.8,	199.2,	233.0,	2.0);
(	436544.3,	3724923.8,	203.1,	233.0,	2.0);	(436594.3,	3724923.8,	206.5,	233.0,	2.0);
(	436994.3,	3724923.8,	214.6,	227.0,	2.0);	(437044.3,	3724923.8,	209.4,	227.0,	2.0);
(	437094.3,	3724923.8,	199.3,	228.0,	2.0);	(437144.3,	3724923.8,	197.4,	228.0,	2.0);
(	437194.3,	3724923.8,	209.5,	216.0,	2.0);	(437244.3,	3724923.8,	210.8,	216.0,	2.0);
(	437294.3,	3724923.8,	199.8,	220.0,	2.0);	(437344.3,	3724923.8,	194.1,	220.0,	2.0);
(	437394.3,	3724923.8,	196.1,	220.0,	2.0);	(437444.3,	3724923.8,	198.4,	198.4,	2.0);
(	436244.3,	3724973.8,	183.9,	233.0,	2.0);	(436294.3,	3724973.8,	194.1,	233.0,	2.0);
(	436344.3,	3724973.8,	203.6,	231.0,	2.0);	(436394.3,	3724973.8,	213.2,	216.0,	2.0);
(	436444.3,	3724973.8,	211.8,	231.0,	2.0);	(436494.3,	3724973.8,	202.3,	233.0,	2.0);
(	436544.3,	3724973.8,	207.3,	233.0,	2.0);	(436594.3,	3724973.8,	217.7,	233.0,	2.0);
(	436944.3,	3724973.8,	220.4,	227.0,	2.0);	(436994.3,	3724973.8,	217.0,	226.0,	2.0);
(	437044.3,	3724973.8,	209.3,	228.0,	2.0);	(437094.3,	3724973.8,	198.8,	228.0,	2.0);
(	437144.3,	3724973.8,	198.0,	228.0,	2.0);	(437194.3,	3724973.8,	209.4,	219.0,	2.0);
(	437244.3,	3724973.8,	214.9,	214.9,	2.0);	(437294.3,	3724973.8,	205.0,	220.0,	2.0);
(	437344.3,	3724973.8,	194.5,	220.0,	2.0);	(437394.3,	3724973.8,	197.0,	220.0,	2.0);
(	437444.3,	3724973.8,	200.5,	200.5,	2.0);	(436244.3,	3725023.8,	183.8,	233.0,	2.0);
(	436294.3,	3725023.8,	193.1,	233.0,	2.0);	(436344.3,	3725023.8,	196.5,	233.0,	2.0);
(	436394.3,	3725023.8,	203.0,	233.0,	2.0);	(436444.3,	3725023.8,	214.1,	231.0,	2.0);
(	436494.3,	3725023.8,	211.0,	233.0,	2.0);	(436544.3,	3725023.8,	213.9,	233.0,	2.0);
(	436594.3,	3725023.8,	226.6,	232.0,	2.0);	(436844.3,	3725023.8,	227.8,	227.8,	2.0);
(	436894.3,	3725023.8,	226.3,	226.3,	2.0);	(436944.3,	3725023.8,	219.4,	228.0,	2.0);
(	436994.3,	3725023.8,	211.5,	228.0,	2.0);	(437044.3,	3725023.8,	205.6,	228.0,	2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(437094.3,	3725023.8,	199.4,	228.0,	2.0);	(437144.3,	3725023.8,	198.8,	228.0,	2.0);
(437194.3,	3725023.8,	210.3,	220.0,	2.0);	(437244.3,	3725023.8,	216.5,	216.5,	2.0);
(437294.3,	3725023.8,	207.8,	220.0,	2.0);	(437344.3,	3725023.8,	195.4,	220.0,	2.0);
(437394.3,	3725023.8,	197.0,	220.0,	2.0);	(437444.3,	3725023.8,	200.4,	220.0,	2.0);
(436244.3,	3725073.8,	179.4,	233.0,	2.0);	(436294.3,	3725073.8,	182.8,	233.0,	2.0);
(436344.3,	3725073.8,	185.8,	233.0,	2.0);	(436394.3,	3725073.8,	194.9,	233.0,	2.0);
(436444.3,	3725073.8,	202.5,	233.0,	2.0);	(436494.3,	3725073.8,	205.9,	233.0,	2.0);
(436544.3,	3725073.8,	215.1,	233.0,	2.0);	(436594.3,	3725073.8,	228.4,	233.0,	2.0);
(436644.3,	3725073.8,	231.4,	231.4,	2.0);	(436694.3,	3725073.8,	222.9,	233.0,	2.0);
(436744.3,	3725073.8,	220.5,	233.0,	2.0);	(436794.3,	3725073.8,	226.3,	226.3,	2.0);
(436844.3,	3725073.8,	226.4,	226.4,	2.0);	(436894.3,	3725073.8,	222.6,	228.0,	2.0);
(436944.3,	3725073.8,	218.5,	228.0,	2.0);	(436994.3,	3725073.8,	215.1,	226.0,	2.0);
(437044.3,	3725073.8,	210.7,	226.0,	2.0);	(437094.3,	3725073.8,	201.4,	228.0,	2.0);
(437144.3,	3725073.8,	200.5,	226.0,	2.0);	(437194.3,	3725073.8,	212.2,	220.0,	2.0);
(437244.3,	3725073.8,	219.4,	219.4,	2.0);	(437294.3,	3725073.8,	211.3,	220.0,	2.0);
(437344.3,	3725073.8,	200.6,	220.0,	2.0);	(437394.3,	3725073.8,	197.4,	220.0,	2.0);
(437444.3,	3725073.8,	199.2,	220.0,	2.0);	(436244.3,	3725123.8,	185.9,	233.0,	2.0);
(436294.3,	3725123.8,	182.1,	233.0,	2.0);	(436344.3,	3725123.8,	184.0,	233.0,	2.0);
(436394.3,	3725123.8,	187.2,	233.0,	2.0);	(436444.3,	3725123.8,	189.0,	233.0,	2.0);
(436494.3,	3725123.8,	194.6,	233.0,	2.0);	(436544.3,	3725123.8,	203.2,	233.0,	2.0);
(436594.3,	3725123.8,	216.1,	233.0,	2.0);	(436644.3,	3725123.8,	223.6,	233.0,	2.0);
(436694.3,	3725123.8,	224.5,	233.0,	2.0);	(436744.3,	3725123.8,	225.8,	225.8,	2.0);
(436794.3,	3725123.8,	222.3,	224.0,	2.0);	(436844.3,	3725123.8,	219.0,	228.0,	2.0);
(436894.3,	3725123.8,	216.5,	228.0,	2.0);	(436944.3,	3725123.8,	213.1,	228.0,	2.0);
(436994.3,	3725123.8,	211.2,	228.0,	2.0);	(437044.3,	3725123.8,	208.1,	226.0,	2.0);
(437094.3,	3725123.8,	200.9,	228.0,	2.0);	(437144.3,	3725123.8,	203.1,	220.0,	2.0);
(437194.3,	3725123.8,	213.5,	220.0,	2.0);	(437244.3,	3725123.8,	219.4,	219.4,	2.0);
(437294.3,	3725123.8,	214.2,	220.0,	2.0);	(437344.3,	3725123.8,	207.7,	220.0,	2.0);
(437394.3,	3725123.8,	200.4,	220.0,	2.0);	(437444.3,	3725123.8,	199.1,	220.0,	2.0);
(436244.3,	3725173.8,	194.9,	209.0,	2.0);	(436294.3,	3725173.8,	189.9,	233.0,	2.0);
(436344.3,	3725173.8,	187.8,	233.0,	2.0);	(436394.3,	3725173.8,	191.3,	233.0,	2.0);
(436444.3,	3725173.8,	193.1,	233.0,	2.0);	(436494.3,	3725173.8,	197.1,	233.0,	2.0);
(436544.3,	3725173.8,	200.5,	233.0,	2.0);	(436594.3,	3725173.8,	208.7,	233.0,	2.0);
(436644.3,	3725173.8,	219.4,	233.0,	2.0);	(436694.3,	3725173.8,	225.9,	225.9,	2.0);
(436744.3,	3725173.8,	224.4,	224.4,	2.0);	(436794.3,	3725173.8,	219.7,	225.0,	2.0);
(436844.3,	3725173.8,	213.9,	228.0,	2.0);	(436894.3,	3725173.8,	212.1,	228.0,	2.0);
(436944.3,	3725173.8,	208.7,	228.0,	2.0);	(436994.3,	3725173.8,	206.1,	228.0,	2.0);
(437044.3,	3725173.8,	204.4,	228.0,	2.0);	(437094.3,	3725173.8,	200.5,	228.0,	2.0);
(437144.3,	3725173.8,	202.7,	220.0,	2.0);	(437194.3,	3725173.8,	210.3,	220.0,	2.0);
(437244.3,	3725173.8,	217.1,	217.1,	2.0);	(437294.3,	3725173.8,	215.8,	215.8,	2.0);
(437344.3,	3725173.8,	212.2,	212.2,	2.0);	(437394.3,	3725173.8,	203.9,	220.0,	2.0);
(437444.3,	3725173.8,	199.1,	220.0,	2.0);	(436244.3,	3725223.8,	202.4,	208.0,	2.0);
(436294.3,	3725223.8,	197.7,	220.0,	2.0);	(436344.3,	3725223.8,	190.9,	233.0,	2.0);
(436394.3,	3725223.8,	192.8,	233.0,	2.0);	(436444.3,	3725223.8,	200.6,	233.0,	2.0);
(436494.3,	3725223.8,	206.2,	233.0,	2.0);	(436544.3,	3725223.8,	217.9,	227.0,	2.0);

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(436594.3,	3725223.8,	222.5,	227.0,	2.0);	(436644.3,	3725223.8,	226.7,	226.7,	2.0);
(436694.3,	3725223.8,	225.8,	225.8,	2.0);	(436744.3,	3725223.8,	223.0,	223.0,	2.0);
(436794.3,	3725223.8,	219.4,	219.4,	2.0);	(436844.3,	3725223.8,	216.7,	219.0,	2.0);
(436894.3,	3725223.8,	214.4,	220.0,	2.0);	(436944.3,	3725223.8,	211.3,	220.0,	2.0);
(436994.3,	3725223.8,	207.9,	207.9,	2.0);	(437044.3,	3725223.8,	204.9,	204.9,	2.0);
(437094.3,	3725223.8,	202.4,	218.0,	2.0);	(437144.3,	3725223.8,	201.9,	220.0,	2.0);
(437194.3,	3725223.8,	209.3,	220.0,	2.0);	(437244.3,	3725223.8,	214.3,	214.3,	2.0);
(437294.3,	3725223.8,	212.8,	212.8,	2.0);	(437344.3,	3725223.8,	208.9,	212.0,	2.0);
(437394.3,	3725223.8,	204.1,	220.0,	2.0);	(437444.3,	3725223.8,	200.0,	218.0,	2.0);

```
                                           *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                           (1=YES; 0=NO)

          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1

                     METEOROLOGICAL DATA PROCESSED BETWEEN START DATE:    0   0  0  0
                                                         AND END DATE: 9999  99 99 24

              NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.


                                  *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                          (METERS/SEC)

                                             1.54,   3.09,   5.14,   8.23,  10.80,
```

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: msvj.SFC Met Version: 06341
Profile file: msvj.PFL
Surface format: (3(I2,1X),I3,1X,I2,1X,F6.1,1X,3(F6.3,1X),2(F5.0,1X),F8.1,1X,F6.3,1X,2(F6.2,1X),F7.2,1X,F5.0,3(1X,F6.1))
Profile format: (4(I2,1X),F6.1,1X,I1,1X,F5.0,1X,F7.2,1X,F7.2,1X,F6.1,1X,F7.2)
Surface station no.: 0 Upper air station no.: 3190
Name: MISSION_VIEJO_MET_STATION Name: UNKNOWN
Year: 2005 Year: 2005

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
05	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	280.4	5.5
05	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.9	5.5
05	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.2	5.5
05	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.9	5.5
05	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.9	5.5
05	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.9	5.5
05	01	01	1	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	1.00	999.00	999.	0.0	279.9	5.5
05	01	01	1	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.35	1.00	0.53	999.00	999.	0.0	280.9	5.5
05	01	01	1	09	34.0	-9.000	-9.000	-9.000	77.	-999.	-99999.0	0.35	1.00	0.31	999.00	999.	0.0	283.1	5.5
05	01	01	1	10	80.2	-9.000	-9.000	-9.000	768.	-999.	-99999.0	0.35	1.00	0.24	999.00	999.	0.0	287.0	5.5
05	01	01	1	11	113.2	-9.000	-9.000	-9.000	1010.	-999.	-99999.0	0.35	1.00	0.21	999.00	999.	0.0	288.8	5.5
05	01	01	1	12	130.7	-9.000	-9.000	-9.000	1225.	-999.	-99999.0	0.35	1.00	0.20	999.00	999.	0.0	289.2	5.5
05	01	01	1	13	111.8	0.295	1.568	0.009	1248.	368.	-20.7	0.35	1.00	0.20	1.90	201.	9.1	287.5	5.5
05	01	01	1	14	36.0	0.268	1.077	0.009	1256.	319.	-48.1	0.35	1.00	0.21	1.90	207.	9.1	286.4	5.5
05	01	01	1	15	32.9	0.178	1.047	0.009	1263.	175.	-15.4	0.35	1.00	0.25	1.10	274.	9.1	286.4	5.5
05	01	01	1	16	16.9	0.211	0.840	0.009	1266.	222.	-49.8	0.35	1.00	0.33	1.50	217.	9.1	286.4	5.5
05	01	01	1	17	-2.5	0.055	-9.000	-9.000	-999.	62.	6.2	0.35	1.00	0.61	0.90	211.	9.1	285.9	5.5
05	01	01	1	18	-1.5	0.043	-9.000	-9.000	-999.	21.	4.7	0.35	1.00	1.00	0.70	108.	9.1	283.1	5.5
05	01	01	1	19	-2.0	0.049	-9.000	-9.000	-999.	25.	5.4	0.35	1.00	1.00	0.80	94.	9.1	282.0	5.5
05	01	01	1	20	-3.7	0.068	-9.000	-9.000	-999.	40.	7.4	0.35	1.00	1.00	1.10	45.	9.1	280.9	5.5
05	01	01	1	21	-7.0	0.092	-9.000	-9.000	-999.	64.	10.1	0.35	1.00	1.00	1.50	26.	9.1	280.9	5.5
05	01	01	1	22	-2.5	0.055	-9.000	-9.000	-999.	30.	6.1	0.35	1.00	1.00	0.90	57.	9.1	280.4	5.5
05	01	01	1	23	-2.0	0.049	-9.000	-9.000	-999.	25.	5.4	0.35	1.00	1.00	0.80	46.	9.1	280.4	5.5
05	01	01	1	24	-3.1	0.061	-9.000	-9.000	-999.	35.	6.7	0.35	1.00	1.00	1.00	54.	9.1	279.9	5.5

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
05	01	01	01	5.5	0	-999.	-99.00	280.4	99.0	-99.00	-99.00
05	01	01	01	9.1	1	-999.	-99.00	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3723773.75	3.39637	436294.28	3723773.75	3.69065
436344.28	3723773.75	3.95713	436394.28	3723773.75	4.18410
436444.28	3723773.75	4.37362	436494.28	3723773.75	4.50204
436544.28	3723773.75	4.54767	436594.28	3723773.75	4.54094
436644.28	3723773.75	4.52652	436694.28	3723773.75	4.51561
436744.28	3723773.75	4.54287	436794.28	3723773.75	4.66628
436844.28	3723773.75	4.88908	436894.28	3723773.75	5.23652
436944.28	3723773.75	5.54828	436994.28	3723773.75	4.91870
437044.28	3723773.75	4.21979	437094.28	3723773.75	4.13448
437144.28	3723773.75	4.22112	437194.28	3723773.75	4.19176
437244.28	3723773.75	3.97251	437294.28	3723773.75	3.67146
437344.28	3723773.75	3.34122	437394.28	3723773.75	3.07334
437444.28	3723773.75	2.85640	436244.28	3723823.75	3.66843
436294.28	3723823.75	4.05028	436344.28	3723823.75	4.43837
436394.28	3723823.75	4.79436	436444.28	3723823.75	5.11753
436494.28	3723823.75	5.38413	436544.28	3723823.75	5.55440
436594.28	3723823.75	5.63250	436644.28	3723823.75	5.65436
436694.28	3723823.75	5.67728	436744.28	3723823.75	5.76082
436794.28	3723823.75	5.95909	436844.28	3723823.75	6.28049
436894.28	3723823.75	6.73888	436944.28	3723823.75	7.22474
436994.28	3723823.75	7.41679	437044.28	3723823.75	6.35077
437094.28	3723823.75	5.26708	437144.28	3723823.75	5.05938
437194.28	3723823.75	4.80817	437244.28	3723823.75	4.43524
437294.28	3723823.75	3.99334	437344.28	3723823.75	3.57716
437394.28	3723823.75	3.22992	437444.28	3723823.75	2.93186
436244.28	3723873.75	3.92909	436294.28	3723873.75	4.40236
436344.28	3723873.75	4.92234	436394.28	3723873.75	5.45660
436444.28	3723873.75	5.99502	436494.28	3723873.75	6.49477
436544.28	3723873.75	6.88687	436594.28	3723873.75	7.14791
436644.28	3723873.75	7.32625	436694.28	3723873.75	7.45980
436744.28	3723873.75	7.62186	436794.28	3723873.75	7.91622
436844.28	3723873.75	8.47692	436894.28	3723873.75	9.05064
436944.28	3723873.75	9.57545	436994.28	3723873.75	9.86371
437044.28	3723873.75	9.42191	437094.28	3723873.75	7.27506
437144.28	3723873.75	6.05752	437194.28	3723873.75	5.45600
437244.28	3723873.75	4.87674	437294.28	3723873.75	4.32548
437344.28	3723873.75	3.79560	437394.28	3723873.75	3.37298
437444.28	3723873.75	3.02487	436244.28	3723923.75	4.19585
436294.28	3723923.75	4.76550	436344.28	3723923.75	5.42456
436394.28	3723923.75	6.16737	436444.28	3723923.75	6.97422

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436494.28	3723923.75	7.87277	436544.28	3723923.75	8.64600
436594.28	3723923.75	9.31588	436644.28	3723923.75	9.87449
436694.28	3723923.75	10.39227	436744.28	3723923.75	10.92503
436794.28	3723923.75	11.58242	436844.28	3723923.75	12.03144
436944.28	3723923.75	13.25592	436994.28	3723923.75	13.32846
437044.28	3723923.75	12.51756	437094.28	3723923.75	10.72812
437144.28	3723923.75	7.74614	437194.28	3723923.75	6.29197
437244.28	3723923.75	5.54161	437294.28	3723923.75	4.91822
437344.28	3723923.75	4.02622	437394.28	3723923.75	3.49237
437444.28	3723923.75	3.05868	436244.28	3723973.75	4.46405
436294.28	3723973.75	5.13187	436344.28	3723973.75	5.96027
436394.28	3723973.75	6.94668	436444.28	3723973.75	8.14265
436494.28	3723973.75	9.55970	436544.28	3723973.75	11.00555
436594.28	3723973.75	12.48104	436644.28	3723973.75	14.05090
436694.28	3723973.75	15.43248	436744.28	3723973.75	17.02600
436794.28	3723973.75	18.53967	436844.28	3723973.75	18.88553
436994.28	3723973.75	18.57734	437044.28	3723973.75	16.43544
437094.28	3723973.75	13.86192	437144.28	3723973.75	10.18430
437194.28	3723973.75	7.59169	437244.28	3723973.75	6.45804
437294.28	3723973.75	5.82049	437344.28	3723973.75	4.39467
437394.28	3723973.75	3.75738	437444.28	3723973.75	3.29843
436244.28	3724023.75	4.72934	436294.28	3724023.75	5.51451
436344.28	3724023.75	6.51932	436394.28	3724023.75	7.77341
436444.28	3724023.75	9.39389	436494.28	3724023.75	11.60248
436544.28	3724023.75	14.26852	436594.28	3724023.75	17.62285
436644.28	3724023.75	21.71150	436694.28	3724023.75	25.67085
436744.28	3724023.75	30.37060	436794.28	3724023.75	33.40584
436844.28	3724023.75	33.27645	437044.28	3724023.75	21.51110
437094.28	3724023.75	16.77297	437144.28	3724023.75	12.84458
437194.28	3724023.75	9.79134	437244.28	3724023.75	7.93401
437294.28	3724023.75	6.46128	437344.28	3724023.75	4.98574
437394.28	3724023.75	4.43769	437444.28	3724023.75	3.48139
436244.28	3724073.75	5.00465	436294.28	3724073.75	5.88538
436344.28	3724073.75	7.06932	436394.28	3724073.75	8.69007
436444.28	3724073.75	10.81671	436494.28	3724073.75	13.93795
436544.28	3724073.75	18.62119	436594.28	3724073.75	26.00476
436644.28	3724073.75	37.87257	437044.28	3724073.75	26.81908
437094.28	3724073.75	19.36697	437144.28	3724073.75	14.46499
437194.28	3724073.75	11.04242	437244.28	3724073.75	8.60628
437294.28	3724073.75	6.78256	437344.28	3724073.75	5.43234

