AIR QUALITY IMPACT ASSESSMENT

FOR

FERRINI RANCH SUBDIVISION

TORO PLANNING AREA
MONTEREY COUNTY, CA

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INTRODUCTION

This report includes a summary of applicable regulations, a description of existing air quality conditions, and an analysis of potential air quality impacts associated with the proposed project. Mitigation measures are recommended, as necessary, to reduce significant air quality impacts.

EXISTING SETTING

The proposed Project is located within the North Central Coast Air Basin (NCCAB) and within the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Air quality in a region is affected by its topography, meteorology, and climate. These factors are discussed in more detail in the following sections:

Topography

The NCCAB encompasses Santa Cruz, San Benito, and Monterey counties. The NCCAB is generally bounded by the Diablo Range to the northeast, which together with the southern portion of the Santa Cruz Mountains forms the Santa Clara Valley which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley transitions into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley that extends from Salinas at the northwest end to King City at the southeast end. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountains.

Meteorology and Climate

The climate of the NCCAB is dominated by a semi-permanent high pressure cell over the Pacific Ocean. In the summer, the dominant high pressure cell results in persistent west and northwest winds across the majority of coastal California. As air descends in the Pacific high pressure cell, a stable temperature inversion is formed. As temperatures increase, the warmer air aloft expands, forcing the coastal layer of air to move onshore producing a moderate sea breeze over the coastal plains and valleys. Temperature inversions inhibit vertical air movement and often result in increased transport of air pollutants to inland receptor areas.

In the winter, when the high pressure cell is weakest and farthest south, the inversion associated with the Pacific high pressure cell is typically absent in the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys in the NCCAB. The predominant offshore flow during this time of year tends to aid in pollutant dispersal producing relatively healthful to moderate air quality throughout the majority of the region. Conditions during this time are often characterized by afternoon and evening land breezes and occasional rain storms. However, local inversions caused by the cooling of air close to the ground can form in some areas during the evening and early morning hours.

Winter daytime temperatures in the NCCAB typically average in the mid 50s during the day, with nighttime temperatures averaging in the low 40s. Summer daytime temperatures typically average in the 60s during the day, with nighttime temperatures averaging in the 50s. Precipitation varies within the region, but in general, annual rainfall is lowest in the coastal plain and inland valley, higher in the foothills, and highest in the mountains.

Sensitive Receptors

Sensitive land uses located near the project site consist primarily of residential dwellings. The nearest residential dwellings are located approximately 80 feet from the western property line, across San Benancio Road. Residential dwellings are also located approximately 190 feet north of the project site, across Highway 68. Additional sensitive land uses located in the project area include the San Benancio Middle School, which is located adjacent to the western boundary of the project site, and the Toro Park Elementary School, which is located approximately 600 feet north of the project site, across Highway 68. In addition, the proposed project includes construction of residential dwellings, which would also be considered sensitive receptors.

HUMAN HEALTH

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics.

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (EPA) established NAAQS for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air without harm to the public's health. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. The FCAA allows states to adopt additional or more health-protective standards.

Common air pollutants, emission sources, and associated health and welfare effects are summarized in Table 1. Within the NCCAB, the air pollutants of primary concern, with regard to human health, include ozone, CO, and PM. As depicted in Table 1, exposure to increased pollutant concentrations of ozone, PM, CO can result in various heart and lung ailments, cardiovascular and nervous system impairment, and death.

AMBIENT AIR QUALITY

Existing air quality concerns within the NCCAB are primarily related to increases of regional criteria air pollutants (i.e., ozone and particulate matter); exposure of sensitive receptors to toxic air contaminants and odors; as well as, increases in greenhouse gas emissions contributing to climate change. Existing air quality conditions and applicable regulatory background associated with these emissions of primary concern are discussed separately, as follows:

Criteria Air Pollutants

Ambient air quality in the project area can be inferred from ambient air quality measurements conducted by the MBUAPCD at its Salinas#3 air quality monitoring station. Table 2 summarizes the last 3 years of published data from the Salinas monitoring station.

Table 1 Common Pollutant Sources & Adverse Effects		
Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Particulate Matter (PM_{10} & $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely;' a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.
Source: ARB 2009		

As depicted in Table 2, ambient air quality has exceeded the state PM_{10} standard at the Salinas monitoring station on multiple occasions during the past three years of available data. No other exceedances of state or federal ambient air quality standards (AAQS) for other pollutants have been measured at the Salinas monitoring station over the past three years. Ozone concentrations within the basin are generally decreasing. In the past, most ozone within the basin was the result of pollutant transport from the San Francisco Bay Area. With local growth, ozone air pollution from local sources is increasing.

Table 2 Summary of Ambient Air Quality Data			
POLLUTANT STANDARDS	2006	2007	2008
Ozone (O3) Maximum concentration, 1-hr/8-hr period (ppm) Number of days state standard exceeded Number of days federal standard (1-hr/8-hr) exceeded	0.066/0.057 0 0/0	0.067/0.058 0 0/0	0.078/0.067 0 0/0
Carbon Monoxide (CO) Maximum concentration, 1-hr/8-hr period (ppm) Number of days state (1-hr/8-hr) standard exceeded Number of days federal (1-hr/8-hr) standard exceeded	2.5/1.04 0/0 0/0	2.0/1.15 0/0 0/0	2.2/0.89 0/0 0/0
Nitrogen Dioxide (NO2) Maximum 1-hour concentration (ppm) Number of days state standard exceeded Annual arithmetic mean (AAM) AAM exceed federal standard?	0.067 0 0.007 0	0.050 0 0.007 0	0.049 0 0.007 0
Respirable Particulate Matter (PM10) Maximum 24-hour concentration (µg/m³) Number of days state standard exceeded (measured/estimated) Number of days federal standard exceeded	49.0 1/5.8 0	37.0 0/0 0	50.0 1/NA 0
Fine Particulate Matter (PM2.5) Maximum 24-hour concentration (µg/m³) Number of days federal standard exceeded *	14.7 0	19.2 0	17.8 0

Based on measurements conducted at the Salinas #3 air quality monitoring station. Exceedances of ambient air quality standards are depicted in bold text.

AAM=Annual Arithmetic Mean

µg/m³=Micrograms per Cubic Meter

ppm=Parts per Million

NA=Not Available due to insufficient monitoring data.

Source: ARB 2009

Attainment Status

The attainment status of the NCCAB is summarized in Table 3. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria. Unclassified designations indicate insufficient data is available to determine attainment status.

Under the California Clean Air Act, the basin is designated as a nonattainment transitional area for the state ozone AAQS. The NCCAB is also designated a nonattainment area for the state PM_{10} AAQS. Under the FCAA, the NCCAB is currently designated attainment for the recently established eight-hour ozone federal AAQS. The NCCAB is designated either attainment or unclassified for the remaining state and federal AAQS.

Table 3 NCCAB Attainment Status Designations		
Pollutant	State Designation	National Designation
Ozone (O3)	Nonattainment(1)	Attainment(2)
Inhalable Particulates (PM_{10})	Nonattainment	Attainment
Fine Attainment ($PM_{2.5}$)	Attainment	Unclassified/Attainment(3)
Carbon Monoxide (CO)	Monterey County-Attainment San Benito County-Unclassified Santa Cruz County-Unclassified	Attainment
Nitrogen Dioxide (NO2)	Attainment	Attainment
Sulfur Dioxide (SO2)	Attainment	Attainment
Lead	Attainment	Unclassified/Attainment(4)

Notes:

1. *Effective July 26, 2007, the ARB designated the NCCAB a nonattainment area for the State ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.*
2. *On March 12,2008, EPA adopted a new 8-hour ozone standard of 0.075 ppm, while temporarily retaining the existing 8-hour standard of 0.08 ppm. EPA is expected to issue new designations by March 2010.*
3. *In 2006, the Federal 24-hour standard for PM2.5 was revised from 65 to 35 μg/m3. Although final designations have yet to be made, it is expected that the NCCAB will remain designated unclassified/attainment.*
4. *On October 15, 2008, EPA substantially strengthened the national ambient air quality standard for lead by lowering the level of the primary standard from 1.5 μg/m3 to 0.15 ug/m3. Initial recommendations for designations are to be made by October 2009 with final designations by January 2012,*

Sources: MBUAPCD 2009

Odors

Typically odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor

intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and the MBUAPCD. The MBUAPCD has determined some common types of facilities that have been known to produce odors, including wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or federal air quality regulations, the MBUAPCD has no rules or standards related to odor emissions other than its nuisance rule. Any actions related to odors are based on citizen complaints to local governments and the MBUAPCD. No major stationary sources of odors have been identified in the vicinity of the project site.

Toxic Air Contaminants

Toxic air contaminants (TACs) are not considered criteria pollutants in that the federal and California Clean Air Acts do not address them specifically through the setting of National or State Ambient Air Quality Standards. Instead, the U.S. EPA and California Air Resources Board (ARB) regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In general, the terms HAPs and TACs are used interchangeably to describe essentially the same set of air pollutants. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), as required by the federal Clean Air Act Amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

At the state level, the ARB has authority for the regulation of emissions, including TACs, from motor vehicles, fuels, and consumer products. Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC.

At the local level, air districts have the authority over stationary or industrial sources. Projects that require air quality permits from the MBUAPCD are evaluated for TAC emissions. The MBUAPCD limits emissions and public exposure to TACs through a number of programs. The MBUAPCD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The MBUAPCD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to AB 2588.

California Diesel-Risk Reduction Plan

In September 2000, the ARB adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with diesel-exhaust particulate matter (diesel-PM or DPM) and achieve a goal of 75 percent PM reduction by 2010 and 85 percent by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. Ongoing efforts of the ARB to reduce diesel-exhaust emissions from these sources includes the development of specific statewide regulations, which are designed to further reduce diesel PM emissions from these sources. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions (ARB 2000a,b).

Since the initial adoption of the DRRP in September of 2000, the ARB has adopted numerous rules and emissions standards related to the reduction of diesel-PM from mobile sources, as well as, the use of cleaner burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment. Most recently, in July 2007, the ARB adopted regulation aimed at reducing diesel-PM generated by offroad equipment. This regulation requires the installation of diesel-PM control devices, such as particulate filters, for new equipment and encourages the replacement of older engines with newer emission controlled models. By 2020, diesel-PM from offroad equipment subject to this rule is anticipated to be reduced by approximately 74 percent (ARB 2007).

Land Use Compatibility with TAC Emission Sources

The ARB published an informational guide entitled: "Air Quality and Land Use Handbook: A Community Health Perspective" (Handbook) in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The ARB's Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site specific and should not be interpreted as defined "buffer zones". It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies (ARB 2005). Depending on site and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located within the distances identified. ARB-recommended separation distances for various TAC-emission sources are summarized in Table 4.

Table 4
ARB's Recommendations on Siting New Sensitive Land Uses
Near Air Pollutant Sources

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit

Table 4 ARB's Recommendations on Siting New Sensitive Land Uses Near Air Pollutant Sources	
Source Category	Advisory Recommendations
	points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc. Dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.
* *Recommendations are advisory, are not site specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements, such as reductions in diesel-exhaust emissions anticipated to occur with continued implementation of the ARB's Diesel Risk Reduction Plan.* *Source: ARB 2005*	

Greenhouse Gases and Climate Change

To fully understand global climate change it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases that contribute to this phenomenon. The temperature on Earth is regulated by this "greenhouse effect," which is so named because the Earth's atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases (GHG) are naturally occurring gases such as water vapor, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) that absorb heat radiated from the Earth's surface. Greenhouse gases (i.e., carbon dioxide, methane, nitrous oxide, and others) are transparent to certain wavelengths of the Sun's radiant energy, allowing them to penetrate deep into the atmosphere or all the way to Earth's surface (NASA, 2007). Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the Sun) before releasing it back toward space as infrared radiation. The greenhouse gases and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near Earth's surface where it warms the

lower atmosphere. If this natural barrier of atmospheric gases were not present, the heat would escape into space, and Earth's average global temperatures could be as much as 61 degrees Fahrenheit cooler (NASA, 2007).

In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured atmospheric levels of certain greenhouse gases such as carbon dioxide, methane, and nitrous oxide have risen substantially in recent decades. This increase in atmospheric levels of greenhouse gases unnaturally enhances the "greenhouse effect" by trapping more infrared radiation as it rebounds from the Earth's surface and thus trapping more heat near the Earth's surface.

According to the U.S. EPA, the Earth's average surface temperature has increased by about 1.2 to 1.4 degrees Fahrenheit (ºF) since 1900. The warmest global average temperatures on record have all occurred within the past 15 years, with the warmest two years being 1998 and 2005. Eleven of the last 12 years rank among the hottest years on record (since 1850, when reliable worldwide temperature measurements began) (IPCC, 2007). Most of the warming in recent decades is likely the result of human activities. Other aspects of the climate are also changing such as rainfall patterns, snow and ice cover, and sea level.