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437394.28	3724073.75	4.11132	437444.28	3724073.75	3.00239
436244.28	3724123.75	5.23301	436294.28	3724123.75	6.18928
436344.28	3724123.75	7.55602	436394.28	3724123.75	9.53146
436444.28	3724123.75	12.26471	436494.28	3724123.75	16.45802
436544.28	3724123.75	23.64805	436594.28	3724123.75	37.63791
437044.28	3724123.75	30.99613	437094.28	3724123.75	21.16774
437144.28	3724123.75	15.30243	437194.28	3724123.75	11.32738
437244.28	3724123.75	8.53148	437294.28	3724123.75	6.56090
437344.28	3724123.75	4.78386	437394.28	3724123.75	3.44916
437444.28	3724123.75	2.73876	436244.28	3724173.75	5.32593
436294.28	3724173.75	6.39718	436344.28	3724173.75	7.92810
436394.28	3724173.75	10.12021	436444.28	3724173.75	13.43315
436494.28	3724173.75	18.64263	436544.28	3724173.75	27.61805
437094.28	3724173.75	22.03235	437144.28	3724173.75	15.49605
437194.28	3724173.75	11.33216	437244.28	3724173.75	8.33922
437294.28	3724173.75	5.54313	437344.28	3724173.75	4.02271
437394.28	3724173.75	3.14608	437444.28	3724173.75	2.60543
436244.28	3724223.75	5.46709	436294.28	3724223.75	6.53026
436344.28	3724223.75	8.07159	436394.28	3724223.75	10.35472
436444.28	3724223.75	13.93504	436494.28	3724223.75	19.80710
436544.28	3724223.75	30.32336	437094.28	3724223.75	22.04781
437144.28	3724223.75	15.21012	437194.28	3724223.75	11.00396
437244.28	3724223.75	8.18040	437294.28	3724223.75	5.96887
437344.28	3724223.75	4.12319	437394.28	3724223.75	3.24518
437444.28	3724223.75	2.58009	436244.28	3724273.75	5.65729
436294.28	3724273.75	6.59053	436344.28	3724273.75	7.98786
436394.28	3724273.75	10.24887	436444.28	3724273.75	13.78641
436494.28	3724273.75	19.81547	436544.28	3724273.75	30.58942
437094.28	3724273.75	21.13013	437144.28	3724273.75	14.52121
437194.28	3724273.75	10.43851	437244.28	3724273.75	7.80810
437294.28	3724273.75	5.90621	437344.28	3724273.75	4.44981
437394.28	3724273.75	3.43344	437444.28	3724273.75	2.53087
436244.28	3724323.75	5.74799	436294.28	3724323.75	6.62645
436344.28	3724323.75	7.81537	436394.28	3724323.75	9.84566
436444.28	3724323.75	13.10416	436494.28	3724323.75	18.74805
436544.28	3724323.75	28.92780	436594.28	3724323.75	43.46334
437094.28	3724323.75	19.57060	437144.28	3724323.75	13.57762
437194.28	3724323.75	9.84901	437244.28	3724323.75	7.51393
437294.28	3724323.75	5.74095	437344.28	3724323.75	3.86645
437394.28	3724323.75	2.82124	437444.28	3724323.75	2.29446

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3724373.75	5.60918	436294.28	3724373.75	6.43669
436344.28	3724373.75	7.49246	436394.28	3724373.75	9.31044
436444.28	3724373.75	12.16898	436494.28	3724373.75	16.99391
436544.28	3724373.75	25.62600	436594.28	3724373.75	38.49291
437144.28	3724373.75	12.41900	437194.28	3724373.75	9.21979
437244.28	3724373.75	7.13039	437294.28	3724373.75	5.55977
437344.28	3724373.75	4.51349	437394.28	3724373.75	3.20953
437444.28	3724373.75	2.40453	436244.28	3724423.75	5.19965
436294.28	3724423.75	5.89053	436344.28	3724423.75	7.06416
436394.28	3724423.75	8.62532	436444.28	3724423.75	11.04094
436494.28	3724423.75	14.93293	436544.28	3724423.75	21.46072
436594.28	3724423.75	29.17196	437194.28	3724423.75	8.64920
437244.28	3724423.75	6.71620	437294.28	3724423.75	5.38082
437344.28	3724423.75	4.38011	437394.28	3724423.75	3.66746
437444.28	3724423.75	2.44609	436244.28	3724473.75	4.83450
436294.28	3724473.75	5.52046	436344.28	3724473.75	6.65270
436394.28	3724473.75	7.98381	436444.28	3724473.75	9.85003
436494.28	3724473.75	12.89238	436544.28	3724473.75	17.64627
436594.28	3724473.75	23.02509	437194.28	3724473.75	8.12763
437244.28	3724473.75	6.38427	437294.28	3724473.75	5.16195
437344.28	3724473.75	4.24151	437394.28	3724473.75	3.57141
437444.28	3724473.75	2.71303	436244.28	3724523.75	4.51003
436294.28	3724523.75	5.13658	436344.28	3724523.75	6.13381
436394.28	3724523.75	7.32329	436444.28	3724523.75	8.77425
436494.28	3724523.75	11.13486	436544.28	3724523.75	14.57582
436594.28	3724523.75	18.25196	437244.28	3724523.75	6.06277
437294.28	3724523.75	4.89440	437344.28	3724523.75	4.07715
437394.28	3724523.75	3.43758	437444.28	3724523.75	2.81207
436244.28	3724573.75	4.18130	436294.28	3724573.75	4.72643
436344.28	3724573.75	5.57882	436394.28	3724573.75	6.61977
436444.28	3724573.75	7.93002	436494.28	3724573.75	9.71791
436544.28	3724573.75	12.14131	436594.28	3724573.75	14.85543
437244.28	3724573.75	5.72179	437294.28	3724573.75	4.65376
437344.28	3724573.75	3.88780	437394.28	3724573.75	3.29312
437444.28	3724573.75	2.78545	436244.28	3724623.75	3.88176
436294.28	3724623.75	4.42108	436344.28	3724623.75	5.11976
436394.28	3724623.75	5.94875	436444.28	3724623.75	7.08691
436494.28	3724623.75	8.46973	436544.28	3724623.75	10.19612
436594.28	3724623.75	11.41945	437244.28	3724623.75	5.32572
437294.28	3724623.75	4.39131	437344.28	3724623.75	3.72171

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437394.28	3724623.75	3.15715	437444.28	3724623.75	2.67695
436244.28	3724673.75	3.63230	436294.28	3724673.75	4.10970
436344.28	3724673.75	4.70668	436394.28	3724673.75	5.34779
436444.28	3724673.75	6.25294	436494.28	3724673.75	7.42506
436544.28	3724673.75	8.67268	436594.28	3724673.75	9.46750
437194.28	3724673.75	5.97470	437244.28	3724673.75	4.99600
437294.28	3724673.75	4.18844	437344.28	3724673.75	3.56497
437394.28	3724673.75	3.04072	437444.28	3724673.75	2.58041
436244.28	3724723.75	3.38432	436294.28	3724723.75	3.78574
436344.28	3724723.75	4.34156	436394.28	3724723.75	4.74134
436444.28	3724723.75	5.46400	436494.28	3724723.75	6.52677
436544.28	3724723.75	7.41470	436594.28	3724723.75	7.68666
437144.28	3724723.75	6.03383	437194.28	3724723.75	5.17658
437244.28	3724723.75	4.66342	437294.28	3724723.75	3.95914
437344.28	3724723.75	3.42178	437394.28	3724723.75	2.92992
437444.28	3724723.75	2.49201	436244.28	3724773.75	3.15825
436294.28	3724773.75	3.40051	436344.28	3724773.75	3.94697
436394.28	3724773.75	4.09051	436444.28	3724773.75	4.57425
436494.28	3724773.75	5.67543	436544.28	3724773.75	6.40118
436594.28	3724773.75	6.42543	437094.28	3724773.75	6.46790
437144.28	3724773.75	5.47265	437194.28	3724773.75	4.44388
437244.28	3724773.75	4.30298	437294.28	3724773.75	3.72989
437344.28	3724773.75	3.23664	437394.28	3724773.75	2.76913
437444.28	3724773.75	2.37767	436244.28	3724823.75	3.00794
436294.28	3724823.75	3.11839	436344.28	3724823.75	3.40067
436394.28	3724823.75	3.50287	436444.28	3724823.75	3.93235
436494.28	3724823.75	4.97002	436544.28	3724823.75	5.47444
436594.28	3724823.75	5.47080	437094.28	3724823.75	5.71122
437144.28	3724823.75	4.97472	437194.28	3724823.75	3.98226
437244.28	3724823.75	3.78429	437294.28	3724823.75	3.56843
437344.28	3724823.75	3.08235	437394.28	3724823.75	2.60818
437444.28	3724823.75	2.29158	436244.28	3724873.75	2.86329
436294.28	3724873.75	3.06936	436344.28	3724873.75	2.89700
436394.28	3724873.75	3.09113	436444.28	3724873.75	3.83410
436494.28	3724873.75	4.36555	436544.28	3724873.75	4.63311
436594.28	3724873.75	4.82905	437044.28	3724873.75	5.18499
437094.28	3724873.75	4.90324	437144.28	3724873.75	4.48303
437194.28	3724873.75	3.59199	437244.28	3724873.75	3.26355
437294.28	3724873.75	3.28652	437344.28	3724873.75	2.93760
437394.28	3724873.75	2.48839	437444.28	3724873.75	2.19595

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
436244.28	3724923.75	2.68794	436294.28	3724923.75	2.88494
436344.28	3724923.75	2.95239	436394.28	3724923.75	2.81821
436444.28	3724923.75	3.24006	436494.28	3724923.75	3.75230
436544.28	3724923.75	3.85090	436594.28	3724923.75	3.96672
436994.28	3724923.75	4.35596	437044.28	3724923.75	4.26376
437094.28	3724923.75	4.30409	437144.28	3724923.75	4.01583
437194.28	3724923.75	3.31276	437244.28	3724923.75	2.94662
437294.28	3724923.75	2.86180	437344.28	3724923.75	2.71580
437394.28	3724923.75	2.35366	437444.28	3724923.75	2.03201
436244.28	3724973.75	2.54980	436294.28	3724973.75	2.68452
436344.28	3724973.75	2.66559	436394.28	3724973.75	2.62339
436444.28	3724973.75	2.83467	436494.28	3724973.75	3.28291
436544.28	3724973.75	3.31519	436594.28	3724973.75	3.27492
436944.28	3724973.75	3.85352	436994.28	3724973.75	3.80301
437044.28	3724973.75	3.80047	437094.28	3724973.75	3.89281
437144.28	3724973.75	3.64921	437194.28	3724973.75	3.07722
437244.28	3724973.75	2.71730	437294.28	3724973.75	2.59629
437344.28	3724973.75	2.58147	437394.28	3724973.75	2.24589
437444.28	3724973.75	1.93632	436244.28	3725023.75	2.40112
436294.28	3725023.75	2.52637	436344.28	3725023.75	2.64070
436394.28	3725023.75	2.65387	436444.28	3725023.75	2.55616
436494.28	3725023.75	2.75821	436544.28	3725023.75	2.84616
436594.28	3725023.75	2.85028	436844.28	3725023.75	3.34704
436894.28	3725023.75	3.37779	436944.28	3725023.75	3.41926
436994.28	3725023.75	3.47193	437044.28	3725023.75	3.49064
437094.28	3725023.75	3.50343	437144.28	3725023.75	3.31702
437194.28	3725023.75	2.84011	437244.28	3725023.75	2.53842
437294.28	3725023.75	2.42244	437344.28	3725023.75	2.45275
437394.28	3725023.75	2.16932	437444.28	3725023.75	1.88739
436244.28	3725073.75	2.23898	436294.28	3725073.75	2.40029
436344.28	3725073.75	2.55877	436394.28	3725073.75	2.62923
436444.28	3725073.75	2.58935	436494.28	3725073.75	2.62485
436544.28	3725073.75	2.56354	436594.28	3725073.75	2.55943
436644.28	3725073.75	2.65160	436694.28	3725073.75	2.79838
436744.28	3725073.75	2.90739	436794.28	3725073.75	2.93306
436844.28	3725073.75	2.98008	436894.28	3725073.75	3.03006
436944.28	3725073.75	3.05837	436994.28	3725073.75	3.05458
437044.28	3725073.75	3.04480	437094.28	3725073.75	3.13605
437144.28	3725073.75	3.00158	437194.28	3725073.75	2.60925
437244.28	3725073.75	2.35806	437294.28	3725073.75	2.25495

CONC DFAULT ELEV FLGPOL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 3 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
437344.28	3725073.75	2.22600	437394.28	3725073.75	2.07864
437444.28	3725073.75	1.85548	436244.28	3725123.75	2.13038
436294.28	3725123.75	2.24564	436344.28	3725123.75	2.37966
436394.28	3725123.75	2.51351	436444.28	3725123.75	2.63362
436494.28	3725123.75	2.65917	436544.28	3725123.75	2.55024
436594.28	3725123.75	2.41389	436644.28	3725123.75	2.43297
436694.28	3725123.75	2.50974	436744.28	3725123.75	2.57517
436794.28	3725123.75	2.65481	436844.28	3725123.75	2.72349
436894.28	3725123.75	2.77207	436944.28	3725123.75	2.81236
436994.28	3725123.75	2.80990	437044.28	3725123.75	2.80394
437094.28	3725123.75	2.86930	437144.28	3725123.75	2.70030
437194.28	3725123.75	2.40689	437244.28	3725123.75	2.21220
437294.28	3725123.75	2.10778	437344.28	3725123.75	2.01844
437394.28	3725123.75	1.95724	437444.28	3725123.75	1.80549
436244.28	3725173.75	1.95839	436294.28	3725173.75	2.10329
436344.28	3725173.75	2.22186	436394.28	3725173.75	2.30950
436444.28	3725173.75	2.38737	436494.28	3725173.75	2.38911
436544.28	3725173.75	2.38912	436594.28	3725173.75	2.30292
436644.28	3725173.75	2.24197	436694.28	3725173.75	2.26955
436744.28	3725173.75	2.33762	436794.28	3725173.75	2.41605
436844.28	3725173.75	2.51009	436894.28	3725173.75	2.55534
436944.28	3725173.75	2.61027	436994.28	3725173.75	2.63420
437044.28	3725173.75	2.62174	437094.28	3725173.75	2.63466
437144.28	3725173.75	2.49700	437194.28	3725173.75	2.27541
437244.28	3725173.75	2.09137	437294.28	3725173.75	1.98195
437344.28	3725173.75	1.88252	437394.28	3725173.75	1.83285
437444.28	3725173.75	1.75267	436244.28	3725223.75	1.75719
436294.28	3725223.75	1.90252	436344.28	3725223.75	2.06365
436394.28	3725223.75	2.13510	436444.28	3725223.75	2.07313
436494.28	3725223.75	2.03422	436544.28	3725223.75	1.94438
436594.28	3725223.75	1.97101	436644.28	3725223.75	2.01080
436694.28	3725223.75	2.07280	436744.28	3725223.75	2.13701
436794.28	3725223.75	2.19914	436844.28	3725223.75	2.25133
436894.28	3725223.75	2.29556	436944.28	3725223.75	2.33987
436994.28	3725223.75	2.37578	437044.28	3725223.75	2.39169
437094.28	3725223.75	2.39165	437144.28	3725223.75	2.32879
437194.28	3725223.75	2.13160	437244.28	3725223.75	1.98562
437294.28	3725223.75	1.90041	437344.28	3725223.75	1.82871
437394.28	3725223.75	1.76144	437444.28	3725223.75	1.68814

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3723773.75	710.07745	(06010508)	436294.28	3723773.75	763.81964	(06010508)
436344.28	3723773.75	777.77411	(06010308)	436394.28	3723773.75	814.40607	(07112908)
436444.28	3723773.75	875.60565	(05012508)	436494.28	3723773.75	951.61176	(06022008)
436544.28	3723773.75	1070.30603	(06022008)	436594.28	3723773.75	1056.62000	(06022008)
436644.28	3723773.75	1039.47168	(05121508)	436694.28	3723773.75	1014.61816	(05121508)
436744.28	3723773.75	968.62537	(05122508)	436794.28	3723773.75	1049.30762	(05122508)
436844.28	3723773.75	1038.14624	(05122508)	436894.28	3723773.75	957.44183	(05122508)
436944.28	3723773.75	885.05756	(05122508)	436994.28	3723773.75	1091.58765	(05021308)
437044.28	3723773.75	1105.75244	(05021308)	437094.28	3723773.75	1142.65881	(05021308)
437144.28	3723773.75	1119.68079	(05021308)	437194.28	3723773.75	960.28595	(05021308)
437244.28	3723773.75	690.85742	(05021308)	437294.28	3723773.75	559.83557	(07010508)
437344.28	3723773.75	445.62143	(06110308)	437394.28	3723773.75	483.59598	(07120708)
437444.28	3723773.75	635.60669	(07120708)	436244.28	3723823.75	741.85437	(07112808)
436294.28	3723823.75	797.76990	(06010508)	436344.28	3723823.75	865.91656	(06010508)
436394.28	3723823.75	883.92651	(06010308)	436444.28	3723823.75	929.03217	(07112908)
436494.28	3723823.75	1004.67218	(05012508)	436544.28	3723823.75	1085.91003	(05122108)
436594.28	3723823.75	1117.22754	(06022008)	436644.28	3723823.75	1144.37512	(05121508)
436694.28	3723823.75	1146.09277	(05121508)	436744.28	3723823.75	1081.82556	(05122508)
436794.28	3723823.75	1158.81714	(05122508)	436844.28	3723823.75	1130.71082	(05122508)
436894.28	3723823.75	1007.54199	(05122508)	436944.28	3723823.75	810.87616	(07111608)
436994.28	3723823.75	990.25500	(05021308)	437044.28	3723823.75	1524.49915	(05021308)
437094.28	3723823.75	1228.85522	(05021308)	437144.28	3723823.75	1061.77808	(05021308)
437194.28	3723823.75	792.90417	(05021308)	437244.28	3723823.75	609.66071	(07010508)
437294.28	3723823.75	488.06848	(07120708)	437344.28	3723823.75	603.41577	(07120708)
437394.28	3723823.75	703.00861	(07120708)	437444.28	3723823.75	798.96881	(07120708)
436244.28	3723873.75	771.53497	(07122408)	436294.28	3723873.75	830.08612	(07112808)
436344.28	3723873.75	902.70093	(07112808)	436394.28	3723873.75	987.87164	(06010508)
436444.28	3723873.75	1017.80133	(06010308)	436494.28	3723873.75	1086.78882	(05012508)
436544.28	3723873.75	1189.33118	(05122108)	436594.28	3723873.75	1235.35425	(05122108)
436644.28	3723873.75	1262.43164	(05121508)	436694.28	3723873.75	1297.13721	(05121508)
436744.28	3723873.75	1221.66687	(05122508)	436794.28	3723873.75	1295.06897	(05122508)
436844.28	3723873.75	1261.74536	(05122508)	436894.28	3723873.75	1102.23499	(05122508)
436944.28	3723873.75	943.67926	(05021308)	436994.28	3723873.75	1128.66174	(05021308)
437044.28	3723873.75	1493.26245	(05021308)	437094.28	3723873.75	1446.72791	(05021308)
437144.28	3723873.75	935.90942	(05021308)	437194.28	3723873.75	675.03815	(07010508)
437244.28	3723873.75	638.30103	(07120708)	437294.28	3723873.75	754.72278	(07120708)
437344.28	3723873.75	837.03271	(07120708)	437394.28	3723873.75	885.14307	(07120708)
437444.28	3723873.75	921.42773	(07120708)	436244.28	3723923.75	795.71124	(06011808)
436294.28	3723923.75	869.40332	(07122408)	436344.28	3723923.75	945.25122	(05121308)
436394.28	3723923.75	1036.88416	(07112808)	436444.28	3723923.75	1145.59277	(06010508)