Many complex mechanisms interact within Earth's energy budget to establish the global average temperature. For example, a change in ocean temperature would be expected to lead to changes in the circulation of ocean currents, which, in turn would further alter ocean temperatures. There is uncertainty about how some factors could affect global climate change because they have the potential to both enhance and neutralize future climate warming. For instance aerosols, including particulate matter, reflect sunlight back to space. As particulate matter attainment designations are met, and fewer emissions of particulate matter occur, the cooling effect of anthropogenic aerosols would be reduced, and the greenhouse effect would be further enhanced. Similarly, aerosols act as cloud condensation nuclei, aiding in cloud formation and increasing cloud lifetime. Clouds can efficiently reflect solar radiation back to space (see discussion of the cloud effect below). As particulate matter emissions are reduced, the indirect positive effect of aerosols on clouds would be reduced, potentially further amplifying the greenhouse effect.

Another mechanism effecting climate is cloud cover. As global temperature rises, the ability of the air to hold moisture increases, facilitating cloud formation. If an increase in cloud cover occurs at low or middle altitudes, resulting in clouds with greater liquid water content such as stratus or cumulus clouds, more radiation would be reflected back to space, resulting in a negative feedback mechanism, wherein the side effect of more cloud cover resulting from global warming acts to balance further warming. If clouds form at higher altitudes in the form of cirrus clouds, however, these clouds actually allow more solar radiation to pass through than they reflect, and ultimately they act as a GHG themselves. This results in a positive feedback mechanism in which the side effect of global warming acts to enhance the warming process. This feedback mechanism, known as the "cloud effect" contributes to uncertainties associated with projecting future global climate conditions.

Other mechanisms include permafrost and polar and sea ice. As global temperature continues to rise, CH_4 gas currently trapped in permafrost, would be released into the atmosphere when areas of permafrost thaw. Thawing of permafrost attributable to global warming would be expected to accelerate and enhance global warming trends. Additionally, as the surface area of polar and sea ice continues to diminish, the Earth's albedo, or reflectivity, is also anticipated

to decrease. More incoming solar radiation will likely be absorbed by the Earth rather than being reflected back to space, further enhancing the greenhouse effect. The scientific community is still studying these and other positive and negative feedback mechanisms to better understand their potential effects on global climate change.

Global Implications of Climate Change

Recognizing the problem of global climate change, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. It is open to all members of the United Nations and WMO. The role of the IPCC is to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. According to climate models, the IPCC projects that the Earth's average surface temperature should rise 1.8 to 6.3 ºF before the year 2100. If the atmospheric concentration of CO_2 doubles from its late 1700's level of 280 parts per million to 560 parts per million, the most likely rise in temperature would be about 3.6 ºF. This may not seem like a significant increase, yet even at the lowest projected increase of 1.8 ºF, the Earth would be warmer than it has been for 10,000 years.

The IPCC Fourth Assessment Report's Working Group I Summary for Policymakers (Report) synthesizes current scientific understanding of global climate change and projects future climate change using the most comprehensive set of well-established global climate models. The Report incorporates findings of the current effects of global climate change. These finding include:

- The intensity of tropical cyclones (hurricanes) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures.
- Droughts have become longer and more intense, and have affected larger areas since the 1970s, especially in the tropics and subtropics.
- Since 1900 the Northern Hemisphere has lost seven percent of the maximum area covered by seasonally frozen ground.
- Mountain glaciers and snow cover have declined worldwide.
- Satellite data since 1978 show that the extent of Arctic sea ice during the summer has shrunk by more than 20 percent.
- Since 1961, the world's oceans have been absorbing more than 80 percent of the heat added to the climate, causing ocean water to expand and contributing to rising sea levels. Between 1993 and 2003 ocean expansion was the largest contributor to sea-level rise.
- Melting glaciers and losses from the Greenland and Antarctic ice sheets have also contributed to recent sea-level rise.

An enhanced greenhouse effect will generate new patterns of microclimate and will have significant impacts on the economy, environment, and transportation infrastructure and operations due to increased temperatures, intensity of storms, sea level rise, and changes in precipitation. Impacts may include flooding of tunnels, coastal highways, runways, and railways;

buckling of highways and railroad tracks, submersion of dock facilities, and shift in agriculture to areas that are now cooler. Such prospects will have strategic security as well as transportation implications.

Climate change affects public health and the environment. Increased smog and emissions, respiratory disease, reduction in the State's water supply, extensive coastal damage, and changes in vegetation and crop patterns have been identified as effects of climate change. The impacts of climate change are broad-ranging and interact with other market failures and economic dynamics, giving rise to many complex policy problems.

California Implications of Climate Change

Climate change is a global problem and GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Worldwide, California is the 12th to 16th largest emitter of CO_2, and is responsible for approximately two percent of the world's CO_2 emissions (CEC, 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CEC, 2006a).

Increased global average temperature increases ocean temperatures and the Pacific Ocean strongly influences the climate within California. If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission (CEC) report, the snowpack portion of the supply could potentially decline by 70 to 90 percent by the end of the 21st century (CEC, 2006c). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population.

Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system. Sea level has risen approximately seven inches during the last century and, according to the CEC report, it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels. If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (CEC, 2006c). As the existing climate throughout California changes over times, mass migration of species, or worse, failure of species to migrate in time to adapt to the perturbations in climate, could also result.

According to the California EPA, the climate changes for global warming could affect agriculture, the fishing industry, California's coastline, forests, and ecosystems, increase air pollution, and energy production (CEC 2008c, ARB 2008c).

- *Agriculture - Potential impacts, such as reduced water supply, more severe droughts, more winter floods, and drier growing seasons will affect California's agriculture. Many farms, especially in the fruit and nut business require long-term investments making fast adaptation difficult, and could thus experience serious losses if decisions continue to be made with no regard to expected climate changes.*

- *Fishing - Studies found that as a result of changes in ocean conditions, the distribution and abundance of major fish stocks will change substantially. Impacts to fisheries related to El Nino/ Southern Oscillation illustrate how climate directly impacts marine fisheries on short term scales. Higher sea surface temperatures in 1997-1998 during the El Nino had a*

great impact on market squid, California's largest fishery by volume. The California Regional Assessment reports that landings fell to less than 1,000 metric tons in that season, down from 110,000 tons in the 1996-1997 season. Other unusual events also occurred such as poor salmon returns, a series of plankton blooms, and seabird die-offs.

- *Coastline - With climate changes, recreational facilities and developed coastlines will also be more vulnerable to hurricanes, storm surges, flooding increases. Increasing population growth in coastal areas is a reason for further concern, since these areas could be more vulnerable to climate change impacts. Impacts of expected sea level rise and increased storm surges are numerous. Beachfront homes and harbors as well as wetlands may flood. Sewage systems may be overwhelmed by storm runoff and high tides. Coastal airports are vulnerable to flooding (San Francisco, Oakland and Santa Barbara). Jetties and seawalls may have to be raised and strengthened to protect harbors which are used for shipping, recreation, and tourism.*

- *Forests - The California Regional Assessment notes that an increase in the number and extent of areas burned by wildfires in recent years, and modeling results under changing climate conditions suggest that fires may be hotter, move faster, and be more difficult to contain under future climate conditions. The factors which contribute to the risk of catastrophic fires (fuel loads, high temperatures, dry conditions, and wind) are typically present already in summer and fall seasons in California, but can exist at other times of the year, especially in drought conditions. Public safety is an issue as more home and tourism developments on coastal hills and mountains and the foothills and higher elevations in the Sierra Nevada are highly susceptible to catastrophic wild fires.*

- *Ecosystems - The current distribution, abundance, and vitality of species and habitats are strongly dependent on climatic (and microclimatic) conditions. Climate change is expected to result in warmer temperatures year-round, accompanied by substantially wetter winters. Rising sea level will significantly affect coastal wetlands because they are mostly within a few feet of sea level. As the sea rises, these wetlands will move inland. The overall acreage of wetlands will be reduced due to constraints by existing urban development and steeper slopes immediately inland of existing wetlands. Tidal rivers, estuaries, and relatively flat shoreline habitats will be more subject to damage by flooding and erosion. More severe storm surges from the ocean, due to higher sea levels, combined with higher river runoff could significantly increase flood levels by more than the rise in sea level alone. Erosion of beaches would decrease habitat for beach-dependent species, such as seals, shorebirds, and endangered species (for example, snowy plover and least tern). Aquatic habitats are also likely to be significantly affected by climatic changes. Most fish have limits to how hot or cold the water can be before they must either find more hospitable temperatures or die. As temperatures warm, many fish will have to retreat to cooler waters.*

  Changes in temperature and precipitation patterns would also shift California's current climate zones, and thus habitats associated with these zones, northward by approximately 100 - 400 miles, as well as upwards in elevation by 500-1500 feet. Global climate change would alter the composition, structure and arrangement of the vegetation cover of the state (forest and wildland). Species distribution would move geographically as the climate changes, with forest stands, woodlands and grassland species predicted to move northward and higher in elevation. The entire vegetative community may be affected if non-native invasive species occupy sites and replace native plants. Outbreaks of insects and diseases could compromise forest health and the capability of the forest stands reproduce and to store carbon on a landscape basis.

Forest fires are likely to become more frequent and severe if soils become drier. Changes in pest populations could further increase the stress on forests.

- *Air Quality - Projected climate changes will impact the quality of California's air, public health, and environment. Higher temperatures increase the formation of ground level ozone and particulate matter, making it more difficult to meet the health-base air quality standards for these pollutants. Ground-level ozone has been shown to aggravate existing respiratory illnesses such as asthma, reduce lung function, and induce respiratory inflammation. Ambient ozone also reduces agricultural crop yields and impairs ecosystem health.*

  The particulate matter of most concern – PM10 – has a diameter smaller than 10 micrometers and can easily pass into the lung, contributing to the development of lung tissue damage. PM10 has been implicated in exacerbation of cardiovascular disease, asthma, other respiratory diseases, and associated with increased mortality. Air pollution is also made worse by increases in natural hydrocarbon emissions and evaporative emissions of fuels and solvents which leads to higher levels of ozone and PM10 during hot weather. Warmer temperatures that cause increased use of air conditioners can cause increased air pollutants from power plants and from vehicle operation. In addition, warming, drying, and increased winds could mean hotter, harder-to-control wildfires. These wildfires could result in increased levels of fine particulate matter that could also exceed State and federal standards and harm public health.

- *Electricity Generation - California's electricity generation is currently relatively efficient when it comes to emissions of greenhouse gases. The national average for the electricity generation share of total greenhouse gas emissions is approximately 40 percent, while California electricity accounts for only 16 percent of statewide emissions. This is in part due to California's significant amount of imported electricity, mild climate, and lack of energy-intensive industry. Over the past two decades, California has developed one of the largest and most diverse renewable electricity generation industries in the world. However, changes in climate of the magnitude predicted by the Intergovernmental Panel of Climate Change would substantially affect electricity generation throughout California and the entire Western States grid, particularly for hydroelectric facilities.*

  Less snowpack would result in lower levels of hydro generation in the summer and fall seasons due to reduced runoff in those seasons. Additional hydropower may be available during the winter and the spring. However, on balance hydropower is more useful and valuable within the grid mix of generation sources when it is available throughout the peak summer and fall seasons. The Natural gas distribution system may also be damaged because of landslides and fires. Flooding could also impact pipelines, wells and related petroleum extraction equipment. Warmer weather would result in an increased demand for electricity for cooling appliances in homes, and businesses.

REGULATORY FRAMEWORK

Air quality within the NCCAB is regulated by several jurisdictions including the United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (ARB), and the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent. The following is a summary of applicable federal, state, and local regulations:

Federal

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the U.S. EPA to establish National AAQS (NAAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. National AAQS are summarized in Table 5.

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has responsibility to review all state SIPs to determine conformance to the mandates of the FCAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State

California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA)of 1988. Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California AAQS (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

Table 5 Summary of National & State Ambient Air Quality Standards				
Pollutant	Averaging Time	California Standards	National Standards	
			Primary [a]	Secondary[b]
Ozone (O_3)	1-hour	0.09 ppm	–	Same as Primary
	8-hour	0.070 ppm	0.075 ppm	
Particulate Matter (PM_{10})	AAM	20 µg/m³	–	
	24-hour	50 µg/m³	150 µg/m³	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m³	15 µg/m³	
	24-hour	No Standard	35 µg/m³	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	None
	8-hour	9 ppm	9 ppm	
	8-hour (Lake Tahoe)	6 ppm	–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	0.053 ppm	Same as Primary
	1-hour	0.18 ppm	–	
Sulfur Dioxide (SO_2)	AAM	–	0.03 ppm	–
	24-hour	0.04 ppm	0.14 ppm	–
	3-hour	–	–	0.5 ppm
	1-hour	0.25 ppm	–	–
Lead	30-day Average	1.5 µg/m³	–	–
	Calendar Quarter	–	1.5 µg/m³	Same as Primary
	Rolling 3-Month Average	–	0.15 µg/m³	Same as Primary
Sulfates	24-hour	25 µg/m³	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm		
Vinyl Chloride	24-hour	0.01 ppm		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.		

Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25EC and a reference pressure of 760 torr.
a. Levels necessary to protect the public health.
b. Levels necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
Source: ARB 2009

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, Sulfur Dioxide, and Nitrogen Dioxide by the earliest practical date. Plans for attaining CAAQS were initially submitted to ARB in June 1991. The CAAQS have undergone various amendments over the years. The current CAAQS are summarized in Table 5.

The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5-percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

California Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. These standards are codified in Title 24, Part 6, of the California Code of Regulations and are generally referred to as "Title 24 Standards." The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The most recent update was adopted in 2003 and took effect as of October 1, 2005. California's building efficiency standards (along with those for energy efficient appliances) have saved more than $56 billion in electricity and natural gas costs since 1978. Estimates have put savings related to the standards at an additional $23 billion by 2013 (CEC 2007). By reducing the heating and cooling demands of buildings, California's Energy Efficiency Standards result in decreased emissions associated with the use of natural gas fired appliances and electricity production. Reduction in energy consumption reduces the amount of air pollutants emitted by energy purveyors.

Senate Bill 1771 - Greenhouse Gas Emission Reductions: Climate Change

Senate Bill 1771, chaptered in September of 2000, specified the creation of the non-profit organization, the California Climate Action Registry. The Registry helps various California entities' to establish greenhouse gas (GHG) emissions baselines. Also, the Registry enables participating entities to voluntarily record their annual GHG emissions inventories.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB1493 requires California Air Resources Board (ARB) to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in the state. It citied several risks that California faces from climate change, including reduction in the state's water supply, increased air pollution creation by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water energy, and insurance prices. Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

Executive Order S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary will also submit biannual reports to the governor and state legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the California EPA created a Climate Act Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32 - the California Climate Solutions Act of 2006

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The CEC must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 97 - CEQA: Greenhouse Gas Emissions

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. This bill also protects projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action. This latter provision will be repealed on January 1, 2010. Thus, this "protection" is highly limited to a handful of projects and for a short time period (CAPCOA 2008).

Assembly Bills 1807 & 2588 - Air Toxics

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

California Code of Regulations Title 17 Sections 95100 to 95133

On December 6, 2007, the ARB approved a regulation for the mandatory reporting of greenhouse gas emissions from major sources, pursuant to the California Global Warming Solutions Act of 2006. Sections 95100 to 95133 of Title 17 of the California Code of Regulations enacts mandatory reporting for the following:

(1) Operators of cement plants in California;

(2) Operators of petroleum refineries in California that emit greater than or equal to 25,000 metric tonnes of CO_2 in any calendar year after 2007 from the combination of stationary combustion and process sources;

(3) Operators of hydrogen plants in California that emit greater than or equal to 25,000 metric tonnes of CO_2 in any calendar year after 2007 from the combination of stationary combustion sources and hydrogen production processes;

(4) Operators of electricity generating facilities that are located in California or operated by a retail provider as defined in section 95102(a), that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater than or equal to 2,500 metric tonnes of CO_2 in any calendar year after 2007 from electricity generating activities, including hybrid generating facilities;

(5) Retail providers as defined in section 95102(a);

(6) Marketers as defined in section 95102(a);

(7) Operators of cogeneration facilities that are located in California or operated by a retail provider as defined in section 95102(a) that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater

than or equal to 2,500 metric tonnes of CO_2 in any calendar year after 2007 from electricity generating activities;

(8) Operators of other facilities in California that emit greater than or equal to 25,000 metric tonnes per year of CO_2 from stationary combustion sources in any calendar year after 2007.

Section 95101(c) removes certain industries from this reporting requirement. These are as follows:

(1) Electricity generating facilities that are solely powered by nuclear, Hydroelectric, wind, or solar energy;

(2) Portable equipment;

(3) Generating units designated as backup or emergency generators in a permit Issued by an air pollution control district or air quality management district;

(4) Hospitals with a North American Industry Classification System (NAICS) Code starting with 62;

(5) Primary and secondary schools with a NAICS code of 611110.

Local

Monterey Bay Unified Air Pollution Control District

The MBUAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the NCCAB, within which the project is located. Responsibilities of the MBUAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the MBUAPCD has most recently completed the *2008 Air Quality Attainment Plan (AQAP)* for achieving the state ozone standards and the *2007 Federal Maintenance Plan* for maintaining federal ozone standards. The MBUAPCD has also adopted the *SB 656 Plan* for meeting state standards related to airborne particulate matter (MBUAPCD 2009).

To achieve and maintain ambient air quality standards, the MBUAPCD has adopted various rules and regulations for the control of airborne pollutants. The MBUAPCD Rules and Regulations that are applicable to the proposed project include, but are not limited to, the following:

- *Rule 424 (National Emissions Standards for Hazardous Air Pollutants). This rule may apply to projects in which portions of an existing building would be renovated, partially demolished or removed. Prior to demolition activity, an asbestos survey of the existing structure may be required to identify the presence of any asbestos containing building materials (ACBM). Removal of identified ACBM must be removed by a certified asbestos contractor in accordance with CAL-OSHA requirements.*

- *Rule 402 (Nuisances). The purpose of this rule is to prohibit emissions that may create a public nuisance. Applies to any source operation that emits or may emit air contaminants or other materials.*

- *Rule 438 (Open Outdoor Fires). This rule regulates the use of open burning and specifies the types of materials that may be open burned. Section 5.2 of this rule applies to the*

burning of trees and other vegetative (non-agricultural) material whenever the land is being developed for non-agricultural purposes. Individuals conducted burning associated with land development are required to obtain a written permit from the air district.

- *Rule 426 (Architectural Coatings). The purposed of this rule is to limit emissions of volatile organic compounds from architectural coatings.*

- *Rule 425 (Use of Cutback Asphalt). The purposed of this rule is to limit emissions of vapors of organic compounds from the use of cutback and emulsified asphalt. This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.*

- *Rule 439 (Building Removals). The purpose of this rule is to limit particulate emissions associated with the removal and demolition of buildings.*

- *Rule 207 (Review of New or Modified Sources). The purpose of this rule is to provide a review of new or modified stationary air pollution sources to meet federal and state clean air act requirements. This rule provides mechanisms by which Authorities to Construct may be granted for stationary emissions sources without interfering with the attainment or maintenance of ambient air quality standards.*

PROJECT IMPACTS

Thresholds of Significance

Criteria for determining the significance of air quality impacts were developed based on information contained in the California Environmental Quality Act Guidelines (CEQA Guidelines, Appendix G). According to those guidelines, a project may have a significant effect on the environment if it would result in the following conditions:

a. Conflict with or obstruct implementation of any applicable air quality plan.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

d. Expose sensitive receptors to substantial pollutant concentrations.

e. Create objectionable odors affecting a substantial number of people.

To assist local jurisdictions in the evaluation of air quality impacts, the MBUAPCD has published the *CEQA Air Quality Guidelines*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the MBUAPCD-recommended thresholds of significance, are used to determine whether implementation of the proposed project would result in a significant air quality impact (MBUAPCD 2008):

- Short-term Emissions of Regional Criteria Air Pollutants. Construction impacts would be significant if the proposed project would emit greater than 82 pounds per day (lbs/day) of PM_{10}, or will cause a violation of PM_{10} National or State AAQS at nearby receptors. Construction projects using typical construction equipment that temporarily emit precursors of ozone (i.e., ROG or NO_X), are accommodated in the emission inventories of State and federally-required air plans and would not have a significant impact on the attainment or maintenance of ozone AAQS. For this reason, the MBUAPCD has not established significance criteria for construction-generated precursors of ozone.

- Long-Term Emissions of Regional Criteria Air Pollutants. Regional (operational) impacts would be significant if the project generates direct and indirect emissions of ROG or NO_X that exceed 137 lbs/day. Emissions of PM_{10} would be significant if the project would exceed 82 lbs/day or if the project would contribute to local PM_{10} concentrations that exceed Ambient Air Quality Standards. Emissions of SO_X would be significant if the project generates direct emissions of greater than 150 lbs/day;

- Local Mobile-Source CO Concentrations. Local mobile-source impacts would be significant if the project generates direct emissions of greater than 550 lbs/day of CO or if the project would contribute to local CO concentrations that exceed the State Ambient Air Quality Standard of 9.0 ppm for 8 hours or 20 ppm for 1 hour. (Indirect emissions are typically considered to include mobile sources that access the project site but generally emit off-site; direct emissions typically include sources that emitted on-site (e.g., stationary sources, on-site mobile equipment).

- Toxic Air Contaminants. TAC impacts would be significant if the project would expose the public to substantial levels of TACs so that the probability of contracting cancer for the Maximally Exposed Individual would exceed 10 in 1 million and/or so that ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the Maximally Exposed Individual.

- Odorous Emissions. Odor impacts would be significant if the project has the potential to frequently expose members of the public to objectionable odors.

- Greenhouse Gases. At the present time, there is no federal, state, or local recommended thresholds for the evaluation of project-generated greenhouse gas emissions and contribution to global climate change. For purposes of analyzing the project's contribution to climate change, the following threshold will be used:
    - Project-generated emissions of GHGs would be considered to have a significant impact if the proposed project does not comply with an adopted Greenhouse Gas Reduction Plan or Strategy. It no Plan or Strategy is applicable, the proposed project would be considered to have a significant impact if it would significantly hinder or delay California's ability to meet the reduction targets contained in AB 32.

- Cumulative impacts. Cumulative impacts refer to the incremental effect of several projects that may have an individually minor, but collectively significant, impact on air quality. CEQA Guidelines Section 15355(b) defines cumulative impact as:
    - Two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts, and

- The change in the environment which results from the incremental impact of the project when added to other closely related past, present, or reasonably foreseeable future projects, and can result from individually minor, but collectively significant, projects taking place over a period of time.

The MBUAPCD has provided guidance on the subject of cumulative impacts. In accordance with MBUAPCD *CEQA Air Quality Guidelines*, project emissions which are not consistent with the AQMP would be considered to have a cumulative regional air quality impact. Consistency of population-related projects with the AQMP is assessed by comparing the projected population growth associated with the project to population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). In addition, projects that would result in a significant regional air quality impact at the project level would also be considered to have a cumulative air quality impact.

Methodology

Methodologies employed for the analysis of short-term and long-term air quality impacts associated with the proposed project are discussed in more detail, as follows:

Short-term Regional Air Quality Impacts

The MBUAPCD recommends that construction-generated emissions of PM_{10} be quantified and presented as part of the analysis of project-generated emissions. Ozone precursor pollutants (i.e., ROG and NO_x) are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. As a result, the MBUAPCD has not adopted a significance threshold for construction-generated emissions of ozone precursors. Emissions of $PM_{2.5}$ are a subset of PM_{10} emissions. The MBUAPCD has not adopted a separate significance threshold for construction-generated emissions of $PM_{2.5}$ (MBUAPCD 2008).

In accordance with MBUAPCD recommendations, estimated construction-generated emissions of PM_{10} were calculated using the ARB-approved URBEMIS2007 computer program based on default assumptions contained in the model. For informational purposes, emissions of ROG, NOx, and $PM_{2.5}$ were also quantified. The URBEMIS2007 program is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Construction schedules used in the modeling were based on the proposed project phasing schedules, as summarized in Table 6. Each project phase was assumed to be constructed over an approximate 1-year period. Grading activities were based on an average residential lot size of 1.22 acres, based on information obtained from the proposed site plans prepared for this project (Whitson Engineers 2005). To be conservative, grading associated with the development of Parcel D, which includes the proposed office and wine-related uses, was assumed to occur over the entire project site (i.e., 34.7 acres). Actual area to be graded would likely be less due to site terrain. Emissions associated with the demolition of existing structures were calculated using the URBEMIS computer program based on the size of the existing structures and assuming an average of 2 haul truck trips/hour for the transport of demolition material from the project site. All remaining construction-related information, including the duration of construction activities, equipment usage requirements, construction-related vehicle trips, usage rates, and emission factors were based on the default parameters contained in the URBEMIS computer model for Monterey County.

Table 6 Proposed Project Phasing				
Project Phase	Parcels/Lots	Residential (Units)	Office (Square Feet)	Wine-Related (Square Feet)
Phase 1	Lots 1-12, 146, Parcels D and E	79	25,000	85,000
Phase 2	Lots 86-136	51	0	0
Phase 3	Lots 48-85	38	0	0
Phase 4	Lots 13-47, 138-145	44	0	0
	Total:	212	110,000	
Source: Whitson Engineers 2005				

Long-term Regional Air Quality Impacts

Regional area- and mobile-source emissions were estimated using the URBEMIS2007 (Version 9.2.4) computer program for buildout conditions. Emissions were calculated for annual operational conditions based on the default parameters contained in the model for Monterey County. Default trip-generation rates contained in the model were revised to correspond with the trip-generation rates identified in the traffic analysis prepared for this project.

Local Air Quality Impacts

Localized concentrations of mobile-source carbon monoxide (CO) concentrations were quantitatively assessed for roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E or worse) based on data obtained from the traffic analysis prepared for this project. Predicted 1-hour and 8-hour CO concentrations were assessed utilizing Caline4 screening methodology developed by the Bay Area Air Quality Management District and approved for use by the MBUAPCD. Background CO concentrations were based on the highest measured 1-hour and 8-hour CO concentrations (i.e., 2.5 and 1.2 ppm, respectively) obtained from the nearest air quality monitoring station for the last three years of available data (i.e., 2006-2008) for both near-term and future cumulative conditions. Traffic volumes were derived from the traffic analysis prepared for this project (Higgins Associates 2008). Eight-hour concentrations were calculated based on predicted 1-hour concentrations and assuming a persistence factor of 0.7.