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436494.28	3723923.75	1196.72632	(06010508)	436544.28	3723923.75	1299.82690	(05012508)
436594.28	3723923.75	1412.86914	(05122108)	436644.28	3723923.75	1400.48938	(05121508)
436694.28	3723923.75	1475.82458	(05121508)	436744.28	3723923.75	1418.30310	(05121508)
436794.28	3723923.75	1465.65259	(05122508)	436844.28	3723923.75	1427.12903	(05122508)
436944.28	3723923.75	1160.07336	(05021308)	436994.28	3723923.75	1279.68201	(05021308)
437044.28	3723923.75	1432.53894	(05021308)	437094.28	3723923.75	1339.73657	(05021308)
437144.28	3723923.75	852.30157	(05021308)	437194.28	3723923.75	820.63678	(07120708)
437244.28	3723923.75	926.02856	(07120708)	437294.28	3723923.75	1035.29517	(07120708)
437344.28	3723923.75	984.81866	(07120708)	437394.28	3723923.75	967.49780	(07011208)
437444.28	3723923.75	1039.39807	(07011208)	436244.28	3723973.75	819.94775	(06012608)
436294.28	3723973.75	895.24872	(06011808)	436344.28	3723973.75	982.40027	(06011808)
436394.28	3723973.75	1091.43542	(07122408)	436444.28	3723973.75	1215.22803	(07112808)
436494.28	3723973.75	1366.13037	(06010508)	436544.28	3723973.75	1440.00769	(07112908)
436594.28	3723973.75	1584.53723	(05122108)	436644.28	3723973.75	1673.09937	(05122108)
436694.28	3723973.75	1700.29431	(05121508)	436744.28	3723973.75	1683.89844	(05121508)
436794.28	3723973.75	1703.35095	(05122508)	436844.28	3723973.75	1648.01575	(05122508)
436994.28	3723973.75	1473.94592	(05021308)	437044.28	3723973.75	1419.05237	(05021308)
437094.28	3723973.75	1155.35339	(07120708)	437144.28	3723973.75	1359.88428	(07120708)
437194.28	3723973.75	1203.41479	(07120708)	437244.28	3723973.75	1292.48071	(07120708)
437294.28	3723973.75	1493.68994	(07011208)	437344.28	3723973.75	1298.85059	(07011208)
437394.28	3723973.75	1336.08826	(07011208)	437444.28	3723973.75	1401.96619	(07011208)
436244.28	3724023.75	889.28314	(05011908)	436294.28	3724023.75	960.18933	(05011908)
436344.28	3724023.75	1027.91406	(05011908)	436394.28	3724023.75	1137.64526	(06011808)
436444.28	3724023.75	1278.00171	(07122408)	436494.28	3724023.75	1462.61243	(07112808)
436544.28	3724023.75	1676.84192	(06010508)	436594.28	3724023.75	1853.06958	(07112908)
436644.28	3724023.75	2041.85034	(05122108)	436694.28	3724023.75	2024.88660	(05122108)
436744.28	3724023.75	2108.86133	(05121508)	436794.28	3724023.75	2122.13232	(05122808)
436844.28	3724023.75	1990.95752	(05122508)	437044.28	3724023.75	1393.15601	(07120708)
437094.28	3724023.75	1545.41760	(07120708)	437144.28	3724023.75	1649.19836	(07120708)
437194.28	3724023.75	1656.72339	(07011208)	437244.28	3724023.75	1664.16333	(07011208)
437294.28	3724023.75	1638.41260	(07011208)	437344.28	3724023.75	1699.24609	(07011208)
437394.28	3724023.75	1461.29297	(07011208)	437444.28	3724023.75	1477.63293	(07011208)
436244.28	3724073.75	890.65271	(05011908)	436294.28	3724073.75	997.93848	(05011908)
436344.28	3724073.75	1117.19531	(05011908)	436394.28	3724073.75	1253.20935	(05011908)
436444.28	3724073.75	1383.20593	(05011908)	436494.28	3724073.75	1560.10278	(06012608)
436544.28	3724073.75	1843.94434	(07122408)	436594.28	3724073.75	2260.65698	(07112808)
436644.28	3724073.75	2701.19336	(05112508)	437044.28	3724073.75	1738.24426	(05010308)
437094.28	3724073.75	1771.55896	(07011208)	437144.28	3724073.75	1702.39563	(07011208)
437194.28	3724073.75	1571.95068	(07011208)	437244.28	3724073.75	1487.90186	(07011208)
437294.28	3724073.75	1492.79041	(07122208)	437344.28	3724073.75	1384.05835	(07122208)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724073.75	1446.86719	(07011208)	437444.28	3724073.75	1094.84485	(07011208)
436244.28	3724123.75	908.28705	(07021008)	436294.28	3724123.75	987.93225	(07021008)
436344.28	3724123.75	1104.07715	(06122808)	436394.28	3724123.75	1274.01367	(05011908)
436444.28	3724123.75	1481.33228	(05011908)	436494.28	3724123.75	1711.00110	(05011908)
436544.28	3724123.75	2139.51782	(07020308)	436594.28	3724123.75	2672.33325	(07020308)
437044.28	3724123.75	1871.39478	(07122208)	437094.28	3724123.75	1778.94934	(07122208)
437144.28	3724123.75	1601.78296	(07122208)	437194.28	3724123.75	1587.46985	(07122208)
437244.28	3724123.75	1645.15552	(07122208)	437294.28	3724123.75	1482.72290	(07122208)
437344.28	3724123.75	1455.78931	(07122208)	437394.28	3724123.75	1028.07129	(07122208)
437444.28	3724123.75	912.75732	(07122208)	436244.28	3724173.75	928.76831	(07121908)
436294.28	3724173.75	1028.70044	(07121908)	436344.28	3724173.75	1164.78064	(07121908)
436394.28	3724173.75	1342.91565	(07121908)	436444.28	3724173.75	1575.12573	(07121908)
436494.28	3724173.75	1936.90100	(07121908)	436544.28	3724173.75	2331.65405	(07020108)
437094.28	3724173.75	1673.91113	(07122208)	437144.28	3724173.75	1516.00781	(07122208)
437194.28	3724173.75	1448.62537	(07122208)	437244.28	3724173.75	1460.93750	(07122208)
437294.28	3724173.75	1388.37073	(07122208)	437344.28	3724173.75	1025.42273	(07122208)
437394.28	3724173.75	874.86908	(07122208)	437444.28	3724173.75	790.87146	(07122208)
436244.28	3724223.75	896.38257	(07020108)	436294.28	3724223.75	989.78796	(07121908)
436344.28	3724223.75	1120.39062	(07121908)	436394.28	3724223.75	1296.47717	(07121908)
436444.28	3724223.75	1567.98962	(07012708)	436494.28	3724223.75	2046.23962	(07013108)
436544.28	3724223.75	2768.60693	(06121508)	437094.28	3724223.75	1581.81335	(07122208)
437144.28	3724223.75	1392.65637	(07122208)	437194.28	3724223.75	1242.06665	(07122208)
437244.28	3724223.75	1105.53394	(07122208)	437294.28	3724223.75	1098.49268	(07122208)
437344.28	3724223.75	1015.19495	(07122208)	437394.28	3724223.75	789.41852	(07122208)
437444.28	3724223.75	571.78833	(07122208)	436244.28	3724273.75	965.08929	(05121708)
436294.28	3724273.75	1016.95819	(05121708)	436344.28	3724273.75	1115.73694	(05121708)
436394.28	3724273.75	1287.45142	(05121708)	436444.28	3724273.75	1541.50061	(05121708)
436494.28	3724273.75	2096.76733	(05012008)	436544.28	3724273.75	2794.85425	(06121408)
437094.28	3724273.75	1497.94910	(06122308)	437144.28	3724273.75	1266.30225	(06122308)
437194.28	3724273.75	1105.21826	(06122308)	437244.28	3724273.75	850.96155	(06122308)
437294.28	3724273.75	763.38025	(07122208)	437344.28	3724273.75	642.58936	(07122208)
437394.28	3724273.75	574.63696	(07122208)	437444.28	3724273.75	399.55603	(07110908)
436244.28	3724323.75	1042.44482	(07123108)	436294.28	3724323.75	1049.29211	(05121708)
436344.28	3724323.75	1095.75269	(07123108)	436394.28	3724323.75	1251.80334	(06012408)
436444.28	3724323.75	1497.26074	(06012408)	436494.28	3724323.75	1983.94617	(06121408)
436544.28	3724323.75	2869.56348	(05012108)	436594.28	3724323.75	3097.52246	(06013008)
437094.28	3724323.75	1600.43628	(06122308)	437144.28	3724323.75	1406.28906	(06122308)
437194.28	3724323.75	1370.11292	(06122308)	437244.28	3724323.75	1169.40405	(06122308)
437294.28	3724323.75	983.95325	(06122308)	437344.28	3724323.75	590.35895	(06122308)
437394.28	3724323.75	381.13605	(07111809)	437444.28	3724323.75	358.53680	(07111809)

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724373.75	1102.49158	(06012408)	436294.28	3724373.75	1159.63867	(06012408)
436344.28	3724373.75	1169.08447	(06012408)	436394.28	3724373.75	1307.68213	(06012408)
436444.28	3724373.75	1495.90320	(06012408)	436494.28	3724373.75	1958.34985	(05112608)
436544.28	3724373.75	2825.32520	(05112608)	436594.28	3724373.75	3153.66138	(06013008)
437144.28	3724373.75	1654.08813	(06122308)	437194.28	3724373.75	1491.76880	(06122308)
437244.28	3724373.75	1334.28296	(06122308)	437294.28	3724373.75	1305.69763	(06122308)
437344.28	3724373.75	1104.46265	(06122308)	437394.28	3724373.75	828.48334	(06122308)
437444.28	3724373.75	495.47739	(06122308)	436244.28	3724423.75	1056.08130	(06012408)
436294.28	3724423.75	1052.07141	(06012408)	436344.28	3724423.75	1146.74219	(06012408)
436394.28	3724423.75	1254.26929	(06020108)	436444.28	3724423.75	1480.96777	(05112608)
436494.28	3724423.75	1740.37683	(05112608)	436544.28	3724423.75	2694.72583	(07010108)
436594.28	3724423.75	3005.79468	(07010108)	437194.28	3724423.75	1470.32788	(06122308)
437244.28	3724423.75	1425.85205	(06122308)	437294.28	3724423.75	1388.28564	(06122308)
437344.28	3724423.75	1289.34460	(06122308)	437394.28	3724423.75	1146.64111	(06122308)
437444.28	3724423.75	859.12378	(06122308)	436244.28	3724473.75	1008.46118	(06020108)
436294.28	3724473.75	1023.98260	(06020108)	436344.28	3724473.75	1234.15955	(05112608)
436394.28	3724473.75	1309.64185	(05013008)	436444.28	3724473.75	1440.41357	(07011608)
436494.28	3724473.75	1740.94531	(05122908)	436544.28	3724473.75	2533.15039	(07012608)
436594.28	3724473.75	2656.01611	(05123108)	437194.28	3724473.75	1451.30920	(06122708)
437244.28	3724473.75	1381.58923	(06122708)	437294.28	3724473.75	1301.29480	(06122308)
437344.28	3724473.75	1296.68433	(06122308)	437394.28	3724473.75	1219.07019	(06122308)
437444.28	3724473.75	1254.30432	(06122308)	436244.28	3724523.75	1001.31427	(05112608)
436294.28	3724523.75	1045.02014	(05013008)	436344.28	3724523.75	1263.79639	(07011608)
436394.28	3724523.75	1522.54749	(05122908)	436444.28	3724523.75	1443.88660	(05122908)
436494.28	3724523.75	1707.25354	(07012608)	436544.28	3724523.75	2044.08252	(06020208)
436594.28	3724523.75	2659.61108	(05123108)	437244.28	3724523.75	1332.89380	(06122708)
437294.28	3724523.75	1338.82007	(06122708)	437344.28	3724523.75	1202.79871	(06122708)
437394.28	3724523.75	1153.42078	(06122308)	437444.28	3724523.75	1249.35669	(06122308)
436244.28	3724573.75	952.21814	(05013008)	436294.28	3724573.75	1032.60681	(07011608)
436344.28	3724573.75	1345.01770	(05122908)	436394.28	3724573.75	1535.00916	(06121908)
436444.28	3724573.75	1576.65100	(07012608)	436494.28	3724573.75	1684.20996	(06011408)
436544.28	3724573.75	1926.29871	(06020208)	436594.28	3724573.75	2374.88452	(06013108)
437244.28	3724573.75	1285.29602	(07020708)	437294.28	3724573.75	1286.83875	(06122708)
437344.28	3724573.75	1222.40723	(06122708)	437394.28	3724573.75	1122.82422	(06122708)
437444.28	3724573.75	1088.13135	(06122308)	436244.28	3724623.75	1025.37268	(07011608)
436294.28	3724623.75	1188.11108	(05122908)	436344.28	3724623.75	1288.06226	(07012608)
436394.28	3724623.75	1649.74451	(07012608)	436444.28	3724623.75	1707.12793	(06011408)
436494.28	3724623.75	1583.77258	(06020208)	436544.28	3724623.75	1926.88220	(06013108)
436594.28	3724623.75	2118.68921	(05012208)	437244.28	3724623.75	1283.20337	(07020708)
437294.28	3724623.75	1265.39258	(07020708)	437344.28	3724623.75	1175.26855	(07020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724623.75	1111.64209	(06122708)	437444.28	3724623.75	1167.81555	(06122708)
436244.28	3724673.75	1090.27490	(05122908)	436294.28	3724673.75	1141.86609	(07012608)
436344.28	3724673.75	1424.59485	(07012608)	436394.28	3724673.75	1588.82593	(06011408)
436444.28	3724673.75	1749.10974	(06020208)	436494.28	3724673.75	1408.55994	(06013108)
436544.28	3724673.75	1771.46655	(06013108)	436594.28	3724673.75	2053.95093	(05012208)
437194.28	3724673.75	1166.41199	(05020708)	437244.28	3724673.75	1109.35950	(07020708)
437294.28	3724673.75	1158.29175	(07020708)	437344.28	3724673.75	1147.16296	(07020708)
437394.28	3724673.75	1085.62988	(07020708)	437444.28	3724673.75	1133.14978	(06122708)
436244.28	3724723.75	1236.41504	(07012608)	436294.28	3724723.75	1370.60095	(07012608)
436344.28	3724723.75	1364.25110	(06011408)	436394.28	3724723.75	1700.00415	(06020208)
436444.28	3724723.75	1785.06763	(05123108)	436494.28	3724723.75	1420.83582	(06013108)
436544.28	3724723.75	1597.59924	(06122608)	436594.28	3724723.75	1895.66113	(05012208)
437144.28	3724723.75	1620.14197	(05020708)	437194.28	3724723.75	1422.42737	(05020708)
437244.28	3724723.75	1018.48224	(05020708)	437294.28	3724723.75	993.31073	(07020708)
437344.28	3724723.75	1035.57410	(07020708)	437394.28	3724723.75	1058.88965	(07020708)
437444.28	3724723.75	1147.74866	(07020708)	436244.28	3724773.75	1242.74841	(07012608)
436294.28	3724773.75	1410.58179	(06011408)	436344.28	3724773.75	1437.55701	(06020208)
436394.28	3724773.75	1688.50061	(05123108)	436444.28	3724773.75	1640.04578	(06013108)
436494.28	3724773.75	1578.79675	(06013108)	436544.28	3724773.75	1501.41772	(05120908)
436594.28	3724773.75	1735.27307	(06121208)	437094.28	3724773.75	1453.48499	(06112408)
437144.28	3724773.75	1524.71899	(05020708)	437194.28	3724773.75	1591.92920	(05020708)
437244.28	3724773.75	1082.31689	(05020708)	437294.28	3724773.75	878.01221	(05020708)
437344.28	3724773.75	925.11591	(07020708)	437394.28	3724773.75	1030.32153	(07020708)
437444.28	3724773.75	1131.36475	(07020708)	436244.28	3724823.75	1117.34961	(06011408)
436294.28	3724823.75	1499.18323	(05122608)	436344.28	3724823.75	1584.28784	(05123108)
436394.28	3724823.75	1417.59692	(05123108)	436444.28	3724823.75	1471.40710	(06013108)
436494.28	3724823.75	1510.81348	(06122608)	436544.28	3724823.75	1618.24561	(05012208)
436594.28	3724823.75	1584.64087	(06121208)	437094.28	3724823.75	1436.54895	(06112408)
437144.28	3724823.75	1427.17371	(06112408)	437194.28	3724823.75	1594.08105	(05020708)
437244.28	3724823.75	1405.02612	(05020708)	437294.28	3724823.75	951.11450	(05020708)
437344.28	3724823.75	761.62061	(07020708)	437394.28	3724823.75	953.46143	(07020708)
437444.28	3724823.75	1024.91479	(07020708)	436244.28	3724873.75	891.98663	(06011408)
436294.28	3724873.75	1313.48193	(06020208)	436344.28	3724873.75	1340.00476	(05123108)
436394.28	3724873.75	1246.64368	(06013108)	436444.28	3724873.75	1492.90820	(06013108)
436494.28	3724873.75	1520.65015	(05012208)	436544.28	3724873.75	1578.27283	(06121208)
436594.28	3724873.75	1500.27063	(06121208)	437044.28	3724873.75	1433.64221	(06112408)
437094.28	3724873.75	1493.96387	(06112408)	437144.28	3724873.75	1481.34521	(06112408)
437194.28	3724873.75	1464.98840	(05020708)	437244.28	3724873.75	1474.19141	(05020708)
437294.28	3724873.75	1087.71472	(05020708)	437344.28	3724873.75	843.87738	(05020708)
437394.28	3724873.75	785.10156	(07020708)	437444.28	3724873.75	896.32788	(07020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724923.75	1054.98987	(06020208)	436294.28	3724923.75	1244.92761	(05123108)
436344.28	3724923.75	1378.47461	(06013108)	436394.28	3724923.75	1180.44861	(06013108)
436444.28	3724923.75	1348.27393	(05012208)	436494.28	3724923.75	1526.44141	(05012208)
436544.28	3724923.75	1454.07019	(06121208)	436594.28	3724923.75	1263.31433	(06121208)
436994.28	3724923.75	1177.42175	(05122208)	437044.28	3724923.75	1209.17981	(06112408)
437094.28	3724923.75	1425.17444	(06112408)	437144.28	3724923.75	1458.85144	(06112408)
437194.28	3724923.75	1325.24084	(05020708)	437244.28	3724923.75	1355.20203	(05020708)
437294.28	3724923.75	1339.18176	(05020708)	437344.28	3724923.75	1038.61731	(05020708)
437394.28	3724923.75	879.28497	(05020708)	437444.28	3724923.75	808.55505	(07020708)
436244.28	3724973.75	798.50299	(06020208)	436294.28	3724973.75	1172.06824	(05123108)
436344.28	3724973.75	1342.39722	(06013108)	436394.28	3724973.75	1109.22461	(06013108)
436444.28	3724973.75	1231.30603	(05012208)	436494.28	3724973.75	1366.31812	(05012208)
436544.28	3724973.75	1282.05640	(06121208)	436594.28	3724973.75	983.50006	(06121208)
436944.28	3724973.75	1049.28882	(05122208)	436994.28	3724973.75	1113.41943	(05122208)
437044.28	3724973.75	1149.77527	(05122208)	437094.28	3724973.75	1278.64856	(06112408)
437144.28	3724973.75	1379.22412	(06112408)	437194.28	3724973.75	1314.68323	(06112408)
437244.28	3724973.75	1204.54248	(05020708)	437294.28	3724973.75	1361.60913	(05020708)
437344.28	3724973.75	1094.70325	(05020708)	437394.28	3724973.75	1003.03986	(05020708)
437444.28	3724973.75	745.62463	(05020708)	436244.28	3725023.75	727.26953	(05123108)
436294.28	3725023.75	1099.79822	(06013108)	436344.28	3725023.75	1242.40002	(06013108)
436394.28	3725023.75	1283.82935	(05012208)	436444.28	3725023.75	1157.58630	(05012208)
436494.28	3725023.75	1170.93323	(06121208)	436544.28	3725023.75	1078.93604	(06121208)
436594.28	3725023.75	840.17108	(06121208)	436844.28	3725023.75	862.41284	(05121808)
436894.28	3725023.75	827.17224	(05121808)	436944.28	3725023.75	993.30096	(05122208)
436994.28	3725023.75	1170.41174	(05122208)	437044.28	3725023.75	1219.52295	(05122208)
437094.28	3725023.75	1126.78210	(06112408)	437144.28	3725023.75	1279.09570	(06112408)
437194.28	3725023.75	1290.13562	(06112408)	437244.28	3725023.75	1065.32336	(06112408)
437294.28	3725023.75	1286.57422	(05020708)	437344.28	3725023.75	1093.83398	(05020708)
437394.28	3725023.75	1075.03577	(05020708)	437444.28	3725023.75	894.96289	(05020708)
436244.28	3725073.75	604.78925	(06013108)	436294.28	3725073.75	756.01941	(06013108)
436344.28	3725073.75	823.34930	(06122608)	436394.28	3725073.75	1163.51685	(05012208)
436444.28	3725073.75	1266.63367	(05012208)	436494.28	3725073.75	1237.62183	(06121208)
436544.28	3725073.75	983.58209	(06121208)	436594.28	3725073.75	731.84705	(06121208)
436644.28	3725073.75	842.65778	(05020508)	436694.28	3725073.75	894.59406	(05020508)
436744.28	3725073.75	839.85803	(05020508)	436794.28	3725073.75	793.94440	(05121808)
436844.28	3725073.75	838.06219	(05121808)	436894.28	3725073.75	809.99585	(05121808)
436944.28	3725073.75	931.37256	(05122208)	436994.28	3725073.75	1066.44214	(05122208)
437044.28	3725073.75	1115.28040	(05122208)	437094.28	3725073.75	1058.44971	(05122208)
437144.28	3725073.75	1167.95117	(06112408)	437194.28	3725073.75	1214.04858	(06112408)
437244.28	3725073.75	1058.75781	(06112408)	437294.28	3725073.75	1144.59497	(05020708)