Exposure to localized concentrations of odors and TACs were qualitatively assessed based on the projects potential to result in increased exposure of sensitive receptors to new or existing TAC emission sources. Exposure of proposed sensitive receptors to mobile-source concentrations of diesel-exhaust PM were assessed utilizing land-use compatibility criteria recommended by the ARB (Table 4).

Climate Change

Estimated GHGs attributable to the proposed project were calculated using the URBEMIS2007 computer program and emission factors obtained from existing environmental documentation. Emissions of CO_2 associated with mobile and area sources were obtained from the URBEMIS2007 computer program. Mobile-source emissions of N_20 and CH_4 were calculated based on estimated vehicle miles traveled obtained from the URBEMIS computer program and emission factors obtained from the *California Climate Action Registry General Reporting Protocol* (2008). Emissions of N_20 and CH_4 associated with electricity and natural gas use were calculated based on emission factors obtained from the *California Climate Action Registry General Reporting Protocol* (2008) and usage rates obtained from the California Energy Commission (CCAR 2008,

CEC 2008b). Emissions were converted to CO_2 equivalent units of measure, expressed in annual metric tons (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

Impacts and Mitigation Measures

IMPACT 1	*Short-Term Construction Generated Emissions of Airborne Particulate Matter.*

The proposed project site is located on 870 acres of property generally located east of Highway 68, between River Road to the north and San Benancio Road to the south. The proposed project would include development of a total of approximately 212 residential dwelling units. Commercial retail consisting of an approximate 85,000 square-foot wine tasting facility and 25,000 square feet of office use would also be constructed at the northern boundary of the project site, near River Road.

Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction of the proposed land uses would result in the temporary generation of emissions resulting from site grading and excavation, road paving, the application of architectural coatings, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. For instance, the MBUAPCD has determined that construction activities that involve minimal earth moving over an area of 8.1 acres, or more, could result in a potentially significant temporary air quality impacts, if not mitigated. Construction activities that require more extensive site preparation (e.g., grading and excavation) may result in significant unmitigated impacts if the area of disturbance were to exceed 2.2 acres per day (MBUAPCD 2008).

Daily construction-generated emissions of ROG, NO_X, PM_{10} , and $PM_{2.5}$ are summarized in Table 7. It is important to note, however, that ozone precursor pollutants (i.e., ROG and NO_X) are accommodated in the emission inventories of State- and federally-required air plans. For this reason, the MBUAPCD has determined that emissions of ozone-precursor pollutants would not have a significant impact on the attainment and maintenance of ozone AAQS. For this reason, the MBUAPCD has not adopted a significance threshold for construction-generated emissions of ozone precursors. Emissions of $PM_{2.5}$ are a subset of PM_{10} emissions. The MBUAPCD has not adopted a separate significance threshold for construction-generated emissions of $PM_{2.5}$. However, for informational purposes, emissions of ozone precursor pollutants and $PM_{2.5}$ were quantified and are included in Table 7.

As depicted in Table 7, development of the proposed project would result in maximum uncontrolled emissions of approximately 236 to 662 lbs/day of PM_{10}. Maximum daily emissions would be occur during initial site preparation/grading of the project site and would vary, by project phase, depending on the overall area to be graded. Predicted daily emissions of PM_{10} occurring during site preparation/grading could exceed the MBUAPCD's emissions threshold of 82 lbs/day. Other construction-related activities, such as asphalt paving, building construction, and application of architectural coatings, would not generated daily emissions of PM_{10} in excess of the MBUAPCD's recommended significance threshold. Because predicted maximum daily emissions of PM_{10} occurring during the site preparation/grading phase would exceed MBUAPCD's emissions threshold of 82 lbs/day, this impact would be considered significant.

Table 7 Short-term Construction-Generated Emissions (Unmitigated)				
Project Phase/Activity	Maximum Daily Emissions (lbs/day) [1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Project Phase 1				
Demolition	6.55	57.60	9.45	3.89
Grading	10.02	83.16	657.83	140.39
Paving	12.73	40.03	2.63	2.37
Building	5.48	27.54	1.94	1.71
Architectural Coating	222.53	0.47	0.04	0.02
Maximum Daily Emissions:	*228.01*	*143.63*	*662.01*	*144.11*
MBUAPCD Significance Threshold:	*None*	*None*	*82*	*None*
Project Phase 2				
Grading	5.71	43.82	312.54	67.07
Paving	7.28	25.95	1.90	1.72
Building	4.28	23.41	1.68	1.52
Architectural Coating	71.16	0.18	0.01	0.01
Maximum Daily Emissions:	*75.43*	*88.82*	*315.87*	*70.08*
MBUAPCD Significance Threshold:	*None*	*None*	*82*	*None*
Project Phase 3				
Grading	3.98	31.76	233.50	49.97
Paving	5.99	22.37	1.72	1.56
Building	3.60	16.93	1.16	1.04
Architectural Coating	53.01	0.12	0.01	0.01
Maximum Daily Emissions:	*56.62*	*67.64*	*236.12*	*52.34*
MBUAPCD Significance Threshold:	*None*	*None*	*82*	*None*
Project Phase 4				
Demolition	4.15	36.87	16.69	4.84
Grading	3.78	29.75	269.95	57.47
Paving	6.31	21.80	1.65	1.50
Building	3.35	16.00	1.06	0.95
Architectural Coating	61.38	0.13	0.01	0.01
Maximum Daily Emissions:	*64.73*	*64.23*	*272.41*	*59.69*
MBUAPCD Significance Threshold:	*None*	*None*	*82*	*None*

Based on URBEMIS2007 computer modeling for the Monterey County region and proposed project phasing schedules (Table 6). Maximum daily emissions are based on modeling assumptions taking into account multiple activities occurring during a single day and do not represent the sum total of emissions associated with individual construction activities, as identified above.

Mitigation Measure 1: Short-Term Construction Generated Emissions of Airborne Particulate Matter.

Best-available control measures (BACM) shall be required during site preparation and construction of proposed land uses. Prior to approval of building permits, a construction emissions reduction plan (CERP) shall be prepared, for endorsement by the MBUAPCD, to reduce construction-generated fugitive and mobile-source emissions. The MBUAPCD shall be consulted to identify the specific measures to be implemented to minimize impacts to nearby sensitive receptors. Measures to be included in the CERP prepared for this project, as currently recommended by the MBUAPCD, include but are not limited to the following:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure;
- Prohibit all grading activities during periods of high wind (over 15 mph);
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days);
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Replant vegetation in disturbed areas as quickly as possible.
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles, such as dirt, sand, etc.
- Sweep daily, with water sweepers, all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily, with water sweepers, if visible soil materials are carried onto adjacent public streets.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Limit areas of active disturbance to no more than 2.2 acres per day for initial site preparation activities that involve extensive earth-moving activities (grubbing, excavation, rough grading), or 8.1 acres per day for activities that involve minimal earth moving (e.g., finish grading). Limits on maximum daily area to be graded may be increased if dispersion modeling demonstrates that localized concentrations at nearby sensitive land uses would not exceed applicable ambient air quality standards. If performed, dispersion modeling shall be conducted in accordance with MBUAPCD recommendations and included in the CERP to be endorsed by the MBUAPCD.
- Diesel equipment used onsite should be year 2003, or newer; or, retrofitted with DPM-emission control technology (e.g., diesel-particulate filter); or, use alternative fuels (e.g., biodiesel). For equipment retrofitted to operate with diesel-exhaust emissions control technology, the CERP shall include verification of installation or presence of these devices for review by the MBUAPCD.
- Construction equipment shall not be left idling for periods longer than 5 minutes when not in use.

- Post a publicly visible sign which specifies the telephone number and person to contact regarding emissions-related complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance).

Timing/Implementation: Prior to Construction.

Enforcement/Monitoring: County of Monterey.

Significance After Mitigation

Implementation of the above mitigation measures would reduce fugitive dust emissions associated with individual construction activities by approximately 4 to 90 percent, with overall fugitive dust emission reductions in exceed of approximately 50 percent, depending on the activities conducted (MBUAPCD 2004). Implementation of the above mitigation measure would require the project applicant to prepare a CERP that would sufficiently reduce short-term construction-generated emissions to within acceptable levels. The CERP would be reviewed by the MBUAPCD, prior to issuance of a building permit. Mitigation has also been incorporated to ensure that onsite ground-disturbing activities do not exceed the screening thresholds identified by the MBUAPCD as typically having a potential to exceed local ambient air quality standards (i.e., 2.2 acres per day for initial site preparation activities or 8.1 acres per day for activities that involve minimal earth moving.) With implementation of the above mitigation measures, maximum construction-generated emissions associated with individual activities (i.e., demolition, grading, building construction) would be reduced to a maximum of approximately 54 lbs/day of PM_{10} (Table 8). Mitigated construction-generated emissions of PM_{10} would not exceed the MBUAPCD's significance threshold of 82 lbs/day. With restriction of onsite areas of disturbance and implementation of recommended dust-control measures, predicted concentrations at nearby receptors would not be anticipated to exceed applicable standards. As a result, this impact would be considered *less-than-significant*.

Table 8
Short-term Construction-Generated PM_{10} Emissions (Mitigated)

Project Phase	Maximum Daily Emissions (lbs/day)
Phase 1	53.94
Phase 2	27.47
Phase 3	20.47
Phase 4	22.71
MBUAPCD Significance Threshold:	82
Exceeds Threshold After Mitigation?	No

Based on URBEMIS2007 computer modeling. Refer to Appendix A for modeling assumptions and results.

IMPACT 2 *Long-term Emissions of Criteria Air Pollutants.*

The proposed project site is located on 870 acres of property between River Road to the north and San Benancio Road to the south. The proposed project would include development of a total of approximately 212 residential dwelling units. Commercial land uses consisting of an approximate 25,000 square-foot office building and approximately 85,000 square feet of wine-

tasting related facilities would be constructed at the northern boundary of the project site, near River Road.

Regional area-source and mobile-source emissions associated with the proposed land uses were estimated using the ARB-approved URBEMIS2007 computer program, which includes options for the estimation of operational emissions for land use development projects. Vehicle trip generation rates for proposed land uses were based on data obtained from the transportation analysis prepared for this project (Higgins Associates 2008). In accordance with MBUAPCD recommendations, long-term operational emissions attributable to the proposed project were quantified assuming full buildout for both summer and winter conditions. To be conservative, emissions were modeled assuming a buildout year of 2010. Operational emissions are summarized in Table 9.

Table 9
Long-term Operational Emissions

Source	Estimated Emissions (lbs/day)					
	ROG	NO_X	CO(1)	SO_X	PM_{10}	$PM_{2.5}$
Summer Conditions						
Area (Direct) Sources: Natural Gas	0.26	3.39	1.75	0.00	0.01	0.01
Hearth	No Summer Emissions					
Landscaping	1.96	0.15	12.55	0.00	0.04	0.04
Consumer Products	10.37	--	--	--	--	--
Architectural Coatings	2.34	--	--	--	--	--
Subtotal (Direct Sources):	*14.93*	*3.54*	*14.30*	*0.00*	*0.05*	*0.05*
Mobile (Indirect) Sources:	25.27	37.70	296.35	0.18	35.41	7.14
Total (Direct & Indirect):	*40.20*	*41.24*	*310.65*	*0.18*	*35.46*	*7.19*
MBUAPCD Significance Thresholds:	*137*	*137*	*550(2)*	*150(2)*	*82*	*None*
Exceeds Threshold?:	*No*	*No*	*No*	*No*	*No*	--
Winter Conditions						
Area (Direct) Sources: Natural Gas	0.26	3.39	1.75	0.00	0.01	0.01
Hearth	35.89	3.95	169.32	0.50	26.07	25.09
Landscaping	No Winter Emissions					
Consumer Products	10.37	--	--	--	--	--
Architectural Coatings	2.34	--	--	--	--	--
Subtotal (Direct Sources):	48.86	7.34	165.07	0.50	26.08	25.10
Mobile (Indirect) Sources:	28.59	46.54	331.42	0.18	35.41	7.14
Total (Direct & Indirect):	77.45	53.88	496.49	0.68	61.49	32.24
MBUAPCD Significance Thresholds:	*137*	*137*	*550(2)*	*150(2)*	*82*	*None*
Exceeds Threshold?:	*No*	*No*	*No*	*No*	*No*	--

Emissions were estimated using the URBEMIS2007 computer program, based on default model settings, and trip generation rates obtained from the traffic analysis prepared for this project (Higgins Associates 2008).

1. Area source emissions of CO are based on winter operating conditions.

2. Applies to Direct Source Emissions Only.

During the summer months, predicted total operational emissions attributable to the proposed project would be approximately 40 lbs/day of ROG, 41 lbs/day NO_X, 311 lbs/day of CO, 0.2 lbs/day SO_X, 36 lbs/day of PM_{10}, and 7 lbs/day of $PM_{2.5}$. During the winter months, predicted operational emissions attributable to the proposed project would total approximately 78 lbs/day of ROG, 54 lbs/day NO_X, 497 lbs/day of CO, 0.7 lbs/day SO_X, 62 lbs/day of PM_{10}, and 32 lbs/day of $PM_{2.5}$. Based on the modeling conducted, predicted long-term direct and indirect operational emissions of ROG and NO_X would not exceed the MBUAPCD's significance thresholds of 137 lbs/day/pollutant. Maximum daily operational emissions of PM_{10} would not exceed MBUAPCD significance threshold of 82 lbs/day. Likewise, operational emissions of SO_X and CO from direct sources would not exceed MBUAPCD significance threshold of 550 lbs/day/pollutant. Because project-generated emissions would not exceed the MBUAPCD's significance thresholds, this impact would be considered *less than significant*.

IMPACT 3 *Contribution to Local Mobile-Source CO Concentrations.*

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. Under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels. For this reason, modeling of CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS E or F) (MBUAPCD 2008). Unsignalized intersections projected to operate at unacceptable levels of service do not typically have sufficient traffic volumes, such that projected unacceptable levels of service at these intersections would typically result in localized concentrations of CO that would exceed applicable standards.

Implementation of the proposed project would result in unacceptable levels of service at existing nearby intersections during both the AM-peak and PM-peak commute hours. Predicted 1-hour and 8-hour CO concentrations at these intersections were modeled for both AM and PM peak hours. Localized CO concentrations were evaluated for both near-term (i.e., background plus project) and future (i.e., cumulative plus project) conditions. The predicted CO concentrations for background-plus-project and cumulative-plus-project conditions are summarized in Table 10 and Table 11, respectively.

Under background-plus-project conditions, the proposed project would contribute to maximum 1-hour and 8-hour CO concentrations at nearby intersections of approximately 9.2 and 3.8 ppm, respectively, or less. Under future cumulative conditions, the proposed project would contribute to maximum 1-hour and 8-hour CO concentrations at nearby intersections of approximately 9.7 and 4.0 ppm, respectively. It is important to note that these estimates are based on conservative screening assumptions, and may not fully account for future reductions in mobile-source CO concentrations due to anticipated improvements in vehicle emissions standards. Based on the modeling conducted, predicted maximum 1-hour and 8-hour CO concentrations would not exceed the more stringent CAAQS. Because traffic volumes and traffic flow conditions at other affected intersections and during other periods of the day would be anticipated to be less than the intersections included in this analysis, predicted CO concentrations at other locations would, likewise, not be anticipated to exceed applicable air quality standards. As a result, the project's contribution to localized concentrations of mobile-source CO would be considered *less than significant*.

Table 10 Predicted Local Mobile-Source Carbon Monoxide Concentrations Background Plus Project				
Intersection	Predicted CO Concentrations (ppm)			
	AM-Peak Hour		PM-Peak Hour	
	1-Hour	8-Hour	1-Hour	8-Hour
Highway 68 & Josselyn Canyon Road	6.4	2.7	6.3	2.6
Highway 68 & Olmsted Road	6.7	2.8	6.9	2.9
Highway 68 & York Road	6.8	2.8	7.1	2.9
Highway 68 & Laureles Grade Road	6.9	2.9	7.3	3.0
Highway 68 & Corral de Tierra Road	6.8	2.8	7.3	3.0
Highway 68 & San Benancio Road	6.8	2.8	7.4	3.0
Highway 68 & Blanco Road	8.5	3.6	9.2	3.8
Blanco Road & Davis Road	7.7	3.3	8.7	3.7
CAAQS:	*20.0*	*9.0*	*20.0*	*9.0*
Predicted Concentrations exceed CAAQS?:	*No*	*No*	*No*	*No*
Predicted concentrations were calculated based on Caline4 screening methodology developed by the BAAQMD and approved for use by the MBUAPCD. To ensure a conservative analysis, background concentrations were based on the highest measured value obtained from the nearest ambient air quality monitoring station for the last three years of available data (i.e., 2.5 and 1.2 ppm, respectively). 8-hour concentrations assume a persistence factor of 0.7.				

Table 11 Predicted Local Mobile-Source Carbon Monoxide Concentrations Cumulative Plus Project				
Intersection	Predicted CO Concentrations (ppm)			
	AM-Peak Hour		PM-Peak Hour	
	1-Hour	8-Hour	1-Hour	8-Hour
Highway 68 & Josselyn Canyon Road	8.0	3.2	7.8	3.2
Highway 68 & Olmsted Road	8.4	3.4	8.6	3.5
Highway 68 & York Road	8.4	3.5	8.7	3.5
Highway 68 & Laureles Grade Road	8.4	3.5	8.8	3.6
Highway 68 & Corral de Tierra Road	8.5	3.5	9.1	3.7
Highway 68 & San Benancio Road	8.4	3.4	8.9	3.6
Highway 68 & Blanco Road	8.6	3.6	9.7	4.0
Blanco Road & Davis Road	8.7	3.7	9.1	3.8
CAAQS:	*20.0*	*9.0*	*20.0*	*9.0*
Predicted Concentrations exceed CAAQS?:	*No*	*No*	*No*	*No*
Predicted concentrations were calculated based on Caline4 screening methodology developed by the BAAQMD and approved for use by the MBUAPCD. To ensure a conservative analysis, background concentrations were based on the highest measured value obtained from the nearest ambient air quality monitoring station for the last three years of available data (i.e., 2.5 and 1.2 ppm, respectively). 8-hour concentrations assume a persistence factor of 0.7.				

IMPACT 4	Exposure of Sensitive Receptors to Odorous Emissions.

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The proposed project would not result in the installation of any major odor emission sources that would result in a potentially significant impact to the occupants of the proposed onsite or existing offsite land uses. The proposed commercial land uses would consist of a wine-tasting and retail sales facility and would not involve onsite processing or manufacturing facilities or other processes that would be anticipated to emit odors. In addition, no major sources of odors have been identified in the project vicinity. As a result, this impact is considered *less than significant*.

IMPACT 5	*Long-term Exposure of Sensitive Receptors to Toxic Air Contaminants.*

The exposure of sensitive receptors to TACs associated with proposed development projects could potentially occur during both the construction and operational phases of the proposed project. Short-term construction and long-term operational emissions of TACs are discussed separately, as follows:

Short-Term Construction Emissions

Construction of the proposed project would result in temporary emissions of diesel-PM associated with the operation of offroad construction equipment. As discussed earlier in this report, diesel-PM is identified by ARB as a TAC. Health-related risks associated with emissions of diesel-PM are primarily associated with long-term exposure and the associated risk of contracting cancer. For residential land uses, calculations of the cancer risk associated with exposure to TACs are typically made based on a 70-year period of exposure. However, the use of diesel-powered construction equipment associated with the proposed project would be temporary and episodic and would occur over a relatively large area. Assuming an overall construction period of approximately four years, short-term construction activities would account for less than one percent of the 70-year exposure period typically used for the calculation of diesel-PM cancer risk. Furthermore, in July 2007 the ARB adopted regulation aimed at reducing diesel-PM generated by offroad equipment. This regulation will require the installation of diesel-PM control devices, such as particulate filters, for new equipment and encourages the replacement of older engines with newer emission controlled models. By 2020, diesel-PM reductions are anticipated to be reduced by approximately 74 percent (ARB 2007). For these reasons, diesel PM generated by project construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in one million for nearby sensitive receptors. For these reasons, short-term exposure to TACs would be considered less than significant.

Long-Term Operational Emissions

Long-term increases in health risks can result from either the operation of new stationary sources of TACs in the vicinity of existing sensitive receptors, or by introducing new sensitive receptors to existing sources of TACs. Major stationary sources of TACs have not been identified within the vicinity of the project site (ARB 2008a). In addition, no major stationary sources of TACs would be developed as part of the proposed project. Some proposed residential parcels would be located within approximately 500 feet of Highway 68. However, predicted traffic volumes along this segment of Highway 68 currently average approximately 26,400 vehicles per day, which is substantially less than the minimum criterion established by the ARB for evaluation of TACs along major roadways (i.e., 50,000 vehicles per day) (Caltrans 2007, ARB 2005). In accordance with ARB-recommended guidance, further analysis of mobile-source TACs would, therefore, not be required for the proposed project. For these reasons, long-term exposure to TACs would be considered less than significant.

CUMULATIVE IMPACTS

Cumulative Setting

The geographic extent of the cumulative setting consists of the project site and Monterey County, as well as consideration of regional activities and attributes (e.g., regional traffic volumes and patterns) that could adversely affect the NCCAB. Traffic volumes and patterns used in the analysis of cumulative impacts include consideration of existing, planned, and future land use development. The area cumulatively affected by the individual project impacts varies depending on the issue being evaluated. For example, localized CO concentrations would be limited to local roadways and intersections; while project-generated emissions of ozone-precursor pollutants would contribute cumulatively to the entire air basin.

Cumulative Impacts

IMPACT 6 *Cumulative Contribution to Regional Air Quality.*

In accordance with MBUAPCD *CEQA Air Quality Guidelines*, project emissions which are not consistent with the AQMP would be considered to have a cumulative regional air quality impact. As discussed previously, consistency of population-related projects with the AQMP is assessed by comparing the projected population growth associated with the project to population forecasts adopted by AMBAG. These population projections are used to generate emission forecasts upon which the AQMP is based.

A consistency evaluation of the proposed project was conducted by AMBAG on November 16, 2006 (AMBAG 2006). Based on the evaluation conducted by AMBAG, the proposed project was deemed consistent with the 2004 regional forecasts and the AQMP. In addition, as noted in Impact 2, long-term operational emissions associated with the proposed project would not exceed MBUAPCD significance thresholds. For these reasons, this impact would be considered less than significant.

IMPACT 7	*Cumulative Contribution to Local Air Quality.*

As discussed in Impacts 4 and 5, implementation of the proposed project would not result in the long-term operation of any major stationary sources of odors or TACs and no major existing sources of emissions were identified in the project vicinity. In addition, as discussed in Impact 3, increases in mobile-source emissions would not result in a significant contribution to either near-term or future cumulative localized concentrations of CO that would exceed applicable standards. However, as noted in Impact 1, implementation of the proposed project would result in significant increases in airborne particulate matter associated with site preparation and grading activities. As a result, short-term construction activities would be considered to have a significant short-term cumulative impact on local air quality.

Mitigation Measure: Cumulative Contribution to Local Air Quality

Implement Mitigation Measure 1.

Significance After Mitigation

With implementation of recommended mitigation measures, emissions of PM_{10} would not exceed MBUAPCD significance threshold of 85 lbs/day (refer to Impact 1 for additional discussion of short-term construction-generated emissions). With mitigation, this impact would be considered less than significant.

IMPACT 8	Increases of Greenhouse Gas Emissions.

Implementation of the proposed project would contribute to increases of greenhouse gas (GHG) emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 from mobile sources. To a lesser extent, other GHG pollutants, such as methane and nitrous oxide would also be generated, largely associated with electricity use and natural-gas consumption.

Estimated emissions of CO_2 were calculated using the URBEMIS2007 computer program, based on default parameters (i.e., emission factors, vehicle fleet, and trip distribution data) contained in the model and vehicle data obtained from the traffic analysis prepared for this project. Emissions were converted to CO_2 equivalents (i.e., CO_2e), expressed in metric tons (MT). Short-term construction and long-term operational emissions associated with the development of the proposed land uses are summarized in Table 12 and Table 13, respectively.

During construction, the proposed project would generate a maximum of approximately 415 MT/year of CO_2e. At buildout, the proposed project would generate approximately 5,139 MT/year of CO_2e. Approximately 80 percent of the predicted annual GHG emissions (i.e., 28,389.1 MT) would be associated with motor vehicle use.

Table 12 Short-term Greenhouse Gas Emissions	
Construction Year	CO2 Equivalent (MT/Year)1
2009	142.3
2010	414.6
2011	289.8
2012	273.7
2013	206.0
Emissions were calculated using the URBEMIS2007 computer program based on default equipment usage requirements and emission factors contained in the model and proposed project phasing (Table 6). Emissions were converted to CO2 equivalent units of measure expressed in metric tons per year.	

Table 13 Long-term Greenhouse Gas Emissions	
Emissions Source	CO_2 Equivalent (MT/Year)[1]
Motor Vehicles	3,370.5
Electricity Use	812.4
Natural Gas Use	781.3
Hearth Use	172.7
Landscape Maintenance	1.9
Total:	5,138.8
Emissions were calculated using the URBEMIS2007 computer program, as well as, electricity and natural gas usage rates obtained from the California Energy Commission for PG&E forecast zone 4, within which the project site is located. Emissions associated with electricity and natural gas use were based on emission factors derived from the California Climate Action Registry's General Reporting Protocol (April 2008). Emissions were converted to CO_2 equivalents (i.e., CO_2e), expressed in annual metric tons. *Refer to Appendix A for modeling assumptions and results.*	

Contribution to Global Warming

Emissions of GHGs and their contribution to global climate change is inherently a cumulative impact and, therefore, should be evaluated in this context. Although project-generated emissions would be considered nominal when compared to state-wide or world-wide GHG emissions inventories, the cumulative contribution from multiple such projects could conceivably result in a substantial overall contribution to the GHG inventory. However, to date, no air districts or state agencies in California, including the MBUAPCD, have formally adopted a significance threshold for GHG emissions or a methodology for analyzing increased GHG emissions related to climate change.