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437344.28	3725073.75	1201.18164	(05020708)	437394.28	3725073.75	1118.28601	(05020708)
437444.28	3725073.75	1000.59924	(05020708)	436244.28	3725123.75	743.00562	(06013108)
436294.28	3725123.75	705.08759	(06013108)	436344.28	3725123.75	727.58893	(06122608)
436394.28	3725123.75	886.00940	(05120908)	436444.28	3725123.75	937.08984	(06121008)
436494.28	3725123.75	1155.41614	(06121208)	436544.28	3725123.75	1066.65930	(06121208)
436594.28	3725123.75	741.50299	(05020508)	436644.28	3725123.75	826.24658	(05020508)
436694.28	3725123.75	853.53430	(05020508)	436744.28	3725123.75	776.39484	(05020508)
436794.28	3725123.75	765.73279	(05121808)	436844.28	3725123.75	838.61542	(05121808)
436894.28	3725123.75	823.45947	(05121808)	436944.28	3725123.75	929.24176	(05122208)
436994.28	3725123.75	1086.86609	(05122208)	437044.28	3725123.75	1146.20349	(05122208)
437094.28	3725123.75	1076.23572	(05122208)	437144.28	3725123.75	1074.31116	(06112408)
437194.28	3725123.75	1120.06885	(06112408)	437244.28	3725123.75	1056.21216	(06112408)
437294.28	3725123.75	1030.09949	(06112408)	437344.28	3725123.75	1167.47351	(05020708)
437394.28	3725123.75	1138.17664	(05020708)	437444.28	3725123.75	1053.25525	(05020708)
436244.28	3725173.75	1029.83850	(06013108)	436294.28	3725173.75	824.12970	(06122608)
436344.28	3725173.75	804.15344	(05120908)	436394.28	3725173.75	925.68665	(05120908)
436444.28	3725173.75	1031.72729	(06121008)	436494.28	3725173.75	1128.41760	(06121208)
436544.28	3725173.75	942.90045	(06121208)	436594.28	3725173.75	828.65094	(05020508)
436644.28	3725173.75	826.61414	(05020508)	436694.28	3725173.75	815.65601	(05020508)
436744.28	3725173.75	735.77814	(05020508)	436794.28	3725173.75	739.96338	(05121808)
436844.28	3725173.75	859.61298	(05121808)	436894.28	3725173.75	851.74304	(05121808)
436944.28	3725173.75	921.16559	(05122208)	436994.28	3725173.75	1115.93359	(05122208)
437044.28	3725173.75	1172.96033	(05122208)	437094.28	3725173.75	1080.97864	(05122208)
437144.28	3725173.75	923.41229	(06112408)	437194.28	3725173.75	1072.41138	(06112408)
437244.28	3725173.75	1054.57544	(06112408)	437294.28	3725173.75	1039.35828	(06112408)
437344.28	3725173.75	1013.71014	(05020708)	437394.28	3725173.75	1139.61267	(05020708)
437444.28	3725173.75	1058.98157	(05020708)	436244.28	3725223.75	1031.29382	(06013108)
436294.28	3725223.75	1010.03192	(05012208)	436344.28	3725223.75	854.55939	(05120908)
436394.28	3725223.75	966.07068	(06121008)	436444.28	3725223.75	1131.13721	(06121208)
436494.28	3725223.75	1010.95056	(06121208)	436544.28	3725223.75	684.29468	(06121208)
436594.28	3725223.75	686.17664	(05020508)	436644.28	3725223.75	775.50427	(05020508)
436694.28	3725223.75	781.31207	(05020508)	436744.28	3725223.75	698.58368	(05020508)
436794.28	3725223.75	710.19031	(05121808)	436844.28	3725223.75	803.37866	(05121808)
436894.28	3725223.75	804.95117	(05121808)	436944.28	3725223.75	798.76416	(05122208)
436994.28	3725223.75	1024.66589	(05122208)	437044.28	3725223.75	1129.17566	(05122208)
437094.28	3725223.75	1057.87036	(05122208)	437144.28	3725223.75	904.29584	(05122208)
437194.28	3725223.75	966.77136	(06112408)	437244.28	3725223.75	1036.24817	(06112408)
437294.28	3725223.75	1083.72327	(06112408)	437344.28	3725223.75	1039.24915	(06112408)
437394.28	3725223.75	1053.37671	(05020708)	437444.28	3725223.75	1034.37488	(05020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3723773.75	88.75968	(06010508)	436294.28	3723773.75	95.47746	(06010508)
436344.28	3723773.75	97.22176	(06010308)	436394.28	3723773.75	101.80076	(07112908)
436444.28	3723773.75	109.45071	(05012508)	436494.28	3723773.75	118.95147	(06022008)
436544.28	3723773.75	133.78825	(06022008)	436594.28	3723773.75	132.07750	(06022008)
436644.28	3723773.75	129.93396	(05121508)	436694.28	3723773.75	126.82727	(05121508)
436744.28	3723773.75	121.07817	(05122508)	436794.28	3723773.75	131.16345	(05122508)
436844.28	3723773.75	129.76828	(05122508)	436894.28	3723773.75	119.68023	(05122508)
436944.28	3723773.75	110.63219	(05122508)	436994.28	3723773.75	136.44846	(05021308)
437044.28	3723773.75	138.21906	(05021308)	437094.28	3723773.75	142.83235	(05021308)
437144.28	3723773.75	139.96010	(05021308)	437194.28	3723773.75	120.03574	(05021308)
437244.28	3723773.75	86.35718	(05021308)	437294.28	3723773.75	69.97945	(07010508)
437344.28	3723773.75	55.70268	(06110308)	437394.28	3723773.75	60.44950	(07120708)
437444.28	3723773.75	79.45084	(07120708)	436244.28	3723823.75	92.73180	(07112808)
436294.28	3723823.75	99.72124	(06010508)	436344.28	3723823.75	108.23957	(06010508)
436394.28	3723823.75	110.49081	(06010308)	436444.28	3723823.75	116.12902	(07112908)
436494.28	3723823.75	125.58402	(05012508)	436544.28	3723823.75	135.73875	(05122108)
436594.28	3723823.75	139.65344	(06022008)	436644.28	3723823.75	143.04689	(05121508)
436694.28	3723823.75	143.26160	(05121508)	436744.28	3723823.75	135.22820	(05122508)
436794.28	3723823.75	144.85214	(05122508)	436844.28	3723823.75	141.33885	(05122508)
436894.28	3723823.75	125.94275	(05122508)	436944.28	3723823.75	101.35952	(07111608)
436994.28	3723823.75	123.78188	(05021308)	437044.28	3723823.75	190.56239	(05021308)
437094.28	3723823.75	153.60690	(05021308)	437144.28	3723823.75	132.72226	(05021308)
437194.28	3723823.75	99.11302	(05021308)	437244.28	3723823.75	76.20759	(07010508)
437294.28	3723823.75	61.00856	(07120708)	437344.28	3723823.75	75.42697	(07120708)
437394.28	3723823.75	87.87608	(07120708)	437444.28	3723823.75	99.87110	(07120708)
436244.28	3723873.75	96.44187	(07122408)	436294.28	3723873.75	103.76077	(07112808)
436344.28	3723873.75	112.83762	(07112808)	436394.28	3723873.75	123.48396	(06010508)
436444.28	3723873.75	127.22517	(06010308)	436494.28	3723873.75	135.84860	(05012508)
436544.28	3723873.75	148.66640	(05122108)	436594.28	3723873.75	154.41928	(05122108)
436644.28	3723873.75	157.80396	(05121508)	436694.28	3723873.75	162.14215	(05121508)
436744.28	3723873.75	152.70836	(05122508)	436794.28	3723873.75	161.88362	(05122508)
436844.28	3723873.75	157.71817	(05122508)	436894.28	3723873.75	137.77937	(05122508)
436944.28	3723873.75	119.77722	(05122316)	436994.28	3723873.75	141.08272	(05021308)
437044.28	3723873.75	186.65781	(05021308)	437094.28	3723873.75	180.84099	(05021308)
437144.28	3723873.75	116.98868	(05021308)	437194.28	3723873.75	84.37977	(07010508)
437244.28	3723873.75	79.78763	(07120708)	437294.28	3723873.75	94.34035	(07120708)
437344.28	3723873.75	104.62909	(07120708)	437394.28	3723873.75	110.64288	(07120708)
437444.28	3723873.75	115.17847	(07120708)	436244.28	3723923.75	99.46391	(06011808)
436294.28	3723923.75	108.67542	(07122408)	436344.28	3723923.75	118.15640	(05121308)
436394.28	3723923.75	129.61052	(07112808)	436444.28	3723923.75	143.19910	(06010508)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436494.28	3723923.75	149.59079	(06010508)	436544.28	3723923.75	162.47836	(05012508)
436594.28	3723923.75	176.60864	(05122108)	436644.28	3723923.75	175.06117	(05121508)
436694.28	3723923.75	184.47807	(05121508)	436744.28	3723923.75	177.28789	(05121508)
436794.28	3723923.75	183.20657	(05122508)	436844.28	3723923.75	178.39113	(05122508)
436944.28	3723923.75	158.83556	(05122316)	436994.28	3723923.75	161.45287	(05092016)
437044.28	3723923.75	179.06737	(05021308)	437094.28	3723923.75	167.46707	(05021308)
437144.28	3723923.75	106.53770	(05021308)	437194.28	3723923.75	102.57960	(07120708)
437244.28	3723923.75	115.75357	(07120708)	437294.28	3723923.75	129.41190	(07120708)
437344.28	3723923.75	123.10233	(07120708)	437394.28	3723923.75	120.93723	(07011208)
437444.28	3723923.75	129.92476	(07011208)	436244.28	3723973.75	102.49347	(06012608)
436294.28	3723973.75	111.90609	(06011808)	436344.28	3723973.75	122.80003	(06011808)
436394.28	3723973.75	136.42943	(07122408)	436444.28	3723973.75	151.90350	(07112808)
436494.28	3723973.75	170.76630	(06010508)	436544.28	3723973.75	180.00096	(07112908)
436594.28	3723973.75	198.06715	(05122108)	436644.28	3723973.75	209.13742	(05122108)
436694.28	3723973.75	212.53679	(05121508)	436744.28	3723973.75	210.48730	(05121508)
436794.28	3723973.75	212.91887	(05122508)	436844.28	3723973.75	206.00197	(05122508)
436994.28	3723973.75	214.21844	(05092016)	437044.28	3723973.75	187.36174	(05092016)
437094.28	3723973.75	144.41917	(07120708)	437144.28	3723973.75	169.98553	(07120708)
437194.28	3723973.75	150.42685	(07120708)	437244.28	3723973.75	161.56009	(07120708)
437294.28	3723973.75	186.71124	(07011208)	437344.28	3723973.75	162.35632	(07011208)
437394.28	3723973.75	167.01103	(07011208)	437444.28	3723973.75	175.24577	(07011208)
436244.28	3724023.75	111.16039	(05011908)	436294.28	3724023.75	120.02367	(05011908)
436344.28	3724023.75	128.48926	(05011908)	436394.28	3724023.75	142.20566	(06011808)
436444.28	3724023.75	159.75021	(07122408)	436494.28	3724023.75	182.82655	(07112808)
436544.28	3724023.75	209.60524	(06010508)	436594.28	3724023.75	231.63370	(07112908)
436644.28	3724023.75	255.23129	(05122108)	436694.28	3724023.75	253.11082	(05122108)
436744.28	3724023.75	263.60767	(05121508)	436794.28	3724023.75	288.53763	(05122316)
436844.28	3724023.75	324.62515	(05122316)	437044.28	3724023.75	215.14203	(05102216)
437094.28	3724023.75	193.17720	(07120708)	437144.28	3724023.75	206.14980	(07120708)
437194.28	3724023.75	207.09042	(07011208)	437244.28	3724023.75	208.02042	(07011208)
437294.28	3724023.75	204.80157	(07011208)	437344.28	3724023.75	212.40576	(07011208)
437394.28	3724023.75	182.66162	(07011208)	437444.28	3724023.75	184.70412	(07011208)
436244.28	3724073.75	111.33159	(05011908)	436294.28	3724073.75	124.74231	(05011908)
436344.28	3724073.75	139.64941	(05011908)	436394.28	3724073.75	156.65117	(05011908)
436444.28	3724073.75	172.90074	(05011908)	436494.28	3724073.75	195.01285	(06012608)
436544.28	3724073.75	230.49304	(07122408)	436594.28	3724073.75	282.58212	(07112808)
436644.28	3724073.75	337.64917	(05112508)	437044.28	3724073.75	285.07162	(07113016)
437094.28	3724073.75	223.95078	(07113016)	437144.28	3724073.75	212.79945	(07011208)
437194.28	3724073.75	196.49384	(07011208)	437244.28	3724073.75	185.98773	(07011208)
437294.28	3724073.75	186.59880	(07122208)	437344.28	3724073.75	173.00729	(07122208)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724073.75	180.85840	(07011208)	437444.28	3724073.75	136.85561	(07011208)
436244.28	3724123.75	113.53588	(07021008)	436294.28	3724123.75	123.49153	(07021008)
436344.28	3724123.75	138.00964	(06122808)	436394.28	3724123.75	159.25171	(05011908)
436444.28	3724123.75	185.16653	(05011908)	436494.28	3724123.75	213.87514	(05011908)
436544.28	3724123.75	267.43973	(07020308)	436594.28	3724123.75	334.04166	(07020308)
437044.28	3724123.75	320.68512	(07113016)	437094.28	3724123.75	233.83795	(07113016)
437144.28	3724123.75	200.22287	(07122208)	437194.28	3724123.75	198.43373	(07122208)
437244.28	3724123.75	205.64444	(07122208)	437294.28	3724123.75	185.34036	(07122208)
437344.28	3724123.75	181.97366	(07122208)	437394.28	3724123.75	128.50891	(07122208)
437444.28	3724123.75	114.09467	(07122208)	436244.28	3724173.75	116.09604	(07121908)
436294.28	3724173.75	128.58755	(07121908)	436344.28	3724173.75	145.59758	(07121908)
436394.28	3724173.75	167.86446	(07121908)	436444.28	3724173.75	196.89072	(07121908)
436494.28	3724173.75	242.11263	(07121908)	436544.28	3724173.75	291.45676	(07020108)
437094.28	3724173.75	274.09283	(07110816)	437144.28	3724173.75	214.84781	(07110816)
437194.28	3724173.75	181.07817	(07122208)	437244.28	3724173.75	182.61719	(07122208)
437294.28	3724173.75	173.54634	(07122208)	437344.28	3724173.75	128.17784	(07122208)
437394.28	3724173.75	109.35863	(07122208)	437444.28	3724173.75	98.85893	(07122208)
436244.28	3724223.75	112.04782	(07020108)	436294.28	3724223.75	123.72350	(07121908)
436344.28	3724223.75	140.04883	(07121908)	436394.28	3724223.75	162.05965	(07121908)
436444.28	3724223.75	195.99870	(07012708)	436494.28	3724223.75	255.77995	(07013108)
436544.28	3724223.75	346.07587	(06121508)	437094.28	3724223.75	298.36716	(07110816)
437144.28	3724223.75	226.51088	(07110816)	437194.28	3724223.75	180.16537	(07110816)
437244.28	3724223.75	149.32089	(07110816)	437294.28	3724223.75	137.31158	(07122208)
437344.28	3724223.75	126.89937	(07122208)	437394.28	3724223.75	98.67731	(07122208)
437444.28	3724223.75	84.96941	(07110816)	436244.28	3724273.75	120.63616	(05121708)
436294.28	3724273.75	127.11977	(05121708)	436344.28	3724273.75	139.46712	(05121708)
436394.28	3724273.75	160.93143	(05121708)	436444.28	3724273.75	192.68758	(05121708)
436494.28	3724273.75	262.09592	(05012008)	436544.28	3724273.75	349.35678	(06121408)
437094.28	3724273.75	304.61948	(07110816)	437144.28	3724273.75	230.10899	(07110816)
437194.28	3724273.75	179.26468	(07110816)	437244.28	3724273.75	144.73175	(07110816)
437294.28	3724273.75	121.55272	(07110816)	437344.28	3724273.75	104.56606	(07110816)
437394.28	3724273.75	91.76749	(07110816)	437444.28	3724273.75	81.30738	(07110816)
436244.28	3724323.75	130.30560	(07123108)	436294.28	3724323.75	131.16151	(05121708)
436344.28	3724323.75	136.96909	(07123108)	436394.28	3724323.75	156.47542	(06012408)
436444.28	3724323.75	187.15759	(06012408)	436494.28	3724323.75	247.99327	(06121408)
436544.28	3724323.75	358.69543	(05012108)	436594.28	3724323.75	409.43515	(07122916)
437094.28	3724323.75	286.81918	(07110816)	437144.28	3724323.75	218.84006	(07110816)
437194.28	3724323.75	171.26411	(06122308)	437244.28	3724323.75	146.17551	(06122308)
437294.28	3724323.75	122.99416	(06122308)	437344.28	3724323.75	93.00675	(07110816)
437394.28	3724323.75	79.68781	(07110816)	437444.28	3724323.75	69.62622	(07110816)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724373.75	137.81145	(06012408)	436294.28	3724373.75	144.95483	(06012408)
436344.28	3724373.75	146.13556	(06012408)	436394.28	3724373.75	163.46027	(06012408)
436444.28	3724373.75	186.98790	(06012408)	436494.28	3724373.75	244.79373	(05112608)
436544.28	3724373.75	353.16565	(05112608)	436594.28	3724373.75	394.20767	(06013008)
437144.28	3724373.75	206.76102	(06122308)	437194.28	3724373.75	186.47110	(06122308)
437244.28	3724373.75	166.78537	(06122308)	437294.28	3724373.75	163.21220	(06122308)
437344.28	3724373.75	138.05783	(06122308)	437394.28	3724373.75	103.56042	(06122308)
437444.28	3724373.75	61.93467	(06122308)	436244.28	3724423.75	132.01016	(06012408)
436294.28	3724423.75	131.50893	(06012408)	436344.28	3724423.75	143.34277	(06012408)
436394.28	3724423.75	156.78366	(06020108)	436444.28	3724423.75	185.12097	(05112608)
436494.28	3724423.75	217.54710	(05112608)	436544.28	3724423.75	336.84073	(07010108)
436594.28	3724423.75	375.72433	(07010108)	437194.28	3724423.75	183.79099	(06122308)
437244.28	3724423.75	178.23151	(06122308)	437294.28	3724423.75	173.53571	(06122308)
437344.28	3724423.75	161.16808	(06122308)	437394.28	3724423.75	143.33014	(06122308)
437444.28	3724423.75	107.39047	(06122308)	436244.28	3724473.75	126.05765	(06020108)
436294.28	3724473.75	127.99783	(06020108)	436344.28	3724473.75	154.26994	(05112608)
436394.28	3724473.75	163.70523	(05013008)	436444.28	3724473.75	180.05170	(07011608)
436494.28	3724473.75	217.61816	(05122908)	436544.28	3724473.75	316.64380	(07012608)
436594.28	3724473.75	332.00201	(05123108)	437194.28	3724473.75	181.41365	(06122708)
437244.28	3724473.75	172.69865	(06122708)	437294.28	3724473.75	162.66185	(06122308)
437344.28	3724473.75	162.08554	(06122308)	437394.28	3724473.75	152.38377	(06122308)
437444.28	3724473.75	156.78804	(06122308)	436244.28	3724523.75	125.16428	(05112608)
436294.28	3724523.75	130.62752	(05013008)	436344.28	3724523.75	157.97455	(07011608)
436394.28	3724523.75	190.31844	(05122908)	436444.28	3724523.75	180.48582	(05122908)
436494.28	3724523.75	213.40669	(07012608)	436544.28	3724523.75	255.51031	(06020208)
436594.28	3724523.75	332.45139	(05123108)	437244.28	3724523.75	166.61172	(06122708)
437294.28	3724523.75	167.35251	(06122708)	437344.28	3724523.75	150.34984	(06122708)
437394.28	3724523.75	144.17760	(06122308)	437444.28	3724523.75	156.16959	(06122308)
436244.28	3724573.75	119.02727	(05013008)	436294.28	3724573.75	129.07585	(07011608)
436344.28	3724573.75	168.12721	(05122908)	436394.28	3724573.75	191.87614	(06121908)
436444.28	3724573.75	197.08138	(07012608)	436494.28	3724573.75	210.52625	(06011408)
436544.28	3724573.75	240.78734	(06020208)	436594.28	3724573.75	296.86057	(06013108)
437244.28	3724573.75	160.66200	(07020708)	437294.28	3724573.75	160.85484	(06122708)
437344.28	3724573.75	152.80090	(06122708)	437394.28	3724573.75	140.35303	(06122708)
437444.28	3724573.75	136.01642	(06122308)	436244.28	3724623.75	128.17159	(07011608)
436294.28	3724623.75	148.51389	(05122908)	436344.28	3724623.75	161.00778	(07012608)
436394.28	3724623.75	206.21806	(07012608)	436444.28	3724623.75	213.39099	(06011408)
436494.28	3724623.75	197.97157	(06020208)	436544.28	3724623.75	240.86028	(06013108)
436594.28	3724623.75	264.83615	(05012208)	437244.28	3724623.75	160.40042	(07020708)
437294.28	3724623.75	158.17407	(07020708)	437344.28	3724623.75	146.90857	(07020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724623.75	138.95526	(06122708)	437444.28	3724623.75	145.97694	(06122708)
436244.28	3724673.75	136.28436	(05122908)	436294.28	3724673.75	142.73326	(07012608)
436344.28	3724673.75	178.07436	(07012608)	436394.28	3724673.75	198.60324	(06011408)
436444.28	3724673.75	218.63872	(06020208)	436494.28	3724673.75	176.06999	(06013108)
436544.28	3724673.75	221.43332	(06013108)	436594.28	3724673.75	256.74387	(05012208)
437194.28	3724673.75	145.80150	(05020708)	437244.28	3724673.75	138.66994	(07020708)
437294.28	3724673.75	144.78647	(07020708)	437344.28	3724673.75	143.39537	(07020708)
437394.28	3724673.75	135.70374	(07020708)	437444.28	3724673.75	141.64372	(06122708)
436244.28	3724723.75	154.55188	(07012608)	436294.28	3724723.75	171.32512	(07012608)
436344.28	3724723.75	170.53139	(06011408)	436394.28	3724723.75	212.50052	(06020208)
436444.28	3724723.75	223.13345	(05123108)	436494.28	3724723.75	177.60448	(06013108)
436544.28	3724723.75	199.69991	(06122608)	436594.28	3724723.75	236.95764	(05012208)
437144.28	3724723.75	202.51775	(05020708)	437194.28	3724723.75	177.80342	(05020708)
437244.28	3724723.75	127.31028	(05020708)	437294.28	3724723.75	124.16384	(07020708)
437344.28	3724723.75	129.44676	(07020708)	437394.28	3724723.75	132.36121	(07020708)
437444.28	3724723.75	143.46858	(07020708)	436244.28	3724773.75	155.34355	(07012608)
436294.28	3724773.75	176.32272	(06011408)	436344.28	3724773.75	179.69463	(06020208)
436394.28	3724773.75	211.06258	(05123108)	436444.28	3724773.75	205.00572	(06013108)
436494.28	3724773.75	197.34959	(06013108)	436544.28	3724773.75	187.67722	(05120908)
436594.28	3724773.75	216.90913	(06121208)	437094.28	3724773.75	181.68562	(06112408)
437144.28	3724773.75	190.58987	(05020708)	437194.28	3724773.75	198.99115	(05020708)
437244.28	3724773.75	135.28961	(05020708)	437294.28	3724773.75	109.75153	(05020708)
437344.28	3724773.75	115.63949	(07020708)	437394.28	3724773.75	128.79019	(07020708)
437444.28	3724773.75	141.42059	(07020708)	436244.28	3724823.75	139.66870	(06011408)
436294.28	3724823.75	187.39790	(05122608)	436344.28	3724823.75	198.03598	(05123108)
436394.28	3724823.75	177.19962	(05123108)	436444.28	3724823.75	183.92589	(06013108)
436494.28	3724823.75	188.85168	(06122608)	436544.28	3724823.75	202.28070	(05012208)
436594.28	3724823.75	198.08011	(06121208)	437094.28	3724823.75	179.56862	(06112408)
437144.28	3724823.75	178.39671	(06112408)	437194.28	3724823.75	199.26013	(05020708)
437244.28	3724823.75	175.62827	(05020708)	437294.28	3724823.75	118.88931	(05020708)
437344.28	3724823.75	95.20258	(07020708)	437394.28	3724823.75	119.18268	(07020708)
437444.28	3724823.75	128.11435	(07020708)	436244.28	3724873.75	111.49833	(06011408)
436294.28	3724873.75	164.18524	(06020208)	436344.28	3724873.75	167.50060	(05123108)
436394.28	3724873.75	155.83046	(06013108)	436444.28	3724873.75	186.61353	(06013108)
436494.28	3724873.75	190.08127	(05012208)	436544.28	3724873.75	197.28410	(06121208)
436594.28	3724873.75	187.53383	(06121208)	437044.28	3724873.75	179.20528	(06112408)
437094.28	3724873.75	186.74548	(06112408)	437144.28	3724873.75	185.16815	(06112408)
437194.28	3724873.75	183.12355	(05020708)	437244.28	3724873.75	184.27393	(05020708)
437294.28	3724873.75	135.96434	(05020708)	437344.28	3724873.75	105.48467	(05020708)
437394.28	3724873.75	98.13770	(07020708)	437444.28	3724873.75	112.04099	(07020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724923.75	131.87373	(06020208)	436294.28	3724923.75	155.61595	(05123108)
436344.28	3724923.75	172.30933	(06013108)	436394.28	3724923.75	147.55608	(06013108)
436444.28	3724923.75	168.53424	(05012208)	436494.28	3724923.75	190.80518	(05012208)
436544.28	3724923.75	181.75877	(06121208)	436594.28	3724923.75	157.91429	(06121208)
436994.28	3724923.75	147.17772	(05122208)	437044.28	3724923.75	151.14748	(06112408)
437094.28	3724923.75	178.14680	(06112408)	437144.28	3724923.75	182.35643	(06112408)
437194.28	3724923.75	165.65511	(05020708)	437244.28	3724923.75	169.40025	(05020708)
437294.28	3724923.75	167.39772	(05020708)	437344.28	3724923.75	129.82716	(05020708)
437394.28	3724923.75	109.91062	(05020708)	437444.28	3724923.75	101.06938	(07020708)
436244.28	3724973.75	99.81287	(06020208)	436294.28	3724973.75	146.50853	(05123108)
436344.28	3724973.75	167.79965	(06013108)	436394.28	3724973.75	138.65308	(06013108)
436444.28	3724973.75	153.91325	(05012208)	436494.28	3724973.75	170.78976	(05012208)
436544.28	3724973.75	160.25705	(06121208)	436594.28	3724973.75	122.93751	(06121208)
436944.28	3724973.75	131.16110	(05122208)	436994.28	3724973.75	139.17743	(05122208)
437044.28	3724973.75	143.72191	(05122208)	437094.28	3724973.75	159.83107	(06112408)
437144.28	3724973.75	172.40302	(06112408)	437194.28	3724973.75	164.33540	(06112408)
437244.28	3724973.75	150.56781	(05020708)	437294.28	3724973.75	170.20114	(05020708)
437344.28	3724973.75	136.83791	(05020708)	437394.28	3724973.75	125.37998	(05020708)
437444.28	3724973.75	93.20308	(05020708)	436244.28	3725023.75	90.90869	(05123108)
436294.28	3725023.75	137.47478	(06013108)	436344.28	3725023.75	155.30000	(06013108)
436394.28	3725023.75	160.47867	(05012208)	436444.28	3725023.75	144.69829	(05012208)
436494.28	3725023.75	146.36665	(06121208)	436544.28	3725023.75	134.86700	(06121208)
436594.28	3725023.75	105.02139	(06121208)	436844.28	3725023.75	107.80161	(05121808)
436894.28	3725023.75	103.39653	(05121808)	436944.28	3725023.75	124.16262	(05122208)
436994.28	3725023.75	146.30147	(05122208)	437044.28	3725023.75	152.44037	(05122208)
437094.28	3725023.75	140.84776	(06112408)	437144.28	3725023.75	159.88696	(06112408)
437194.28	3725023.75	161.26695	(06112408)	437244.28	3725023.75	133.16542	(06112408)
437294.28	3725023.75	160.82178	(05020708)	437344.28	3725023.75	136.72925	(05020708)
437394.28	3725023.75	134.37947	(05020708)	437444.28	3725023.75	111.87036	(05020708)
436244.28	3725073.75	75.59866	(06013108)	436294.28	3725073.75	94.50243	(06013108)
436344.28	3725073.75	102.91866	(06122608)	436394.28	3725073.75	145.43961	(05012208)
436444.28	3725073.75	158.32921	(05012208)	436494.28	3725073.75	154.70273	(06121208)
436544.28	3725073.75	122.94776	(06121208)	436594.28	3725073.75	91.48088	(06121208)
436644.28	3725073.75	105.33222	(05020508)	436694.28	3725073.75	111.82426	(05020508)
436744.28	3725073.75	104.98225	(05020508)	436794.28	3725073.75	99.24305	(05121808)
436844.28	3725073.75	104.75777	(05121808)	436894.28	3725073.75	101.24948	(05121808)
436944.28	3725073.75	116.42157	(05122208)	436994.28	3725073.75	133.30527	(05122208)
437044.28	3725073.75	139.41005	(05122208)	437094.28	3725073.75	132.30621	(05122208)
437144.28	3725073.75	145.99390	(06112408)	437194.28	3725073.75	151.75607	(06112408)
437244.28	3725073.75	132.34473	(06112408)	437294.28	3725073.75	143.07437	(05020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437344.28	3725073.75	150.14771	(05020708)	437394.28	3725073.75	139.78575	(05020708)
437444.28	3725073.75	125.07491	(05020708)	436244.28	3725123.75	92.87570	(06013108)
436294.28	3725123.75	88.13595	(06013108)	436344.28	3725123.75	90.94862	(06122608)
436394.28	3725123.75	110.75117	(05120908)	436444.28	3725123.75	117.13623	(06121008)
436494.28	3725123.75	144.42702	(06121208)	436544.28	3725123.75	133.33241	(06121208)
436594.28	3725123.75	92.68787	(05020508)	436644.28	3725123.75	103.28082	(05020508)
436694.28	3725123.75	106.69179	(05020508)	436744.28	3725123.75	97.04935	(05020508)
436794.28	3725123.75	95.71660	(05121808)	436844.28	3725123.75	104.82693	(05121808)
436894.28	3725123.75	102.93243	(05121808)	436944.28	3725123.75	116.15522	(05122208)
436994.28	3725123.75	135.85826	(05122208)	437044.28	3725123.75	143.27544	(05122208)
437094.28	3725123.75	134.52946	(05122208)	437144.28	3725123.75	134.28889	(06112408)
437194.28	3725123.75	140.00861	(06112408)	437244.28	3725123.75	132.02652	(06112408)
437294.28	3725123.75	128.76244	(06112408)	437344.28	3725123.75	145.93419	(05020708)
437394.28	3725123.75	142.27208	(05020708)	437444.28	3725123.75	131.65691	(05020708)
436244.28	3725173.75	128.72981	(06013108)	436294.28	3725173.75	103.01621	(06122608)
436344.28	3725173.75	100.51918	(05120908)	436394.28	3725173.75	115.71083	(05120908)
436444.28	3725173.75	128.96591	(06121008)	436494.28	3725173.75	141.05220	(06121208)
436544.28	3725173.75	117.86256	(06121208)	436594.28	3725173.75	103.58137	(05020508)
436644.28	3725173.75	103.32677	(05020508)	436694.28	3725173.75	101.95700	(05020508)
436744.28	3725173.75	91.97227	(05020508)	436794.28	3725173.75	92.49542	(05121808)
436844.28	3725173.75	107.45162	(05121808)	436894.28	3725173.75	106.46788	(05121808)
436944.28	3725173.75	115.14570	(05122208)	436994.28	3725173.75	139.49170	(05122208)
437044.28	3725173.75	146.62004	(05122208)	437094.28	3725173.75	135.12233	(05122208)
437144.28	3725173.75	115.42654	(06112408)	437194.28	3725173.75	134.05142	(06112408)
437244.28	3725173.75	131.82193	(06112408)	437294.28	3725173.75	129.91978	(06112408)
437344.28	3725173.75	126.71377	(05020708)	437394.28	3725173.75	142.45158	(05020708)
437444.28	3725173.75	132.37270	(05020708)	436244.28	3725223.75	128.91173	(06013108)
436294.28	3725223.75	126.25399	(05012208)	436344.28	3725223.75	106.81992	(05120908)
436394.28	3725223.75	120.75883	(06121008)	436444.28	3725223.75	141.39215	(06121208)
436494.28	3725223.75	126.36882	(06121208)	436544.28	3725223.75	85.53683	(06121208)
436594.28	3725223.75	85.77208	(05020508)	436644.28	3725223.75	96.93803	(05020508)
436694.28	3725223.75	97.66401	(05020508)	436744.28	3725223.75	87.32296	(05020508)
436794.28	3725223.75	88.77379	(05121808)	436844.28	3725223.75	100.42233	(05121808)
436894.28	3725223.75	100.61890	(05121808)	436944.28	3725223.75	99.84552	(05122208)
436994.28	3725223.75	128.08324	(05122208)	437044.28	3725223.75	141.14696	(05122208)
437094.28	3725223.75	132.23380	(05122208)	437144.28	3725223.75	113.03698	(05122208)
437194.28	3725223.75	120.84642	(06112408)	437244.28	3725223.75	129.53102	(06112408)
437294.28	3725223.75	135.46541	(06112408)	437344.28	3725223.75	129.90614	(06112408)
437394.28	3725223.75	131.67209	(05020708)	437444.28	3725223.75	129.29686	(05020708)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3723773.75	34.84109	(06122024)	436294.28	3723773.75	39.23207	(05011624)
436344.28	3723773.75	43.23242	(05011624)	436394.28	3723773.75	44.54948	(05011624)
436444.28	3723773.75	48.23114	(06122524)	436494.28	3723773.75	50.85767	(06122524)
436544.28	3723773.75	49.30406	(06122524)	436594.28	3723773.75	47.52075	(06022024)
436644.28	3723773.75	49.77891	(05121524)	436694.28	3723773.75	49.33027	(05122824)
436744.28	3723773.75	53.24536	(05122824)	436794.28	3723773.75	53.47116	(05122824)
436844.28	3723773.75	49.59329	(05122824)	436894.28	3723773.75	48.06654	(05122524)
436944.28	3723773.75	51.19861	(06021124)	436994.28	3723773.75	59.46887	(05021324)
437044.28	3723773.75	63.91877	(05021324)	437094.28	3723773.75	68.64464	(05021324)
437144.28	3723773.75	70.17758	(05021324)	437194.28	3723773.75	63.96585	(05021324)
437244.28	3723773.75	50.82735	(05021324)	437294.28	3723773.75	36.67739	(05021324)
437344.28	3723773.75	24.68977	(05021324)	437394.28	3723773.75	22.45017	(07120724)
437444.28	3723773.75	28.81977	(07120724)	436244.28	3723823.75	39.38469	(06122024)
436294.28	3723823.75	39.91374	(06122024)	436344.28	3723823.75	44.02783	(05011624)
436394.28	3723823.75	48.62675	(05011624)	436444.28	3723823.75	50.27565	(06122524)
436494.28	3723823.75	56.32855	(06122524)	436544.28	3723823.75	57.77154	(06122524)
436594.28	3723823.75	54.05128	(06122524)	436644.28	3723823.75	56.51764	(05121524)
436694.28	3723823.75	55.57471	(05122824)	436744.28	3723823.75	61.00747	(05122824)
436794.28	3723823.75	62.18567	(05122824)	436844.28	3723823.75	58.35447	(05122824)
436894.28	3723823.75	54.62927	(06021124)	436944.28	3723823.75	53.87700	(06021124)
436994.28	3723823.75	62.65472	(05021324)	437044.28	3723823.75	88.80099	(05021324)
437094.28	3723823.75	78.37818	(05021324)	437144.28	3723823.75	71.78325	(05021324)
437194.28	3723823.75	58.68896	(05021324)	437244.28	3723823.75	43.05753	(05021324)
437294.28	3723823.75	28.94567	(05021324)	437344.28	3723823.75	27.98340	(07120724)
437394.28	3723823.75	32.13626	(07120724)	437444.28	3723823.75	36.11068	(07120724)
436244.28	3723873.75	43.27941	(05122024)	436294.28	3723873.75	44.44012	(06122024)
436344.28	3723873.75	45.77710	(06122024)	436394.28	3723873.75	49.88848	(05011624)
436444.28	3723873.75	55.59640	(05011624)	436494.28	3723873.75	60.61357	(06122524)
436544.28	3723873.75	66.47535	(06122524)	436594.28	3723873.75	65.76241	(06122524)
436644.28	3723873.75	64.94545	(05121524)	436694.28	3723873.75	65.15330	(05121524)
436744.28	3723873.75	71.18975	(05122824)	436794.28	3723873.75	73.75724	(05122824)
436844.28	3723873.75	71.21642	(05122824)	436894.28	3723873.75	64.45818	(06021124)
436944.28	3723873.75	64.45847	(05021324)	436994.28	3723873.75	77.76940	(05021324)
437044.28	3723873.75	96.57214	(05021324)	437094.28	3723873.75	95.00201	(05021324)
437144.28	3723873.75	69.34988	(05021324)	437194.28	3723873.75	51.28070	(05021324)
437244.28	3723873.75	34.75248	(05021324)	437294.28	3723873.75	35.16098	(07120724)
437344.28	3723873.75	38.49084	(07120724)	437394.28	3723873.75	40.42567	(07120724)
437444.28	3723873.75	41.84947	(07120724)	436244.28	3723923.75	46.05856	(05122024)
436294.28	3723923.75	49.42543	(05122024)	436344.28	3723923.75	51.65683	(05122024)
436394.28	3723923.75	53.05071	(06122024)	436444.28	3723923.75	57.78433	(05011624)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436494.28	3723923.75	65.29742	(05011624)	436544.28	3723923.75	74.58300	(06122524)
436594.28	3723923.75	79.17947	(06122524)	436644.28	3723923.75	75.80418	(05121524)
436694.28	3723923.75	78.03902	(05121524)	436744.28	3723923.75	86.49764	(05122824)
436794.28	3723923.75	92.09318	(05122824)	436844.28	3723923.75	89.00705	(05122824)
436944.28	3723923.75	85.91119	(05021324)	436994.28	3723923.75	96.56586	(05021324)
437044.28	3723923.75	104.50791	(05021324)	437094.28	3723923.75	97.42989	(05021324)
437144.28	3723923.75	68.37081	(05021324)	437194.28	3723923.75	43.00032	(05021324)
437244.28	3723923.75	43.90355	(07120724)	437294.28	3723923.75	48.40095	(07120724)
437344.28	3723923.75	45.74890	(07120724)	437394.28	3723923.75	45.57588	(07011224)
437444.28	3723923.75	47.74458	(07011224)	436244.28	3723973.75	47.84976	(07010924)
436294.28	3723973.75	50.90843	(05122024)	436344.28	3723973.75	56.32936	(05122024)
436394.28	3723973.75	60.78406	(05122024)	436444.28	3723973.75	63.83763	(05122024)
436494.28	3723973.75	69.58315	(05011624)	436544.28	3723973.75	80.65161	(06122524)
436594.28	3723973.75	94.19928	(06122524)	436644.28	3723973.75	96.49347	(06122524)
436694.28	3723973.75	95.99494	(05121524)	436744.28	3723973.75	110.31420	(05122824)
436794.28	3723973.75	120.68106	(05122824)	436844.28	3723973.75	117.66108	(05122824)
436994.28	3723973.75	121.41885	(05021324)	437044.28	3723973.75	115.00018	(05021324)
437094.28	3723973.75	89.22980	(05021324)	437144.28	3723973.75	66.80194	(05021324)
437194.28	3723973.75	58.38802	(07120724)	437244.28	3723973.75	62.63829	(07011224)
437294.28	3723973.75	70.77319	(07011224)	437344.28	3723973.75	60.68311	(07011224)
437394.28	3723973.75	61.04509	(07011224)	437444.28	3723973.75	62.87502	(07011224)
436244.28	3724023.75	48.25130	(07010924)	436294.28	3724023.75	53.89608	(07010924)
436344.28	3724023.75	59.70290	(07010924)	436394.28	3724023.75	65.13070	(07010924)
436444.28	3724023.75	72.15177	(05122024)	436494.28	3724023.75	80.61209	(05122024)
436544.28	3724023.75	88.47468	(05121124)	436594.28	3724023.75	111.13438	(06122524)
436644.28	3724023.75	126.49807	(06122524)	436694.28	3724023.75	128.07445	(05122324)
436744.28	3724023.75	154.92033	(05122824)	436794.28	3724023.75	170.73608	(05122824)
436844.28	3724023.75	166.07658	(05122824)	437044.28	3724023.75	115.70240	(05021324)
437094.28	3724023.75	81.64350	(07120724)	437144.28	3724023.75	83.64062	(07011224)
437194.28	3724023.75	82.94923	(07011224)	437244.28	3724023.75	80.32176	(07011224)
437294.28	3724023.75	76.95318	(07011224)	437344.28	3724023.75	77.54346	(07011224)
437394.28	3724023.75	66.41550	(07011224)	437444.28	3724023.75	65.90919	(07011224)
436244.28	3724073.75	48.06872	(06012124)	436294.28	3724073.75	52.52787	(07011024)
436344.28	3724073.75	60.00814	(07010924)	436394.28	3724073.75	69.57655	(07010924)
436444.28	3724073.75	79.76722	(07010924)	436494.28	3724073.75	92.78424	(07010924)
436544.28	3724073.75	109.10084	(07010924)	436594.28	3724073.75	130.22279	(05122024)
436644.28	3724073.75	176.98639	(06122524)	437044.28	3724073.75	112.51737	(05021324)
437094.28	3724073.75	100.33260	(07011224)	437144.28	3724073.75	90.63077	(07011224)
437194.28	3724073.75	80.33643	(07011224)	437244.28	3724073.75	73.28896	(07011224)
437294.28	3724073.75	69.30102	(07011224)	437344.28	3724073.75	61.17633	(07011224)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724073.75	65.44023	(07011224)	437444.28	3724073.75	49.42357	(07011224)
436244.28	3724123.75	50.72495	(07012924)	436294.28	3724123.75	55.07707	(07012924)
436344.28	3724123.75	62.24208	(07011024)	436394.28	3724123.75	73.60892	(07011024)
436444.28	3724123.75	86.86201	(07011024)	436494.28	3724123.75	106.26108	(07011024)
436544.28	3724123.75	135.72296	(07011024)	436594.28	3724123.75	179.90808	(07011024)
437044.28	3724123.75	119.64744	(07120724)	437094.28	3724123.75	97.57084	(07011224)
437144.28	3724123.75	80.34193	(07011224)	437194.28	3724123.75	71.53037	(07011224)
437244.28	3724123.75	72.59376	(07122224)	437294.28	3724123.75	64.96365	(07122224)
437344.28	3724123.75	63.18922	(07122224)	437394.28	3724123.75	46.50685	(07011224)
437444.28	3724123.75	39.69254	(07122224)	436244.28	3724173.75	52.58446	(05021024)
436294.28	3724173.75	58.65735	(05021024)	436344.28	3724173.75	66.96106	(05021024)
436394.28	3724173.75	77.75061	(05021024)	436444.28	3724173.75	93.20565	(05021024)
436494.28	3724173.75	117.74451	(07122924)	436544.28	3724173.75	162.47057	(07122924)
437094.28	3724173.75	94.03748	(07011224)	437144.28	3724173.75	75.84945	(07011224)
437194.28	3724173.75	65.84229	(07122224)	437244.28	3724173.75	64.93817	(07122224)
437294.28	3724173.75	60.81762	(07122224)	437344.28	3724173.75	45.03270	(07122224)
437394.28	3724173.75	38.31411	(07122224)	437444.28	3724173.75	34.51441	(07122224)
436244.28	3724223.75	52.03014	(05021024)	436294.28	3724223.75	57.75709	(05021024)
436344.28	3724223.75	65.59281	(05021024)	436394.28	3724223.75	79.86486	(07122924)
436444.28	3724223.75	101.69862	(07122924)	436494.28	3724223.75	137.72313	(07122924)
436544.28	3724223.75	196.99683	(07122924)	437094.28	3724223.75	100.39157	(07110824)
437144.28	3724223.75	76.12800	(07110824)	437194.28	3724223.75	60.50594	(07110824)
437244.28	3724223.75	50.10849	(07110824)	437294.28	3724223.75	48.71218	(07122224)
437344.28	3724223.75	44.52098	(07122224)	437394.28	3724223.75	34.68294	(07122224)
437444.28	3724223.75	28.42883	(07110824)	436244.28	3724273.75	55.13501	(07122924)
436294.28	3724273.75	61.72107	(07122924)	436344.28	3724273.75	71.51869	(07122924)
436394.28	3724273.75	86.65264	(07122924)	436444.28	3724273.75	107.41324	(07122924)
436494.28	3724273.75	140.20627	(07122924)	436544.28	3724273.75	197.44890	(07122924)
437094.28	3724273.75	103.08160	(07110824)	437144.28	3724273.75	77.35713	(07110824)
437194.28	3724273.75	60.20671	(07110824)	437244.28	3724273.75	48.57994	(07110824)
437294.28	3724273.75	40.76851	(07110824)	437344.28	3724273.75	35.04459	(07110824)
437394.28	3724273.75	30.73927	(07110824)	437444.28	3724273.75	27.21362	(07110824)
436244.28	3724323.75	59.03931	(07122924)	436294.28	3724323.75	65.39279	(07122924)
436344.28	3724323.75	72.64623	(07122924)	436394.28	3724323.75	85.29288	(07122924)
436444.28	3724323.75	103.78384	(07122924)	436494.28	3724323.75	132.11787	(07122924)
436544.28	3724323.75	179.81294	(07122924)	436594.28	3724323.75	242.95258	(07122924)
437094.28	3724323.75	100.08719	(07110824)	437144.28	3724323.75	73.95457	(07110824)
437194.28	3724323.75	64.71989	(06122324)	437244.28	3724323.75	54.70558	(06122324)
437294.28	3724323.75	45.82538	(06122324)	437344.28	3724323.75	31.16968	(07110824)
437394.28	3724323.75	26.68572	(07110824)	437444.28	3724323.75	23.30889	(07110824)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724373.75	57.90391	(05010724)	436294.28	3724373.75	62.67710	(05010724)
436344.28	3724373.75	66.46241	(07122924)	436394.28	3724373.75	76.66730	(05010724)
436444.28	3724373.75	92.41695	(05010724)	436494.28	3724373.75	118.95750	(05010724)
436544.28	3724373.75	161.33771	(05010724)	436594.28	3724373.75	221.68195	(07122924)
437144.28	3724373.75	79.79585	(05031324)	437194.28	3724373.75	67.61908	(06122324)
437244.28	3724373.75	59.86249	(06122324)	437294.28	3724373.75	57.86662	(06122324)
437344.28	3724373.75	48.91242	(06122324)	437394.28	3724373.75	36.89745	(06122324)
437444.28	3724373.75	22.67287	(06122324)	436244.28	3724423.75	55.99237	(05010724)
436294.28	3724423.75	58.05588	(05010724)	436344.28	3724423.75	65.51104	(05010724)
436394.28	3724423.75	73.48565	(05010724)	436444.28	3724423.75	85.49711	(05010724)
436494.28	3724423.75	103.50193	(05010724)	436544.28	3724423.75	142.93141	(07013024)
436594.28	3724423.75	200.61841	(05122624)	437194.28	3724423.75	69.03849	(06122724)
437244.28	3724423.75	62.26953	(06122324)	437294.28	3724423.75	60.16309	(06122324)
437344.28	3724423.75	55.66153	(06122324)	437394.28	3724423.75	49.44791	(06122324)
437444.28	3724423.75	37.13845	(06122324)	436244.28	3724473.75	50.69236	(05010724)
436294.28	3724473.75	53.15116	(05010724)	436344.28	3724473.75	59.59572	(05010724)
436394.28	3724473.75	63.94092	(05010724)	436444.28	3724473.75	71.64448	(07013024)
436494.28	3724473.75	90.70423	(07013024)	436544.28	3724473.75	147.36009	(05122624)
436594.28	3724473.75	187.15417	(05122624)	437194.28	3724473.75	71.20068	(06122724)
437244.28	3724473.75	65.36425	(06122724)	437294.28	3724473.75	58.06681	(06122724)
437344.28	3724473.75	55.34446	(06122324)	437394.28	3724473.75	51.91496	(06122324)
437444.28	3724473.75	53.18167	(06122324)	436244.28	3724523.75	43.04031	(05010724)
436294.28	3724523.75	44.58260	(05013024)	436344.28	3724523.75	57.35219	(06121924)
436394.28	3724523.75	73.85952	(06121924)	436444.28	3724523.75	73.28376	(06121924)
436494.28	3724523.75	96.89733	(05122624)	436544.28	3724523.75	133.50414	(05122624)
436594.28	3724523.75	167.09154	(05122624)	437244.28	3724523.75	63.78959	(06122724)
437294.28	3724523.75	61.87049	(06122724)	437344.28	3724523.75	54.67296	(06122724)
437394.28	3724523.75	48.87506	(06122324)	437444.28	3724523.75	52.73059	(06122324)
436244.28	3724573.75	41.54231	(06121924)	436294.28	3724573.75	49.46196	(06121924)
436344.28	3724573.75	66.00504	(06121924)	436394.28	3724573.75	77.13923	(06121924)
436444.28	3724573.75	82.56318	(05122624)	436494.28	3724573.75	103.14394	(05122624)
436544.28	3724573.75	120.77338	(05122624)	436594.28	3724573.75	139.85921	(05123124)
437244.28	3724573.75	58.30718	(06122724)	437294.28	3724573.75	60.23963	(06122724)
437344.28	3724573.75	55.83440	(06122724)	437394.28	3724573.75	50.47940	(06122724)
437444.28	3724573.75	47.23080	(06122724)	436244.28	3724623.75	49.28798	(06121924)
436294.28	3724623.75	59.23977	(06121924)	436344.28	3724623.75	65.54343	(06121924)
436394.28	3724623.75	76.71197	(05122624)	436444.28	3724623.75	95.59869	(05122624)
436494.28	3724623.75	95.78878	(05122624)	436544.28	3724623.75	104.70435	(05122624)
436594.28	3724623.75	119.57294	(05123124)	437244.28	3724623.75	55.29511	(07020724)
437294.28	3724623.75	54.58503	(06122724)	437344.28	3724623.75	52.94883	(06122724)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437394.28	3724623.75	50.39175	(06122724)	437444.28	3724623.75	51.72966	(06122724)
436244.28	3724673.75	55.32791	(06121924)	436294.28	3724673.75	57.99807	(06121924)
436344.28	3724673.75	64.15012	(06121924)	436394.28	3724673.75	84.23180	(05122624)
436444.28	3724673.75	96.76462	(05122624)	436494.28	3724673.75	83.06312	(05122624)
436544.28	3724673.75	86.70486	(05123124)	436594.28	3724673.75	94.99960	(05123124)
437194.28	3724673.75	49.39040	(05020724)	437244.28	3724673.75	48.03453	(07020724)
437294.28	3724673.75	49.56186	(07020724)	437344.28	3724673.75	48.82295	(07020724)
437394.28	3724673.75	47.61008	(06122724)	437444.28	3724673.75	50.69427	(06122724)
436244.28	3724723.75	60.72668	(06121924)	436294.28	3724723.75	60.77769	(06121924)
436344.28	3724723.75	70.69532	(05122624)	436394.28	3724723.75	90.70950	(05122624)
436444.28	3724723.75	91.83028	(05122624)	436494.28	3724723.75	70.56751	(05122624)
436544.28	3724723.75	72.90649	(06122624)	436594.28	3724723.75	87.83755	(06121024)
437144.28	3724723.75	68.31686	(05020724)	437194.28	3724723.75	59.91039	(05020724)
437244.28	3724723.75	43.02024	(05020724)	437294.28	3724723.75	42.69542	(07020724)
437344.28	3724723.75	44.13089	(07020724)	437394.28	3724723.75	44.90364	(07020724)
437444.28	3724723.75	48.49446	(07020724)	436244.28	3724773.75	54.54631	(06121924)
436294.28	3724773.75	70.20229	(05122624)	436344.28	3724773.75	76.29579	(05122624)
436394.28	3724773.75	83.57983	(05122624)	436444.28	3724773.75	75.22426	(05123124)
436494.28	3724773.75	68.98194	(06122624)	436544.28	3724773.75	71.15662	(06121024)
436594.28	3724773.75	77.96525	(06121024)	437094.28	3724773.75	65.73248	(06112424)
437144.28	3724773.75	64.28572	(05020724)	437194.28	3724773.75	66.87159	(05020724)
437244.28	3724773.75	45.60792	(05020724)	437294.28	3724773.75	37.03490	(05020724)
437344.28	3724773.75	39.54675	(07020724)	437394.28	3724773.75	43.68802	(07020724)
437444.28	3724773.75	47.75378	(07020724)	436244.28	3724823.75	54.79994	(05122624)
436294.28	3724823.75	76.96075	(05122624)	436344.28	3724823.75	78.26141	(05122624)
436394.28	3724823.75	67.06030	(05122624)	436444.28	3724823.75	63.13500	(05123124)
436494.28	3724823.75	67.41900	(06122624)	436544.28	3724823.75	75.05666	(06121024)
436594.28	3724823.75	68.84070	(06121024)	437094.28	3724823.75	64.31127	(06112424)
437144.28	3724823.75	63.47333	(06112424)	437194.28	3724823.75	66.90334	(05020724)
437244.28	3724823.75	58.97921	(05020724)	437294.28	3724823.75	40.04212	(05020724)
437344.28	3724823.75	32.80067	(07020724)	437394.28	3724823.75	40.50615	(07020724)
437444.28	3724823.75	43.31199	(07020724)	436244.28	3724873.75	48.79240	(05122624)
436294.28	3724873.75	67.72573	(05122624)	436344.28	3724873.75	62.94934	(05122624)
436394.28	3724873.75	54.82807	(05123124)	436444.28	3724873.75	64.09797	(06122624)
436494.28	3724873.75	67.99902	(06121024)	436544.28	3724873.75	73.29850	(06121024)
436594.28	3724873.75	63.52503	(06121224)	437044.28	3724873.75	63.81314	(06112424)
437094.28	3724873.75	66.06457	(06112424)	437144.28	3724873.75	65.26746	(06112424)
437194.28	3724873.75	61.48028	(05020724)	437244.28	3724873.75	61.79586	(05020724)
437294.28	3724873.75	45.68674	(05020724)	437344.28	3724873.75	35.49276	(05020724)
437394.28	3724873.75	33.54744	(07020724)	437444.28	3724873.75	37.98012	(07020724)

CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
436244.28	3724923.75	55.29839	(05122624)	436294.28	3724923.75	61.09864	(05122624)
436344.28	3724923.75	59.36400	(05123124)	436394.28	3724923.75	49.83983	(06013124)
436444.28	3724923.75	56.57010	(05012224)	436494.28	3724923.75	68.75264	(06121024)
436544.28	3724923.75	63.87662	(06121024)	436594.28	3724923.75	53.50333	(06121224)
436994.28	3724923.75	53.69261	(05122224)	437044.28	3724923.75	53.77415	(06112424)
437094.28	3724923.75	62.68647	(06112424)	437144.28	3724923.75	63.92189	(06112424)
437194.28	3724923.75	55.96788	(06112424)	437244.28	3724923.75	56.79773	(05020724)
437294.28	3724923.75	56.11180	(05020724)	437344.28	3724923.75	43.57259	(05020724)
437394.28	3724923.75	36.90500	(05020724)	437444.28	3724923.75	34.36347	(07020724)
436244.28	3724973.75	43.16913	(05122624)	436294.28	3724973.75	52.97330	(05122624)
436344.28	3724973.75	56.42857	(06013124)	436394.28	3724973.75	47.13766	(06122624)
436444.28	3724973.75	52.75018	(06121024)	436494.28	3724973.75	62.94706	(06121024)
436544.28	3724973.75	54.51433	(06121024)	436594.28	3724973.75	45.68064	(05020524)
436944.28	3724973.75	48.49975	(05122224)	436994.28	3724973.75	50.54281	(05122224)
437044.28	3724973.75	51.52805	(05122224)	437094.28	3724973.75	56.17598	(06112424)
437144.28	3724973.75	60.25049	(06112424)	437194.28	3724973.75	57.34976	(06112424)
437244.28	3724973.75	50.49370	(05020724)	437294.28	3724973.75	57.01274	(05020724)
437344.28	3724973.75	45.88615	(05020724)	437394.28	3724973.75	42.04010	(05020724)
437444.28	3724973.75	31.29129	(05020724)	436244.28	3725023.75	37.95039	(05122624)
436294.28	3725023.75	46.22221	(06013124)	436344.28	3725023.75	52.27950	(06013124)
436394.28	3725023.75	53.80201	(05012224)	436444.28	3725023.75	51.02429	(06121024)
436494.28	3725023.75	52.85422	(06121024)	436544.28	3725023.75	45.59953	(06121224)
436594.28	3725023.75	43.87907	(05020524)	436844.28	3725023.75	36.34168	(05121824)
436894.28	3725023.75	37.57049	(05122224)	436944.28	3725023.75	45.69299	(05122224)
436994.28	3725023.75	52.55997	(05122224)	437044.28	3725023.75	54.13624	(05122224)
437094.28	3725023.75	49.48587	(06112424)	437144.28	3725023.75	55.75956	(06112424)
437194.28	3725023.75	56.07820	(06112424)	437244.28	3725023.75	46.58021	(06112424)
437294.28	3725023.75	53.86451	(05020724)	437344.28	3725023.75	45.82939	(05020724)
437394.28	3725023.75	45.02292	(05020724)	437444.28	3725023.75	37.49923	(05020724)
436244.28	3725073.75	29.48355	(05122624)	436294.28	3725073.75	33.30315m	(05012424)
436344.28	3725073.75	36.96452	(06122624)	436394.28	3725073.75	51.45366	(06121024)
436444.28	3725073.75	57.74738	(06121024)	436494.28	3725073.75	53.14767	(06121024)
436544.28	3725073.75	41.57388	(06121224)	436594.28	3725073.75	42.93494	(05020524)
436644.28	3725073.75	49.82143	(05020524)	436694.28	3725073.75	51.25301	(05020524)
436744.28	3725073.75	47.54654	(05020524)	436794.28	3725073.75	38.22428	(05020524)
436844.28	3725073.75	35.27896	(05121824)	436894.28	3725073.75	34.11034	(05121824)
436944.28	3725073.75	42.71336	(05122224)	436994.28	3725073.75	47.87704	(05122224)
437044.28	3725073.75	49.48342	(05122224)	437094.28	3725073.75	46.77793	(05122224)
437144.28	3725073.75	50.83684	(06112424)	437194.28	3725073.75	52.66974	(06112424)
437244.28	3725073.75	46.12423	(06112424)	437294.28	3725073.75	47.93025	(05020724)