Although a project may result in increased GHG emissions, it is important to note that increased emissions would not necessarily result in an adverse effect with regard to climate change. Although emissions of GHGs can be quantified, it is typically not possible to determine the extent to which project-generated GHGs would contribute to global climate change or the physical effects often associated with global climate change (e.g., loss of snowpack, sea-level rise, severe weather events, etc.). The proposed project does not include specific measures intended to reduce GHG emissions. Project-generated GHG emissions could conflict with the States efforts to achieve reductions in GHGs, including those required per AB32. As a result, this impact would be considered potentially significant.

Mitigation Measure

a. Implement Mitigation Measure 1.
b. The following additional mitigation measures shall also be implemented to reduce short-term and long-term emissions of GHGs associated with the construction and operation of the proposed project:

Construction

(1) Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) to the extent practical.

(2) Low- or No-VOC paints, adhesives and sealants shall be used during the construction of all proposed onsite structures.

(3) Environmentally preferable and low-emitting materials shall be used for interior finishes and flooring materials of proposed onsite structures.

Operation

(4) Bicycle parking facilities and preferential parking for carpooling and alternative-fueled vehicles shall be provided at locations determined by the County of Monterey Planning Director. This measure encourages use of alternative transportation by employees and helps to reduce the amount vehicle miles traveled by the project.

(5) Proposed commercial uses shall provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.

(6) Commercial buildings shall employ energy-efficient technology unless technical feasibility of safety concerns take precedent. Examples of such systems would include use of T5HO fluorescent fixtures with electronic ballast, occupancy sensor lighting controls, light emitting diodes, and external lighting controls and timers.

(7) Indoor water conservation measures shall be incorporated, such as use of low-flow toilets, shower heads, and faucets.

(8) The project proponent (or designated representative) shall coordinate with Monterey-Salinas Transit (MST) and shall provide onsite transit-enhancing infrastructure (e.g., transit shelters, benches, etc.; street lighting; route signs and displays; and/or bus turnouts/bulbs) to the extent deemed necessary by MST.

(9) Wood-burning fireplaces and stoves shall be prohibited.

(10) Proposed residential land uses shall provide a minimum of one exterior electrical outlet at rear, side, and front yard locations to promote/allow the use of electric landscape maintenance equipment

(11) Proposed residential land uses shall be designed to exceed Title 24 requirements by a minimum of 20 percent. This measure helps to reduce emissions associated with energy consumption. Measures that can be incorporated into building designs to help reduce energy consumption include, but are not necessarily limited to, the following:

- Increased building insulation.
- Use of Low-E windows and doors and Energy-Star rated roofing materials.
- Installation of energy-efficient lighting and lighting control systems.
- Install energy-efficient (e.g., Energy-Star rated) heating and cooling systems, appliances and equipment.
- Install light colored "cool" roofs (i.e., high reflectance, high emittance roof surfaces).
- Use daylight as an integral part of lighting systems in buildings.

(12) Prior to issuance of building permits, a landscape plan shall be prepared and submitted to the County of Monterey for review and approval pursuant to the County's normal planning process that provide shade trees and foliage to reduce building and surface lot heating/cooling needs, and conform to landscape standards established by the County of Monterey. The landscape plan shall, at a minimum, include the following components:

- Require that the outdoor irrigation systems incorporate water conservation measures.
- At least 50 percent of installed trees and shrubs shall be low-ozone forming potential (Low-OFP) and drought-tolerant species.
- The landscape plan shall be designed so that within 15 years of planting, at least 50% of the parking areas are shaded at mid-day during the summer season in order to reduce solar gain.

Timing/Implementation: Prior to Approval of Building Permits.

Enforcement/Monitoring: *County of Monterey.*

The above mitigation measures would reduce project-generated GHG emissions and would ensure consistency with GHG emission-reduction strategies adopted by the State of California. The proposed project's consistency with State GHG emission-reduction strategies is discussed in more detail, as follows:

Significance After Mitigation

With implementation of the proposed mitigation measures, the proposed project would be substantially consistent with applicable GHG emission-reduction strategies currently identified by the State of California, including measures recommended by the State Attorney General's office and the State Office of Planning and Research. The proposed project's consistency with applicable State emission reduction strategies is discussed in more detail, as follows:

Consistency with California Emissions Reduction Strategies

<u>California Attorney General's GHG-Reduction Measures</u>

In September 2008, the California Attorney General issued a paper for use by local agencies in carrying out their duties under CEQA as they relate to global warming and climate change. Included were examples of various measures that may reduce GHG emissions of individual projects. As noted in the paper, each of the measures should not be considered in isolation, but as part of a larger set of measures, that together, would help reduce GHG emissions and the effects of global warming/climate change. Table 14 lists the measures identified by the

California Attorney General's office that are applicable to the proposed project and indicates whether, and how, the project would conform to these measures. With implementation of proposed mitigation measures, the proposed project would be substantially consistent with the measures identified by the California Attorney General's office (CAG 2008).

Table 14 Office of the California Attorney General Methods to Offset or Reduce Global Warming Impacts Applicable to the Proposed Project	
Emission-Reduction Method	Project Consistency
Energy Efficiency & Renewable Energy	
Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.	Consistent with Mitigation. Proposed mitigation measures would require implementation of energy efficiency control measures. Such measures would include, but would not necessarily be limited to, the use of shade trees to reduce energy use demands, incorporation of increased building insulation features, and installation of energy-efficient building components, appliances, and heating/cooling equipment.
Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings. Install light emitting diodes (LEDs) for traffic, street, and other outdoor lighting. Limit the hours of operation of outdoor lighting.	Consistent with Mitigation. Proposed mitigation measures would require use of energy-efficient lighting systems, such as the use of T5HO fluorescent fixtures with electronic ballast, occupancy sensor lighting controls, light emitting diodes, and external lighting controls.
Install light colored "cool" roofs, cool pavements, and strategically placed shade trees.	Consistent with Mitigation. Proposed mitigation measures would require use of light-colored roofing materials and light colored concrete would be required to reduce heat island effects.
Install energy efficient heating and cooling systems, appliances and equipment, and control systems. Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives. Install solar panels on carparts and over parking areas.	Consistent with Mitigation. Proposed mitigation measures would require use of energy-efficient heating and cooling systems.
Water Conservation and Efficiency	

Table 14 Office of the California Attorney General Methods to Offset or Reduce Global Warming Impacts Applicable to the Proposed Project	
Emission-Reduction Method	Project Consistency
Create water-efficient landscapes. Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls. Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff. Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water. Restrict the use of water for cleaning outdoor surfaces and vehicles. Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site.)	Substantially Consistent with Mitigation. The proposed project would be required to implement a landscape plan for review and approval by Monterey County. The landscape plan would be required to incorporate water-conservation measures.
Design buildings to be water-efficient. Install water-efficient fixtures and appliances. Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.	Consistent with Mitigation. Use of water-efficient fixtures and appliances would be included as mitigation, such as the use of low-flow water fixtures.
Solid Waste Measures	
Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	Consistent with Mitigation. Reuse and recycling of construction waste will be implemented to the maximum extent feasible consistent with the County's recycling program intended to reduce the volume of refuse deposited in the landfill.
Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.	Consistent. The project would be required to incorporate exterior storage areas for recyclables.
Land Use Measures	
Incorporate public transit into project design.	Consistent with Mitigation. Proposed mitigation measures would promote pedestrian access, alternative transportation, and transit use.
Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.	Substantially Consistent with Mitigation. Proposed mitigation measures would require the preparation of a landscape plan, including the use of trees to provide shading of onsite structures and paved areas and replacement of trees removed due to development.
Include pedestrian and bicycle-only streets and	Substantially Consistent with Mitigation. The

Table 14 Office of the California Attorney General Methods to Offset or Reduce Global Warming Impacts Applicable to the Proposed Project	
Emission-Reduction Method	Project Consistency
plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.	proposed project would provide pedestrian and bicycle enhancements, as well as public transit facilities, to the extent necessary and in accordance with County requirements.
Transportation and Motor Vehicles	
Use low or zero-emission vehicles, including construction vehicles. Promote ridesharing programs e.g., by designating a certain percentage of parking spaces for ride sharing, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides. Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations.) Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points. Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.	Substantially Consistent with Mitigation. With mitigation, the use of low-emission construction equipment would be required. Proposed mitigation measures would require incorporation of measures that would promote alternative transportation, carpool/vanpool and ridesharing, including the incorporation of preferential parking, transit improvements, and bicycle storage facilities.
Source: CAG 2008.	

Governor's Office of Planning and Research

The Governor's Office of Planning and Research (OPR) is in the process of developing CEQA Guidelines that will provide guidance on the analysis and mitigation of greenhouse gas emissions for projects that are subject to CEQA review. In the interim, OPR has published a Technical Advisory, which offers informal guidance regarding the steps lead agencies should consider to reduce GHG emissions associated with proposed development projects that are subject to CEQA review. The Advisory contains examples of mitigation measures used by some public agencies to reduce greenhouse gas emissions provided for illustrative purposes only. Example measures included in the OPR Technical Advisory that are applicable to the proposed project are summarized in Table 15. Table 15 also provides a summary of whether, and how, the project would conform to these measures.

Table 15 Governor's Office of Planning and Research Example Greenhouse Gas Reduction Measures Applicable to the Proposed Master Plan Project	
Strategy/Measure	**Project Consistency**
Land Use and Transportation	
Implement land use strategies to encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density development along transit corridors. Encourage compact, mixed-use projects, forming urban villages designed to maximize affordable housing and encourage walking, bicycling, and the use of public transit.	Substantially Consistent with Mitigation. Proposed mitigation measures would require incorporation of measures that would promote alternative transportation, carpool/vanpool and ridesharing, including the incorporation of preferential parking, transit improvements, and bicycle storage facilities.
Incorporate features into project design that would accommodate the supply of frequent, reliable, and convenient public transit.	
Implement street improvements that are designed to relieve pressure on a region's most congested roadways and intersections.	
Urban Forestry	
Plant trees and vegetation near structures to shade buildings and reduce energy requirements for heating/cooling.	Substantially Consistent with Mitigation. Proposed mitigation measures would require shading of onsite structures and paved areas and replacement of trees removed due to development.
Preserve or replace onsite trees (that are removed due to development) as a means of providing carbon storage.	
Green Building	
Encourage public and private construction of LEED (Leadership in Energy and Environmental Design)certified (or equivalent) buildings.	Inconsistent. The proposed project includes measures that would increase the energy efficiency of proposed onsite structures. However, it is anticipated that the proposed buildings would not be LEED certified.
Energy Conservation Policies and Action	
Recognize and promote energy saving measures beyond Title 24 requirements for residential and commercial projects.	Substantially Consistent with Mitigation. Proposed mitigation measures would require implementation of energy efficiency control measures. Such measures may include, but would not necessarily be limited to, the incorporation of increased building insulation features, use of alternative renewable energy sources (e.g., solar panels and water heating); as well as, the installation of energy-efficient building components, appliances, and heating/cooling equipment.
Replace traffic lights, streetlights, and other electrical uses to energy efficient bulbs and appliances.	
Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options.	
Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	Substantially Consistent with Mitigation. Proposed mitigation measures would promote pedestrian and bicycle use.
Programs to Reduce Solid Waste	
Implement a Construction and Demolition Waste Recycling Ordinance to reduce the solid waste created by new development.	Substantially Consistent with Mitigation. Reuse and recycling of construction waste will be implemented to the maximum extent feasible consistent with the County's recycling program intended to reduce the volume of refuse deposited in the landfill.
Source: ARB, 2008b	

The proposed mitigation measures would result in substantial reductions in emissions associated with energy use. With mitigation, the proposed project would be substantially consistent with currently recommended measures for reducing project-generated GHG emissions. However, given that the specific measures to be implemented from the above list are not currently known, a detailed quantification of the effectiveness of these measures cannot be conducted at this time. With mitigation, the proposed project would not significantly hinder or delay California's ability to meet the reduction targets contained in AB 32. For this reason, this impact would be considered less than significant.

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APPENDIX A
EMISSIONS MODELING

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh1.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph1

Project Location: Monterey County

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
2009 TOTALS (tons/year unmitigated)	0.22	1.74	0.95	0.00	7.92	0.09	8.01	1.65	0.08	1.73	156.89
2009 TOTALS (tons/year mitigated)	0.22	1.74	0.95	0.00	0.62	0.09	0.71	0.13	0.08	0.21	156.89
Percent Reduction	0.00	0.00	0.00	0.00	92.12	0.00	91.12	92.11	0.00	87.88	0.00
2010 TOTALS (tons/year unmitigated)	2.74	2.61	3.89	0.00	2.30	0.17	2.47	0.48	0.15	0.64	402.34
2010 TOTALS (tons/year mitigated)	2.74	2.61	3.89	0.00	0.17	0.17	0.34	0.04	0.15	0.19	402.34
Percent Reduction	0.00	0.00	0.00	0.00	92.65	0.00	86.32	92.38	0.00	69.94	0.00

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

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2009	0.22	1.74	0.95	0.00	7.92	0.09	8.01	1.65	0.08	1.73	156.89
Demolition 08/02/2009-09/02/2009	0.08	0.66	0.38	0.00	0.08	0.03	0.11	0.02	0.03	0.04	59.87
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.07	0.56	0.31	0.00	0.00	0.03	0.03	0.00	0.02	0.02	47.52
Demo On Road Diesel	0.01	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.83
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
Fine Grading 11/30/2009-01/11/2010	0.12	1.00	0.54	0.00	7.84	0.05	7.89	1.64	0.05	1.68	89.45
Fine Grading Dust	0.00	0.00	0.00	0.00	7.84	0.00	7.84	1.64	0.00	1.64	0.00
Fine Grading Off Road Diesel	0.12	0.99	0.49	0.00	0.00	0.05	0.05	0.00	0.05	0.05	86.60
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85
Asphalt 12/28/2009-01/11/2010	0.03	0.08	0.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	7.57
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	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84
Paving On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.47
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

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2010	2.74	2.61	3.89	0.00	2.30	0.17	2.47	0.48	0.15	0.64	402.34
Asphalt 12/28/2009-01/11/2010	0.04	0.13	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.25
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	4.97
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.82
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Fine Grading 11/30/2009-01/11/2010	0.03	0.27	0.15	0.00	2.29	0.01	2.30	0.48	0.01	0.49	26.09
Fine Grading Dust	0.00	0.00	0.00	0.00	2.29	0.00	2.29	0.48	0.00	0.48	0.00
Fine Grading Off Road Diesel	0.03	0.27	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.26
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	0.83
Building 01/11/2010-08/22/2010	0.44	2.20	3.61	0.00	0.01	0.15	0.15	0.00	0.13	0.14	359.21
Building Off Road Diesel	0.33	1.86	1.15	0.00	0.00	0.13	0.13	0.00	0.12	0.12	180.74
Building Vendor Trips	0.01	0.15	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	23.03
Building Worker Trips	0.10	0.19	2.33	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.44
Coating 08/08/2010-09/05/2010	2.23	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.79
Architectural Coating	2.22	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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.79

Phase Assumptions

Phase: Demolition 8/2/2009 - 9/2/2009 - Type Your Description Here

Building Volume Total (cubic feet): 8000

Building Volume Daily (cubic feet): 16000

On Road Truck Travel (VMT): 222.22

Off-Road Equipment:

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

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

Phase: Fine Grading 11/30/2009 - 1/11/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 130.7

Maximum Daily Acreage Disturbed: 32.68

Fugitive Dust Level of Detail: Default

20 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: Paving 12/28/2009 - 1/11/2010 - Default Paving Description

Acres to be Paved: 32.68

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 8 hours per day

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

Phase: Building Construction 1/11/2010 - 8/22/2010 - 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

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

Phase: Architectural Coating 8/8/2010 - 9/5/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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2009	0.22	1.74	0.95	0.00	0.62	0.09	0.71	0.13	0.08	0.21	156.89
Demolition 08/02/2009-09/02/2009	0.08	0.66	0.38	0.00	0.08	0.03	0.11	0.02	0.03	0.04	59.87
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.07	0.56	0.31	0.00	0.00	0.03	0.03	0.00	0.02	0.02	47.52
Demo On Road Diesel	0.01	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.83
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
Fine Grading 11/30/2009-01/11/2010	0.12	1.00	0.54	0.00	0.55	0.05	0.60	0.11	0.05	0.16	89.45
Fine Grading Dust	0.00	0.00	0.00	0.00	0.55	0.00	0.55	0.11	0.00	0.11	0.00
Fine Grading Off Road Diesel	0.12	0.99	0.49	0.00	0.00	0.05	0.05	0.00	0.05	0.05	86.60
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85
Asphalt 12/28/2009-01/11/2010	0.03	0.08	0.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	7.57
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	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84
Paving On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.47
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

2010	2.74	2.61	3.89	0.00	0.17	0.17	0.34	0.04	0.15	0.19	402.34
Asphalt 12/28/2009-01/11/2010	0.04	0.13	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.25
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	4.97
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.82
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Fine Grading 11/30/2009-01/11/2010	0.03	0.27	0.15	0.00	0.16	0.01	0.17	0.03	0.01	0.05	26.09
Fine Grading Dust	0.00	0.00	0.00	0.00	0.16	0.00	0.16	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	0.03	0.27	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.26
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	0.83
Building 01/11/2010-08/22/2010	0.44	2.20	3.61	0.00	0.01	0.15	0.15	0.00	0.13	0.14	359.21
Building Off Road Diesel	0.33	1.86	1.15	0.00	0.00	0.13	0.13	0.00	0.12	0.12	180.74
Building Vendor Trips	0.01	0.15	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	23.03
Building Worker Trips	0.10	0.19	2.33	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.44
Coating 08/08/2010-09/05/2010	2.23	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.79
Architectural Coating	2.22	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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.79

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2009 - 1/11/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh1.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph1

Project Location: Monterey County

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
2009 TOTALS (lbs/day unmitigated)	22.74	123.18	65.06	0.02	653.69	6.77	660.47	136.53	6.23	142.76	11,239.56
2009 TOTALS (lbs/day mitigated)	22.74	123.18	65.06	0.02	45.63	6.77	52.40	9.54	6.23	15.77	11,239.56
2010 TOTALS (lbs/day unmitigated)	228.01	143.63	107.08	0.04	653.80	8.20	662.01	136.57	7.54	144.11	15,729.40
2010 TOTALS (lbs/day mitigated)	228.01	143.63	107.08	0.04	45.74	8.20	53.94	9.58	7.54	17.12	15,729.40

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

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Time Slice 8/3/2009-9/2/2009 Active Days: 23	6.55	57.60	32.63	0.01	6.76	2.70	9.45	1.41	2.48	3.89	5,206.31
Demolition 08/02/2009-09/02/2009	6.55	57.60	32.63	0.01	6.76	2.70	9.45	1.41	2.48	3.89	5,206.31
Fugitive Dust	0.00	0.00	0.00	0.00	6.72	0.00	6.72	1.40	0.00	1.40	0.00
Demo Off Road Diesel	5.84	49.11	27.34	0.00	0.00	2.35	2.35	0.00	2.16	2.16	4,132.45
Demo On Road Diesel	0.62	8.31	3.16	0.01	0.03	0.34	0.37	0.01	0.31	0.32	941.87
Demo Worker Trips	0.09	0.18	2.13	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.99
Time Slice 11/30/2009-12/25/2009 Active Days: 20	10.02	83.16	44.85	0.00	653.61	4.22	657.83	136.50	3.88	140.39	7,454.12
Fine Grading 11/30/2009-01/11/2010	10.02	83.16	44.85	0.00	653.61	4.22	657.83	136.50	3.88	140.39	7,454.12
Fine Grading Dust	0.00	0.00	0.00	0.00	653.60	0.00	653.60	136.50	0.00	136.50	0.00
Fine Grading Off Road Diesel	9.86	82.84	41.01	0.00	0.00	4.21	4.21	0.00	3.88	3.88	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	0.16	0.32	3.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.58

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Time Slice 12/28/2009-12/31/2009 Active Days: 4	22.74	123.18	65.06	0.02	653.69	6.77	660.47	136.53	6.23	142.76	11,239.56
Asphalt 12/28/2009-01/11/2010	12.73	40.03	20.22	0.02	0.08	2.55	2.63	0.03	2.35	2.37	3,785.45
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.39	20.13	10.59	0.00	0.00	1.74	1.74	0.00	1.60	1.60	1,418.81
Paving On Road Diesel	1.46	19.72	7.49	0.02	0.07	0.81	0.88	0.02	0.74	0.77	2,234.64
Paving Worker Trips	0.09	0.18	2.13	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.99
Fine Grading 11/30/2009-01/11/2010	10.02	83.16	44.85	0.00	653.61	4.22	657.83	136.50	3.88	140.39	7,454.12
Fine Grading Dust	0.00	0.00	0.00	0.00	653.60	0.00	653.60	136.50	0.00	136.50	0.00
Fine Grading Off Road Diesel	9.86	82.84	41.01	0.00	0.00	4.21	4.21	0.00	3.88	3.88	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	0.16	0.32	3.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.58
Time Slice 1/1/2010-1/8/2010 Active Days: 6	21.92	116.09	61.90	0.02	653.69	6.38	660.07	136.53	5.87	142.40	11,239.26
Asphalt 12/28/2009-01/11/2010	12.45	37.58	19.38	0.02	0.08	2.42	2.50	0.03	2.23	2.25	3,785.34
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	1.38	18.25	6.93	0.02	0.07	0.73	0.81	0.02	0.67	0.70	2,234.64
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Fine Grading 11/30/2009-01/11/2010	9.47	78.51	42.52	0.00	653.61	3.96	657.57	136.50	3.64	140.14	7,453.92
Fine Grading Dust	0.00	0.00	0.00	0.00	653.60	0.00	653.60	136.50	0.00	136.50	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	0.15	0.29	3.56	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.38

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Time Slice 1/11/2010-1/11/2010 Active Days: 1	27.40	**143.63**	**107.08**	**0.04**	**653.80**	**8.20**	**662.01**	**136.57**	**7.54**	**144.11**	**15,729.40**
Asphalt 12/28/2009-01/11/2010	12.45	37.58	19.38	0.02	0.08	2.42	2.50	0.03	2.23	2.25	3,785.34
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	1.38	18.25	6.93	0.02	0.07	0.73	0.81	0.02	0.67	0.70	2,234.64
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95
Fine Grading 11/30/2009-01/11/2010	9.47	78.51	42.52	0.00	653.61	3.96	657.57	136.50	3.64	140.14	7,453.92
Fine Grading Dust	0.00	0.00	0.00	0.00	653.60	0.00	653.60	136.50	0.00	136.50	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	0.15	0.29	3.56	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.38
Time Slice 1/12/2010-8/6/2010 Active Days: 149	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95

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Time Slice 8/9/2010-8/20/2010 Active Days: 10	**228.01**	28.01	50.88	0.02	0.13	1.84	1.97	0.05	1.68	1.73	4,869.41
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95
Coating 08/08/2010-09/05/2010	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Architectural Coating	222.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.24	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Time Slice 8/23/2010-9/3/2010 Active Days: 10	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Coating 08/08/2010-09/05/2010	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Architectural Coating	222.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.24	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27

Phase Assumptions

Phase: Demolition 8/2/2009 - 9/2/2009 - Type Your Description Here

Building Volume Total (cubic feet): 8000

Building Volume Daily (cubic feet): 16000

On Road Truck Travel (VMT): 222.22

Off-Road Equipment:

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

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

Phase: Fine Grading 11/30/2009 - 1/11/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 130.7

Maximum Daily Acreage Disturbed: 32.68

Fugitive Dust Level of Detail: Default

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20 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: Paving 12/28/2009 - 1/11/2010 - Default Paving Description

Acres to be Paved: 32.68

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 8 hours per day

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

Phase: Building Construction 1/11/2010 - 8/22/2010 - 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 8/8/2010 - 9/5/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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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 8/3/2009-9/2/2009 Active Days: 23	6.55	57.60	32.63	0.01	6.76	2.70	9.45	1.41	2.48	3.89	5,206.31
Demolition 08/02/2009-09/02/2009	6.55	57.60	32.63	0.01	6.76	2.70	9.45	1.41	2.48	3.89	5,206.31
Fugitive Dust	0.00	0.00	0.00	0.00	6.72	0.00	6.72	1.40	0.00	1.40	0.00
Demo Off Road Diesel	5.84	49.11	27.34	0.00	0.00	2.35	2.35	0.00	2.16	2.16	4,132.45
Demo On Road Diesel	0.62	8.31	3.16	0.01	0.03	0.34	0.37	0.01	0.31	0.32	941.87
Demo Worker Trips	0.09	0.18	2.13	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.99
Time Slice 11/30/2009-12/25/2009 Active Days: 20	10.02	83.16	44.85	0.00	45.55	4.22	49.77	9.51	3.88	13.40	7,454.12
Fine Grading 11/30/2009-01/11/2010	10.02	83.16	44.85	0.00	45.55	4.22	49.77	9.51	3.88	13.40	7,454.12
Fine Grading Dust	0.00	0.00	0.00	0.00	45.54	0.00	45.54	9.51	0.00	9.51	0.00
Fine Grading Off Road Diesel	9.86	82.84	41.01	0.00	0.00	4.21	4.21	0.00	3.88	3.88	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	0.16	0.32	3.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.58