**MODELOPTs:
CONC DFAULT ELEV FLGPOL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL01 , VOL02 , VOL03 , VOL04 , VOL05 , VOL06 , VOL07 ,
VOL08 , VOL09 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
437344.28	3725073.75	50.27674	(05020724)	437394.28	3725073.75	46.80969	(05020724)
437444.28	3725073.75	41.88931	(05020724)	436244.28	3725123.75	32.37279m	(05012424)
436294.28	3725123.75	31.63890	(06122624)	436344.28	3725123.75	33.53048	(06121024)
436394.28	3725123.75	42.53803	(06121024)	436444.28	3725123.75	45.36574	(06121024)
436494.28	3725123.75	49.36795	(06121024)	436544.28	3725123.75	45.01671	(06121224)
436594.28	3725123.75	43.96739	(05020524)	436644.28	3725123.75	47.87215	(05020524)
436694.28	3725123.75	48.25194	(05020524)	436744.28	3725123.75	43.62612	(05020524)
436794.28	3725123.75	35.38905	(05020524)	436844.28	3725123.75	35.27015	(05121824)
436894.28	3725123.75	34.63838	(05121824)	436944.28	3725123.75	42.30224	(05122224)
436994.28	3725123.75	48.46304	(05122224)	437044.28	3725123.75	50.55004	(05122224)
437094.28	3725123.75	47.31728	(05122224)	437144.28	3725123.75	46.67237	(06112424)
437194.28	3725123.75	48.53424	(06112424)	437244.28	3725123.75	45.84625	(06112424)
437294.28	3725123.75	44.71469	(06112424)	437344.28	3725123.75	48.84985	(05020724)
437394.28	3725123.75	47.62103	(05020724)	437444.28	3725123.75	44.07168	(05020724)
436244.28	3725173.75	43.20236	(06013124)	436294.28	3725173.75	36.63889	(06122624)
436344.28	3725173.75	37.91398	(06121024)	436394.28	3725173.75	44.60625	(06121024)
436444.28	3725173.75	48.50258	(06121024)	436494.28	3725173.75	47.55004	(06121224)
436544.28	3725173.75	39.82882	(06121224)	436594.28	3725173.75	46.69198	(05020524)
436644.28	3725173.75	46.77351	(05020524)	436694.28	3725173.75	45.52813	(05020524)
436744.28	3725173.75	40.78325	(05020524)	436794.28	3725173.75	33.00477	(05020524)
436844.28	3725173.75	36.11626	(05121824)	436894.28	3725173.75	35.78772	(05121824)
436944.28	3725173.75	41.68852	(05122224)	436994.28	3725173.75	49.45365	(05122224)
437044.28	3725173.75	51.48055	(05122224)	437094.28	3725173.75	47.34114	(05122224)
437144.28	3725173.75	40.16984	(06112424)	437194.28	3725173.75	46.36072	(06112424)
437244.28	3725173.75	45.61462	(06112424)	437294.28	3725173.75	44.96647	(06112424)
437344.28	3725173.75	42.42848	(05020724)	437394.28	3725173.75	47.66587	(05020724)
437444.28	3725173.75	44.29982	(05020724)	436244.28	3725223.75	43.96261	(06122624)
436294.28	3725223.75	43.29553	(06122624)	436344.28	3725223.75	40.11222	(06121024)
436394.28	3725223.75	46.25298	(06121024)	436444.28	3725223.75	47.79690	(06121024)
436494.28	3725223.75	42.59926	(06121224)	436544.28	3725223.75	33.90815	(05020524)
436594.28	3725223.75	40.38562	(05020524)	436644.28	3725223.75	43.83911	(05020524)
436694.28	3725223.75	43.07002	(05020524)	436744.28	3725223.75	38.24720	(05020524)
436794.28	3725223.75	30.57206	(05020524)	436844.28	3725223.75	33.74078	(05121824)
436894.28	3725223.75	33.80645	(05121824)	436944.28	3725223.75	36.32501	(05122224)
436994.28	3725223.75	45.43272	(05122224)	437044.28	3725223.75	49.47809	(05122224)
437094.28	3725223.75	46.21741	(05122224)	437144.28	3725223.75	39.56329	(05122224)
437194.28	3725223.75	41.78124	(06112424)	437244.28	3725223.75	44.69532	(06112424)
437294.28	3725223.75	46.68816	(06112424)	437344.28	3725223.75	44.81241	(06112424)
437394.28	3725223.75	44.06356	(05020724)	437444.28	3725223.75	43.26427	(05020724)

CONC DFAULT ELEV FLGPOL

*** THE SUMMARY OF MAXIMUM ANNUAL (3 YRS) RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	43.46334 AT (436594.28, 3724323.75, 198.62, 203.00, 2.00)	DC	
	2ND HIGHEST VALUE IS	38.49291 AT (436594.28, 3724373.75, 198.01, 204.00, 2.00)	DC	
	3RD HIGHEST VALUE IS	37.87257 AT (436644.28, 3724073.75, 182.48, 197.00, 2.00)	DC	
	4TH HIGHEST VALUE IS	37.63791 AT (436594.28, 3724123.75, 184.21, 203.00, 2.00)	DC	
	5TH HIGHEST VALUE IS	33.40584 AT (436794.28, 3724023.75, 175.24, 233.00, 2.00)	DC	
	6TH HIGHEST VALUE IS	33.27645 AT (436844.28, 3724023.75, 168.78, 238.00, 2.00)	DC	
	7TH HIGHEST VALUE IS	30.99613 AT (437044.28, 3724123.75, 172.66, 238.00, 2.00)	DC	
	8TH HIGHEST VALUE IS	30.58942 AT (436544.28, 3724273.75, 188.78, 204.00, 2.00)	DC	
	9TH HIGHEST VALUE IS	30.37060 AT (436744.28, 3724023.75, 175.64, 233.00, 2.00)	DC	
	10TH HIGHEST VALUE IS	30.32336 AT (436544.28, 3724223.75, 187.17, 203.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DFAULT ELEV FLGPOL

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGH VALUE IS	3153.66138	ON 06013008: AT (436594.28, 3724373.75, 198.01, 204.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
                     GP = GRIDPOLR
                     DC = DISCCART
                     DP = DISCPOLR

CONC DFAULT ELEV FLGPOL

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGH VALUE IS	409.43515	ON 07122916: AT (436594.28, 3724323.75, 198.62, 203.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC DFAULT ELEV FLGPOL

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS 242.95258	ON 07122924:	AT (436594.28, 3724323.75, 198.62, 203.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

CONC   DFAULT ELEV   FLGPOL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   7 Warning Message(s)
A Total of   172 Informational Message(s)

A Total of   1 Calm Hours Identified

A Total of   171 Missing Hours Identified (0.65 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
CO W320   23 URBOPT:Input Parameter May Be Out-of-Range for Parameter URBAN Z0
MX W420 2481 METQA :Wind Speed Out-of-Range.   KURDAT=   05041409
MX W432 2481 METQA :Friction Velocity Out-of-Range.   KURDAT=   05041409
MX W420 13135 METQA :Wind Speed Out-of-Range.   KURDAT=   06070207
MX W432 13135 METQA :Friction Velocity Out-of-Range.   KURDAT=   06070207
MX W420 13448 METQA :Wind Speed Out-of-Range.   KURDAT=   06071508
MX W432 13448 METQA :Friction Velocity Out-of-Range.   KURDAT=   06071508

   ****
   *** AERMOD Finishes Successfully ***
   ****

APPENDIX C

CALINE4 CO HOT SPOTS MODEL PRINTOUTS

SERRANO SUMMIT

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

BUILDOUT YEAR WITH PROJECT SCENARIO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Serrano Summit
RUN: 2011wP-01 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	183. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. C St NBA	*	2	-150	2	0	* AG	8	4.9	.0	10.0
B. C St NBD	*	2	0	2	150	* AG	23	3.6	.0	10.0
C. C St NBL	*	2	-150	0	0	* AG	3	6.1	.0	10.0
D. C St SBA	*	-2	150	-2	0	* AG	22	4.9	.0	10.0
E. C St SBD	*	-2	0	-2	-150	* AG	14	3.6	.0	10.0
F. C St SBL	*	-2	150	0	0	* AG	0	3.3	.0	10.0
G. B St EBA	*	-150	-2	0	-2	* AG	19	4.9	.0	10.0
H. B St EBD	*	0	-2	150	-2	* AG	27	3.6	.0	10.0
I. B St EBL	*	-150	-2	0	0	* AG	23	6.1	.0	10.0
J. B St WBA	*	150	2	0	2	* AG	63	4.9	.0	10.0
K. B St WBD	*	0	2	-150	2	* AG	88	3.6	.0	10.0
L. B St WBL	*	150	2	0	0	* AG	14	6.1	.0	10.0
M. C St NBAX	*	2	-750	2	-150	* AG	11	3.3	.0	10.0
N. C St NBDX	*	2	150	2	750	* AG	23	3.3	.0	10.0
O. C St SBAX	*	-2	750	-2	150	* AG	22	3.3	.0	10.0
P. C St SBDX	*	-2	-150	-2	-750	* AG	14	3.3	.0	10.0
Q. B St EBAX	*	-750	-2	-150	-2	* AG	42	3.3	.0	10.0
R. B St EBDX	*	150	-2	750	-2	* AG	27	3.3	.0	10.0
S. B St WBAX	*	750	2	150	2	* AG	77	3.3	.0	10.0
T. B St WBDX	*	-150	2	-750	2	* AG	88	3.3	.0	10.0

JOB: Serrano Summit
RUN: 2011wP-01 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	8	-8	1.8
2. NW	-8	8	1.8
3. SW	-8	-8	1.8
4. NE	8	8	1.8
5. ES mdblk	150	-8	1.8
6. WN mdblk	-150	8	1.8
7. WS mdblk	-150	-8	1.8
8. EN mdblk	150	8	1.8
9. SE mdblk	8	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	8	150	1.8
13. ES blk	600	-8	1.8
14. WN blk	-600	8	1.8
15. WS blk	-600	-8	1.8
16. EN blk	600	8	1.8
17. SE blk	8	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	8	600	1.8

JOB: Serrano Summit
RUN: 2011wP-01 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	276.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	95.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	84.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	264.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	275.	.1	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	95.	.1	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	84.	.1	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	265.	.1	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	356.	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	175.	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	3.	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	185.	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	274.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.1	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.1	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	176.	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	3.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	184.	.0	.0	.0	.0	.0	.0	.0	.0	.0

JOB: Serrano Summit
RUN: 2011wP-01 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

APPENDIX D

GREENHOUSE GAS EMISSIONS CALCULATIONS

Project related emissions of greenhouse gases (GHG) have been modeled by including not only direct emissions from project vehicular traffic and natural gas consumption for building heating, but also indirect emissions from electric power plants generating electricity used by the project, energy used to provide water to the project and the processing of solid waste produced by the project. The emissions of GHG resulting have been estimated using parameters from both the State of California and the U.S. Government.

As shown on the first worksheet (next page), the emissions were calculated for the year 2011. Vehicle emissions of CO_2 and CH_4 were determined using EMFAC2007 emissions factors for 8,770 vehicle trips per day (from the traffic study), combined with the assumption (shown on the Vehicle Emissions Worksheet) that the average trip length is 10 miles and the average speed is 40 miles per hour. Also shown on this worksheet is that N_2O emissions factors from the U.S. EPA were used. However these are not as specific as the EMFAC factors which vary by vehicle speed, but do vary by vehicle type.

As shown on the Electricity Emissions Worksheet and the natural Gas Emissions Worksheet, the amount of each of these used by the project were determined using U.S. Department of Energy statistics. These were then combined with U.S. EPA emissions factors for CO_2, CH_4, and N_2O to produce total project emissions.

The amount of water used by the project was calculated as shown on the Water Usage Emissions Worksheet, based on the total number of residences and employees. Since it is unknown exactly how many employees will be actually working on the project site, an estimate of 500 was used. According to the Pacific Institute (full citation on the worksheet) a project with this number of residences and employees will use about 242,496 gallons per day. According to the California Energy Commissions, this amount of water use in Southern California will require the electricity shown. This additional electricity demand is combined with the amount determined on the Electricity Worksheet.

The Solid Waste Emissions Worksheet shows the parameters used to calculate the total solid waste produced by the project and the resulting total CO_2e emissions.

Greenhouse Gas Emissions Worksheet

Project Parameters	
	2011
Vehicles (trips/day)	8,770
Electricity used (MWh/year)	6,700
(mscf/year)	22
Solid Waste (tonnes/year)	1,700

MWh = Megawatt hour

mscf = million standard cubic feet

	Emissions (tons per year)				
Emission Source	**CO_2**	**CH_4**	**N_2O**	**CO_2e**	**Percent of Total**
Vehicles (1)	15,000	0.7	1.3	15,000	71%
Electricity Production	2,000	0.022	0.012	2,000	10%
Natural Gas Combustion[(1)]	1,400	0.025	0.024	1,400	7%
Solid Waste	--	--	--	2,000	10%
Other Area Sources[(2)]	880	--	--	880	4%
Total Annual Emissions	19,000	0.75	1.3	21,000	101%

Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

(1) CO_2 emissions for Vehicles and Natural Gas from URBEMIS 2007 outputs, if available.

(2) Includes CO_2 emissions for hearth combustion and landscaping equipment from URBEMIS 2007 outputs.

Emission Source	**Total CO_2e (million tons per**
Vehicles	0.015
Electricity Production	0.002
Natural Gas Combustion	0.0014
Solid Waste	0.002
Total (CO_2e)	0.02
% of SCAG 2004 total	0.011%
% of State 2004 total	0.0042%

1 tons/tonne

1,000,000 tonne/Tg

Comparison Area GHG Usage			Year of data
SCAG	176.79	Tg/year	2004
State	480	Tg/year	2004

Global warming potentials (GWPs) are used to compare the abilities of different GHGs to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various GHGs into a uniform measure denominated in carbon or CO_2 equivalents. The generally accepted authority on GWPs is the Intergovernmental Panel on Climate Change (IPCC). In 2007, the IPCC updated its estimates of GWPs for key GHGs. The table below lists the GWPs to calculate carbon dioxide equivalents (CO_2e)

Global Warming Potential

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	25
Nitrous Oxide	120	298
HFC-23	264	14800
HFC-134a	14.6	1430
HFC-152a	1.5	124
PFC: Tetrafluoromethane (CF_4)	50000	7390
PFC: Hexafluoromethane (C_2F_6)	10000	12200
Sulfur Hexafluoride (SF_6)	3200	22800

Electricity Emissions Worksheet

Commercial Electricity Usage (2003 data):

Commercial Building Type	Electricity Consumption per Building by Building Type	Electricity Consumption per Square Foot by Building Type	Project Info (either # of bldgs or total sf, not both)		Annual Electricity Consumption
	thousand kWH	kWh	# of bldgs	total sf	MWh
All Buildings	226	**14**			0
Mercantile	327	**17.8**			0
Enclosed and Strip Malls	718	**21.1**			0
Retail (Other than Mall)	139	14.3			0
Education	283	**10.7**			0
Food Sales	276	49.4			0
Food Service	213	**31.8**			0
Health Care (All)	564	**20.1**			0
Inpatient Health	6,628	27.5			0
Outpatient Health	168	16.1			0
Lodging	483	**11.9**			0
Office	256	**14.6**		94000	1,372
Other	510	22.5			0
Public Assembly	179	12.5		21500	269
Public Order and Safety	237	15.3			0
Religious Worship	49	4.9			0
Service	73	**8**			0
Vacant	42	2.4			0
Warehouse and Storage	154	**5.9**			0

Note: Health Care (All) includes both "Inpatient Health" and "Outpatient Health".

Source: Energy Information Administration, www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/detailed_tables_2003.html, Table C14A - Bold valu

Residential Energy Usage (2001 data):

	Mountain	Pacific	Total US.	Project Info # of units	Annual Consumption MWh
Single Family	9,926	7,622	10,656	150	1,143
Apartments (2-4 Units)			7,176		0
Apartments (5 or more Units)			6,204	458	2,841
Mobile Home			12,469		0
Total Residential (kWh)					3,985

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A-G of the 2001 Residential Energy Consumption Survey.

	CO_2			CH_4	N_2O
Electricity production emission factors for CA	lb/kWh 0.61	short tons/MWh 0.303	tons/MWh 0.275	lb/MWh 0.0067	lb/MWh 0.0037
U.S. Average	1.34	0.668	0.606	0.0111	0.0192

Source: Energy Information Administration, Updated State-and Regional-level Greenhouse Gas Emission Factors for Electricity (March 2002), http://www.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/e-supdoc.pdf. (http://www.eia.doe.gov/oiaf/1605/ee-factors.html accessed 4/14/2008)

Water Usage Emissions Worksheet

	kWh/MG	
Select the appropriate location:	Project Location in California: ○ Northern ◉ Southern	
Water Supply and Conveyance	150	8,900
Water Treatment	100	100
Water Distribution	1,200	1,200
Wastewater Treatment	2,500	2,500
Totals	3,950	12,700

From California's Water Energy Relationship, CEC 2005

	3.26E+05	gallons/acre-feet
Project total usage	271.6	acre-feet/year
Water Supply and Conveyance	7.88E+05	kWh/year
Water Treatment	8.85E+03	kWh/year
Water Distribution	1.06E+05	kWh/year
Wastewater Treatment	2.21E+05	kWh/year
Total	1.12E+06	kWh/year

Water usage calculator

Number of Residences	608	Total Gallons Per Day	242,496
Estimated people per residence(1)	2.87	Gallons Per Year	88,511,040
Gallons/Resident/Day(2)	100	Total Acre-feet Per Year	271.59
Total Gallons Per Day	174,496		
Gallons Per Year	63,691,040		
Acre-feet Per Year	195		

(1) United States Census. California County QuickFacts. Available at http://quickfacts.census.gov/qfd/states/06000.html. Accessed January 2009.

(2) Pacific Institute. *Waste Not, Want Not: The Potential for Urban Water Conservation in California* . November 2003. Page 5 (http://www.pacinst.org/reports/urban_usage/)

Estimated Number of Employees(1)	500
Gallons/Employee/Day(2)	136
Total Gallons Per Day	68,000
Gallons Per Year	24,820,000
Acre-feet Per Year	76

(1) Specific employee data was not available at the time of this analysis. Employee numbers by type (office, retail) were estimated based on percentage of building types within the project.

(2) Pacific Institute.2003. *Waste Not, Want Not: The Potential for Urban Water Conservation in California.* November.

Solid Waste Emissions Worksheet

Total Square Footage - Office	94000	
Disposal Rate (dry short tons/sq. ft./year)[1]	0.0108	
Office Waste (Dry Short Tons/Year)	1015.2	
Total Square Footage - Retail	0	
Disposal Rate (dry short tons/sq. ft./year)[1]	0.0024	
Retail Waste (Dry Short Tons/Year)	0	
Total Residences	608	
Disposal Rate (dry short tons/unit/year)[2]	1.17	
Residential Waste (Dry Short Tons/Year)	711.36	
Total Square Footage - Industrial	0	
Disposal Rate (lbs/1000 sq. ft./day)[3]	62.5	
Industrial Waste (Dry Short Tons/Year)	0	
Total Square Footage - Institutional		
Disposal Rate (lbs/sq. ft./day)[4]	0.007	
Institutional Waste (Dry Short Tons/Year	0	
Total Waste (Dry Short Tons/Year)	1700	
CO_2e Tonnes/Year	2000	
Dry Short Tons/Wet Short Tons of MSW	0.84	
MTCE/Wet Short Ton of MSW [6]	0.272	1 metric ton
Tonnes of CO_2e/Wet Short Ton of MSW	1.007	0.27

(1) California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Commercial Establishments. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Commercial.htm.

(2) California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Residential Developments. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Residential.htm

(3) California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Industrial Establishments. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Industrial.htm.

(4) California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Commercial Establishments. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Institution.htm.

(5) U.S. Environmental Protection Agency. 2006. *Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks*, Exhibit 6-4. September.

(6) U.S. Environmental Protection Agency. 2006. *Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks*, Exhibit 6-6. September.

Natural Gas Emissions Worksheet

Commercial Natural Gas Usage (2003 data):

Commercial Building Type	Natural Gas Consumption per Building by Building Type	Natural Gas Consumption per Square Foot by Building Type	Project Info (enter values on Electricity worksheet)		Annual Natural Gas Consumption
	thousand cf	cf	# of bldgs	total sf	thousand cf
All Buildings	782	**29.2**	0	0	0
Mercantile	653	**19.7**	0	0	0
Enclosed and Strip Malls	1142	33.4	0	0	0
Retail (Other than Mall)	362	**11.4**	0	0	0
Education	1223	**34.8**	0	0	0
Food Sales	383	50.2	0	0	0
Food Service	870	141.2	0	0	0
Health Care (All)	3283	**68.7**	0	0	0
Inpatient Health	28,222	109.8	0	0	0
Outpatient Health	574	50.2	0	0	0
Lodging	2432	**31.5**	0	0	0
Office	535	**14.2**	0	94000	1,335
Other	1885	67.6	0	0	0
Public Assembly	678	36.4	0	21500	783
Public Order and Safety	771	43.7	0	0	0
Religious Worship	362	30.3	0	0	0
Service	481	54.1	0	0	0
Vacant	557	23	0	0	0
Warehouse and Storage	687	23.4	0	0	0

Note: Health Care (All) includes both "Inpatient Health" and "Outpatient Health".

Source: Energy Information Administration, www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/detailed_tables_2003.html, Table C24A - Bold value

Residential Energy Usage (2001 data):

	Mountain	Pacific	Total US.	Project Info # of units	Annual Consumption thousand cf
Single Family	67	48	70	150	7,200
Apartments (2-4 Units)[(1)]		48		0	0
Apartments (5 or more Units)			28	458	12,824
Mobile Home			58	0	0
Total Natural Gas Usage					20,024

(1) Single family natural gas consumption was used to represent 2-4 Unit Apartments, as the total U.S. number (70 thousand cf) would exceed the Pacific region single-family home consumption rates. Single-family and 2-4 Unit Apartments have consistent total U.S. consumption rates, so it is reasonable that regional rates would be consistent as well.

Source: Table CE1-12c. Total Energy Consumption in U.S. Households by West Census Region, 2001 (http://www.eia.doe.gov/emeu/recs/recs

	CO_2	CH_4	N_2O
Natural gas combustion	$lb/10^6$ scf	$lb/10^6$ scf	$lb/10^6$ scf
	120,000	2.3	2.2

Source: EPA AP-42 Vol I Chapter 1.4, Table 1.4-2

Vehicle Emissions Worksheet

avg. speed=	40	(mph)	avg trip length=	10	(miles)
2011		**CO_2**	**CH_4**	**N_2O**	**Fleet %**
LDA	CAT	291.744	0.017	0.032	61.3%
LDA	DSL	359.059	0.006	0.001	0.5%
LDT	CAT	364.389	0.0235	0.042	34.3%
LDT	DSL	349.085	0.0035	0.002	0.4%
HDT	CAT	468.058	0.06	0.088	1.8%
HDT	DSL	931.056	0.0114	0.005	1.7%
Composite		331.280	0.020	0.036	100.0%

Notes:

CO_2 and CH_4 from EMFAC2007

N_2O from EPA *Update of Methane and Nitrous Oxide Emission Factors for On-Highway Vehicles* , November 2004, Table 28.

Fleet percentages from URBEMIS2007

	From URBEMIS2007		
	Vehicle Categories	Fleet %	Diesel %
LDA	Light Auto	51.6	0.4
	Light Truck < 3750 lbs	7.4	4.1
LDT	Light Truck 3751-5750 lbs	22.9	0
	Med Truck 5751-8500 lbs	10.6	0
HDT	Lite-Heavy Truck 8501-10,000 lbs	1.6	18.8
	Lite-Heavy Truck 10,001-14,000 lbs	0.5	40
	Med-Heavy Truck 14,001-33,000 lbs	0.9	77.8
	Heavy-Heavy Truck 33,001-60,000 lbs	0.5	100
LDT	Other Bus	0.1	100
	Urban Bus	0.1	100
LDA	Motorcycle	2.8	0
LDT	School Bus	0.1	100
	Motor Home	0.9	11.1
		100	

APPENDIX E

SERRANO SUMMIT GREEN BUILDER PROGRAM

GREEN BUILDER PROGRAM 7.6

The following are guidelines and programs for the Serrano Summit community and will be enforced by the project master developer:

Introduction

As part of the project's objective to create an energy efficient community of choice, builders within Serrano Summit shall incorporate green development techniques. This can be achieved through energy conservation, reduction of non-renewable resources, and California-appropriate landscape practices.

Such practices include reducing the impact of the built environment through energy reduction as well as the reduction and reuse of non-renewable resources. While a third party program is not required for residential development within Serrano Summit, builders are encouraged to participate in voluntary programs such as the California Green Builder (CGB), Energy Star, NAHB's Model Green Home Building Guidelines, Build It Green's Green Point Rated Program, and the US Green Builder Council's Leadership in Energy and Environmental Design (LEED).

California Green Builder

The Building Industry Institute has established minimum standards for California Green Builder eligibility. These guidelines set goals for significant improvements in Energy Efficiency, Indoor Air Quality and Comfort, On-site Waste Recycling, and Water and Wood Conservation. CGB offers a certification for homes which meet the standards. For more information about CGB, visit www.cagreenbuilder.org.

Energy Star

Energy Star qualified homes are independently verified to meet strict guidelines for energy efficiency set by the U.S. Environmental Protection Agency (EPA). Typical features include efficiency in home envelope, air distribution, equipment, lighting, and appliances. For more information about Energy Star, visit www.energystar.gov

NAHB's Model Green Home Building Guidelines

NAHB's voluntary Model Green Home Building Guidelines are designed for individual builders interested in green building practices. The Guidelines contain six primary sections: Lot Preparation and Design, Resource Efficiency, Energy Efficiency, Water Efficiency/Conservation, Occupancy Comfort and Indoor Environmental Quality, and Operation/Maintenance/Education. For more information on the NAHB's Model Green Home Building Guidelines, visit www.nahb.org

Green Point Rated

GreenPoint Rated is a program of Build It Green, a professional non-profit membership organization whose mission is to promote healthy, energy- and resource-efficient new home construction in California. A GreenPoint Rated home is graded on five categories: Energy Efficiency, Resource Conservation, Indoor Air Quality, Water Conservation, and Community. For more information on the Green Point Rating program, visit www.builditgreen.org.

LEED

The LEED program categorizes performance in five areas: Site Development, Water Savings, Energy Efficiency, Materials Selection, and Indoor Environmental Quality. Sub-programs include LEED-ND (neighborhood development), LEED-NC (new construction) and LEED-H (homes). The LEED program offers four levels of certification: certified, silver, gold, and platinum. For more information on the LEED certification process, visit www.usgbc.org

Energy Conservation through Building Design

At a minimum, all buildings (except for ancillary buildings) shall either exceed the 2007 California Energy Code – Title 24, Part 6 in energy efficient design by at least 15% or comply with the California Green Building Standards Code, which was adopted in 2008. In order to meet this standard, elements

of energy efficient design may include, but are not limited to:

1. High efficiency lighting:
   - ~ *The installation of high efficiency lighting, such as CFLs (compact fluorescent lighting), greatly reduces energy consumption.*
2. Low energy cooling system, such as engineered HVAC systems with tight HVAC Ducts
   - ~ *Low energy HVAC systems that are installed with tight ducts increase the efficiency in heating and cooling the home.*
3. Improved drywall, insulation, and sealing installation
   - ~ *Proper installation helps to maintain the desired temperature inside the home, lessening the dependence on mechanical heating and cooling systems.*
4. Cool roofs
   - ~ *A cool roof reflects and emits the sun's heat back to the sky instead of transferring it to the building below. "Coolness" is measured by two properties, solar reflectance and thermal emittance. The higher the value, the "cooler" the roof. By limiting heat penetration into the attic and living areas of the home, dependence on mechanical cooling systems can be reduced.*
5. Dual-glazed LoE2 windows with high-efficiency glazing (SHGC and U-value ‹ 0.40)
   - ~ *Dual-glazed Lo E2 windows limit heat and coldness penetration, therefore reducing the need for mechanical heating and cooling.*

In addition, builders within the community are encouraged to incorporate other energy efficient design elements. Such elements may include, but are not limited to:

1. On-site renewable energy systems (PV solar panels and solar water heaters)
   - ~ *Roof-integrated photovoltaic cells can be used to offset energy consumption.*
2. Energy Star appliances
   - ~ *Energy Star appliances use a minimal amount of energy and lessen the home's overall energy consumption.*
3. Natural Ventilation – Window Placement and Home Orientation
   - ~ *Proper window placement and home orientation allows for natural ventilation, thus lessening the dependence on mechanical cooling systems.*
4. Architectural shade elements
   - ~ *Architectural shade elements (such as overhangs and awnings) protect excess sun from entering the home, keeping the house cool during the hot summer months.*

Reduction of Non-Renewable Resources

The reduction of non-renewable resources is an important aspect of green design. Such reduction practices include, but are not limited to:

1. Utilization of Environmentally Preferable Building Materials
   - ~ *Environmentally preferable building materials such as non-virgin, renewable, and recyclable materials aid in the reduction of non-renewable resources.*
2. Construction Waste Recycling Program
   - ~ *On-site recycling and/or donation of scrap materials to local charitable organizations greatly reduce construction waste.*
3. Low-flow Water Fixtures
   - ~ *Low-flow water fixtures limit the amount of water used on a home basis.*

California-Appropriate Landscape Practices

Elements of California-appropriate landscape practices include, but are not limited, to drought tolerant landscape, water-conserving irrigation practices, and energy conservation. These practices include but are not limited to:

Water-Wise and Drought Tolerant Landscape

- California-appropriate vegetation that reduces the consumption of water shall be incorporated into Serrano Summit's landscape. See Landscape Guidelines for the Master Plant Palette.
- Planting design (species, quantity, size and spacing) shall achieve 70% landscape area coverage within two (2) growing seasons from installation.
- Plants with high water demand are encouraged to be located in shade areas, in small highly visible areas, or where more runoff naturally occurs.
- The use of turf grass is encouraged in active use areas only. Groundcovers and drought-tolerant grasses that require less water are encouraged in non-active areas.
- No more than 50 percent of homeowner's property outside the building envelope shall be to be planted with turf; this reduces water usage by requiring a greater amount of private landscape to utilize a California friendly landscape palette.
- No more than 25 percent of homeowner's front yard landscape shall be to be planted with turf.
- Plants of similar water requirements shall be grouped to allow more effective use of irrigation.
- The ground plane shall be covered with a minimum 2" layer of decorative material to improve water-holding capabilities of soil through reduced evaporation and compaction.
- The use of decorative gravel is encouraged as a design element to offer a variety of colors and texture within landscape areas. The size of the material is to be suitable so as to remain in place once it has been installed.
- The use of mulch can also be used in landscape areas. The size of the material is to be suitable so as to remain in place once it has been installed.
- Install a 12" minimum border of decomposed granite/decorative gravel along back of curb within the parkway to minimize irrigation overspray into the gutters.
- A demonstration garden incorporated into park space as a public outreach effort to inform and educate the community is encouraged.
- Turf areas shall be sized and shaped to optimize irrigation efficiency. Turf type and location shall be selected in the same manner as other plantings. Turf shall not be treated as a fill-in matter but rather as a planned element of the landscape. All turf areas shall be on separate irrigation zones. The following conditions shall apply:
  - *a. No turf may be used on slopes greater than 4:1.*
  - *b. If turf is used in isolated areas (i.e. driveway strips) subsurface irrigation or micro-spray heads shall be required to avoid over-spray.*
  - *c. Turf areas less than eight (8) feet wide on the shortest side shall be irrigated with subsurface irrigation or micro spray heads.*
  - *d. Irregular shapes that cannot be irrigated efficiently shall be avoided.*
- Turf shall not be planted within landscaped parkways and/or median.
- Artificial turf shall be permitted within all areas of the Serrano Summit Area Plan except for Planning Areas 17 and 18.

Water-Conserving Irrigation Practices

- Utilizing point-irrigation systems is encouraged to allocate more efficient delivery of water to root systems and minimize run-off.
- Utilizing a weather-based master irrigation controller system that employs the use of current

satellite weather data and rain shut-off devise to ensure that the irrigation schedule is based upon actual "real time" plant needs. This allows for a greater level of control within the irrigation system and minimizes potential water waste.

- Using reclaimed water in large, public open spaces is encouraged.
- Design irrigation system based upon solar exposure. Irrigation heads should be grouped in South/West and North/East exposures. This ensures that heads with similar sunny exposure will be grouped together on the same valve and heads with similar shaded exposure will be grouped together.
- The use of overhead spray heads is discouraged in small non-turf applications. The use of point irrigation or sub-surface irrigation dripline root zone irrigation system negates overspray and reduces water waste.
- Turf areas shall be irrigated with equipment that has a precipitation rate of one (1) inch or less per hour as specified by the manufacturer. Stream rotator heads are preferred; use of standard spray heads shall be avoided.

Energy Conservation Through Landscape Design

- Community and residential area landscapes are encouraged to be designed to assist with energy conservation, including planting deciduous trees next to buildings and along streets to reduce ambient temperature, reduce heat gain, allow for cool natural ventilation, and provide a more pleasant pedestrian environment.
- Deciduous trees and vines are encouraged to be planted in front of south-facing walls and windows to further cool buildings by intercepting sunlight during summer months, yet allow direct sunlight during the winter.
- Green screens (metal lattices planted with vines and/or climbing flowers) are encouraged to shade south and west-facing walls to reduce interior heat gain and beautify buildings.
- Trees with appropriate heights and spreads are encouraged to provide ample shade in the summer months for outdoor spaces such as patios and plazas, pedestrian walkways, roadways and parking lots. Structures such as trellises and porticoes should also be incorporated into the building/landscape edge, especially on south and west-facing exposures, to provide shade in the summer and allow solar penetration when the sun is at a low angle in the winter.
- Landscape buffers, screens and windrows are encouraged to be located so they facilitate cooling by prevailing breezes in summer months.
- Using trees or shrubs to shade the air-conditioning units can help increase its efficiency and reduce the temperature inside the home by several degrees.
- As technology develops, employing an appropriate means of capturing, storing and reusing on-site waste run-off water within an individual residential property is encouraged.

APPENDIX F

SERRANO SUMMIT SUSTAINABILITY DEVELOPMENT REGULATIONS

SUSTAINABILITY DEVELOPMENT REGULATIONS 10.5

The enforcement of the following regulations shall be the responsibility of the project master developer.

Structures & Site Development

1. All homes shall accommodate technology for computer internet access, phone, fax, and television.
2. All homes shall be equipped to accommodate recharging of "plug in hybrid" vehicles.
3. Construction activities within Serrano Summit shall implement a construction waste management plan outlining on-site measures for minimizing and recycling construction waste.
4. The use of exterior building materials that do not require painting or coating is encouraged.
5. The use of recycled materials is encouraged including the use of wood certified by the Forest Stewardship Council.
6. Visible roof materials shall have a 30-year minimum life expectancy.
7. Buildings shall utilize proper insulation in walls and ceilings as well as a radiant barrier at the roof.
8. Heating, air conditioning, and ventilation systems shall incorporate a programmed thermostat.
9. Low energy windows are required for all windows.
10. All bathrooms shall provide motion detectors on light switches as required by the Building Code and high efficiency plumbing fixtures shall be used.
11. The use of interior low energy lighting fixtures and bulbs throughout all public buildings is required, whenever feasible.
12. Exterior electrical outlets on the front and rear of all buildings to allow for electric landscape maintenance equipment should be provided.

Landscape Sustainability

1. The plant palette of drought tolerant and water wise plants included in the Area Plan shall be utilized. Plants shall be grouped in combinations with similar water and sun exposure needs. Grouping plants with similar needs will reduce the chance of over watering or under watering and will allow growth without risk of disease or failure due to improper irrigation.
2. A layer of 2-3 inches of bark mulch shall be installed in all planters. The mulch will retard weed growth and thus reduce the labor required for weed abatement and the need for chemical applications to control weed growth. In addition, the bark mulch will reduce the loss of moisture from the soil by evaporation and keep the root zone of the plants cooler.
3. Irrigation shall utilize low flow bubblers and spray heads, where applicable, to reduce the probability of water run off and overspray.
4. The use of an irrigation controller equipped with soil moisture sensor, rain shut off, and wind shut off capabilities is encouraged. It is recommended that the controller be able to adjust station run times to daily evapotranspiration updates. Utilizing these tools, management of the irrigation system will be automated and will reduce the labor required to provide system adjustments based on seasonal change. These mechanisms will also reduce the volume of water applied to planting areas otherwise wasted using typical time clock controllers.