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Time Slice 12/28/2009-12/31/2009 Active Days: 4	22.74	123.18	65.06	0.02	45.63	6.77	52.40	9.54	6.23	15.77	11,239.56
Asphalt 12/28/2009-01/11/2010	12.73	40.03	20.22	0.02	0.08	2.55	2.63	0.03	2.35	2.37	3,785.45
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.39	20.13	10.59	0.00	0.00	1.74	1.74	0.00	1.60	1.60	1,418.81
Paving On Road Diesel	1.46	19.72	7.49	0.02	0.07	0.81	0.88	0.02	0.74	0.77	2,234.64
Paving Worker Trips	0.09	0.18	2.13	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.99
Fine Grading 11/30/2009-01/11/2010	10.02	83.16	44.85	0.00	45.55	4.22	49.77	9.51	3.88	13.40	7,454.12
Fine Grading Dust	0.00	0.00	0.00	0.00	45.54	0.00	45.54	9.51	0.00	9.51	0.00
Fine Grading Off Road Diesel	9.86	82.84	41.01	0.00	0.00	4.21	4.21	0.00	3.88	3.88	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	0.16	0.32	3.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.58
Time Slice 1/1/2010-1/8/2010 Active Days: 6	21.92	116.09	61.90	0.02	45.63	6.38	52.01	9.54	5.87	15.41	11,239.26
Asphalt 12/28/2009-01/11/2010	12.45	37.58	19.38	0.02	0.08	2.42	2.50	0.03	2.23	2.25	3,785.34
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	1.38	18.25	6.93	0.02	0.07	0.73	0.81	0.02	0.67	0.70	2,234.64
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Fine Grading 11/30/2009-01/11/2010	9.47	78.51	42.52	0.00	45.55	3.96	49.51	9.51	3.64	13.16	7,453.92
Fine Grading Dust	0.00	0.00	0.00	0.00	45.54	0.00	45.54	9.51	0.00	9.51	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	0.15	0.29	3.56	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.38

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Time Slice 1/11/2010-1/11/2010 Active Days: 1	27.40	**143.63**	**107.08**	**0.04**	45.74	**8.20**	53.94	9.58	**7.54**	17.12	**15,729.40**
Asphalt 12/28/2009-01/11/2010	12.45	37.58	19.38	0.02	0.08	2.42	2.50	0.03	2.23	2.25	3,785.34
Paving Off-Gas	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	1.38	18.25	6.93	0.02	0.07	0.73	0.81	0.02	0.67	0.70	2,234.64
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95
Fine Grading 11/30/2009-01/11/2010	9.47	78.51	42.52	0.00	45.55	3.96	49.51	9.51	3.64	13.16	7,453.92
Fine Grading Dust	0.00	0.00	0.00	0.00	45.54	0.00	45.54	9.51	0.00	9.51	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	0.15	0.29	3.56	0.00	0.01	0.01	0.02	0.00	0.01	0.01	237.38
Time Slice 1/12/2010-8/6/2010 Active Days: 149	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95

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Time Slice 8/9/2010-8/20/2010 Active Days: 10	**228.01**	28.01	50.88	0.02	0.13	1.84	1.97	0.05	1.68	1.73	4,869.41
Building 01/11/2010-08/22/2010	5.48	27.54	45.18	0.02	0.11	1.82	1.94	0.04	1.67	1.71	4,490.14
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	0.18	1.82	1.70	0.00	0.01	0.07	0.08	0.00	0.07	0.07	287.91
Building Worker Trips	1.22	2.41	29.18	0.02	0.10	0.08	0.18	0.04	0.07	0.11	1,942.95
Coating 08/08/2010-09/05/2010	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Architectural Coating	222.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.24	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Time Slice 8/23/2010-9/3/2010 Active Days: 10	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Coating 08/08/2010-09/05/2010	222.53	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27
Architectural Coating	222.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.24	0.47	5.70	0.00	0.02	0.02	0.04	0.01	0.01	0.02	379.27

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2009 - 1/11/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

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PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh2.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph2

Project Location: Monterey County

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)	0.08	0.58	0.35	0.00	3.72	0.03	3.75	0.78	0.03	0.81	54.71
2010 TOTALS (tons/year mitigated)	0.08	0.58	0.35	0.00	0.26	0.03	0.29	0.05	0.03	0.09	54.71
Percent Reduction	0.00	0.00	0.00	0.00	93.03	0.00	92.18	93.02	0.00	89.42	0.00
2011 TOTALS (tons/year unmitigated)	1.13	2.10	2.19	0.00	1.09	0.15	1.23	0.23	0.13	0.36	276.73
2011 TOTALS (tons/year mitigated)	1.13	2.10	2.19	0.00	0.08	0.15	0.22	0.02	0.13	0.15	276.73
Percent Reduction	0.00	0.00	0.00	0.00	92.71	0.00	81.79	92.48	0.00	58.33	0.00

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

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2010	0.08	0.58	0.35	0.00	3.72	0.03	3.75	0.78	0.03	0.81	54.71
Fine Grading 11/30/2010-01/11/2011	0.07	0.53	0.32	0.00	3.72	0.03	3.75	0.78	0.03	0.80	49.78
Fine Grading Dust	0.00	0.00	0.00	0.00	3.72	0.00	3.72	0.78	0.00	0.78	0.00
Fine Grading Off Road Diesel	0.07	0.52	0.28	0.00	0.00	0.03	0.03	0.00	0.03	0.03	47.57
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	2.22
Asphalt 12/28/2010-01/11/2011	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.93
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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.54
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

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2011	1.13	2.10	2.19	0.00	1.09	0.15	1.23	0.23	0.13	0.36	276.73
Asphalt 12/28/2010-01/11/2011	0.02	0.09	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.62
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	0.03	0.00	0.00	0.01	0.01	0.00	0.00	0.00	4.45
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Fine Grading 11/30/2010-01/11/2011	0.02	0.14	0.09	0.00	1.09	0.01	1.09	0.23	0.01	0.23	14.52
Fine Grading Dust	0.00	0.00	0.00	0.00	1.09	0.00	1.09	0.23	0.00	0.23	0.00
Fine Grading Off Road Diesel	0.02	0.14	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.87
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	0.65
Building 01/11/2011-08/22/2011	0.34	1.87	2.03	0.00	0.00	0.13	0.13	0.00	0.12	0.12	251.95
Building Off Road Diesel	0.30	1.75	1.12	0.00	0.00	0.13	0.13	0.00	0.12	0.12	180.74
Building Vendor Trips	0.01	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.26
Building Worker Trips	0.04	0.07	0.86	0.00	0.00	0.00	0.01	0.00	0.00	0.00	61.94
Coating 08/08/2011-09/05/2011	0.75	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63
Architectural Coating	0.75	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63

Phase Assumptions

Phase: Fine Grading 11/30/2010 - 1/11/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 62

Maximum Daily Acreage Disturbed: 15.5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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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: Paving 12/28/2010 - 1/11/2011 - Default Paving Description

Acres to be Paved: 15.5

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 1/11/2011 - 8/22/2011 - 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 8/8/2011 - 9/5/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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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	0.08	0.58	0.35	0.00	0.26	0.03	0.29	0.05	0.03	0.09	54.71
Fine Grading 11/30/2010-01/11/2011	0.07	0.53	0.32	0.00	0.26	0.03	0.29	0.05	0.03	0.08	49.78
Fine Grading Dust	0.00	0.00	0.00	0.00	0.26	0.00	0.26	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.07	0.52	0.28	0.00	0.00	0.03	0.03	0.00	0.03	0.03	47.57
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	2.22
Asphalt 12/28/2010-01/11/2011	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.93
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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.54
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

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2011	1.13	2.10	2.19	0.00	0.08	0.15	0.22	0.02	0.13	0.15	276.73
Asphalt 12/28/2010-01/11/2011	0.02	0.09	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.62
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	0.03	0.00	0.00	0.01	0.01	0.00	0.00	0.00	4.45
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Fine Grading 11/30/2010-01/11/2011	0.02	0.14	0.09	0.00	0.08	0.01	0.08	0.02	0.01	0.02	14.52
Fine Grading Dust	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	0.02	0.14	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.87
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	0.65
Building 01/11/2011-08/22/2011	0.34	1.87	2.03	0.00	0.00	0.13	0.13	0.00	0.12	0.12	251.95
Building Off Road Diesel	0.30	1.75	1.12	0.00	0.00	0.13	0.13	0.00	0.12	0.12	180.74
Building Vendor Trips	0.01	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.26
Building Worker Trips	0.04	0.07	0.86	0.00	0.00	0.00	0.01	0.00	0.00	0.00	61.94
Coating 08/08/2011-09/05/2011	0.75	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63
Architectural Coating	0.75	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2010 - 1/11/2011 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh2.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph2

Project Location: Monterey County

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)	12.99	69.77	41.04	0.01	310.05	4.38	314.43	64.76	4.03	68.79	6,612.69
2010 TOTALS (lbs/day mitigated)	12.99	69.77	41.04	0.01	21.65	4.38	26.03	4.53	4.03	8.56	6,612.69
2011 TOTALS (lbs/day unmitigated)	75.43	88.82	64.94	0.02	310.10	5.77	315.87	64.77	5.31	70.08	9,761.84
2011 TOTALS (lbs/day mitigated)	75.43	88.82	64.94	0.02	21.69	5.77	27.47	4.54	5.31	9.85	9,761.84

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

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Time Slice 11/30/2010-12/27/2010 Active Days: 20	5.71	43.82	26.40	0.00	310.01	2.53	312.54	64.74	2.32	67.07	4,148.52
Fine Grading 11/30/2010-01/11/2011	5.71	43.82	26.40	0.00	310.01	2.53	312.54	64.74	2.32	67.07	4,148.52
Fine Grading Dust	0.00	0.00	0.00	0.00	310.00	0.00	310.00	64.74	0.00	64.74	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	0.12	0.23	2.77	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.63
Time Slice 12/28/2010-12/31/2010 Active Days: 4	12.99	69.77	41.04	0.01	310.05	4.38	314.43	64.76	4.03	68.79	6,612.69
Asphalt 12/28/2010-01/11/2011	7.28	25.95	14.64	0.01	0.04	1.85	1.90	0.01	1.71	1.72	2,464.17
Paving Off-Gas	3.69	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	0.65	8.66	3.29	0.01	0.04	0.35	0.38	0.01	0.32	0.33	1,059.88
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Fine Grading 11/30/2010-01/11/2011	5.71	43.82	26.40	0.00	310.01	2.53	312.54	64.74	2.32	67.07	4,148.52
Fine Grading Dust	0.00	0.00	0.00	0.00	310.00	0.00	310.00	64.74	0.00	64.74	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	0.12	0.23	2.77	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.63

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Time Slice 1/3/2011-1/10/2011 Active Days: 6	12.42	65.41	39.59	0.01	310.05	4.14	314.19	64.76	3.81	68.57	6,612.48
Asphalt 12/28/2010-01/11/2011	7.07	24.36	14.10	0.01	0.04	1.76	1.81	0.01	1.62	1.64	2,464.08
Paving Off-Gas	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.61	7.91	3.00	0.01	0.04	0.31	0.35	0.01	0.29	0.30	1,059.88
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Fine Grading 11/30/2010- 01/11/2011	5.34	41.05	25.49	0.00	310.01	2.38	312.38	64.74	2.18	66.93	4,148.40
Fine Grading Dust	0.00	0.00	0.00	0.00	310.00	0.00	310.00	64.74	0.00	64.74	0.00
Fine Grading Off Road Diesel	5.24	40.84	22.92	0.00	0.00	2.37	2.37	0.00	2.18	2.18	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	0.11	0.21	2.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.51

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Time Slice 1/11/2011-1/11/2011 Active Days: 1	16.70	**88.82**	**64.94**	**0.02**	**310.10**	**5.77**	**315.87**	**64.77**	**5.31**	**70.08**	**9,761.84**
Asphalt 12/28/2010-01/11/2011	7.07	24.36	14.10	0.01	0.04	1.76	1.81	0.01	1.62	1.64	2,464.08
Paving Off-Gas	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.61	7.91	3.00	0.01	0.04	0.31	0.35	0.01	0.29	0.30	1,059.88
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31
Fine Grading 11/30/2010- 01/11/2011	5.34	41.05	25.49	0.00	310.01	2.38	312.38	64.74	2.18	66.93	4,148.40
Fine Grading Dust	0.00	0.00	0.00	0.00	310.00	0.00	310.00	64.74	0.00	64.74	0.00
Fine Grading Off Road Diesel	5.24	40.84	22.92	0.00	0.00	2.37	2.37	0.00	2.18	2.18	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	0.11	0.21	2.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.51
Time Slice 1/12/2011-8/5/2011 Active Days: 148	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31

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Time Slice 8/8/2011-8/22/2011 Active Days: 11	**75.43**	23.58	27.52	0.01	0.05	1.64	1.69	0.02	1.51	1.52	3,304.91
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31
Coating 08/08/2011-09/05/2011	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Architectural Coating	71.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.09	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Time Slice 8/23/2011-9/5/2011 Active Days: 10	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Coating 08/08/2011-09/05/2011	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Architectural Coating	71.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.09	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55

Phase Assumptions

Phase: Fine Grading 11/30/2010 - 1/11/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 62

Maximum Daily Acreage Disturbed: 15.5

Fugitive Dust Level of Detail: Default

20 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

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Phase: Paving 12/28/2010 - 1/11/2011 - Default Paving Description

Acres to be Paved: 15.5

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 1/11/2011 - 8/22/2011 - 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 8/8/2011 - 9/5/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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Time Slice 11/30/2010-12/27/2010 Active Days: 20	5.71	43.82	26.40	0.00	21.61	2.53	24.14	4.51	2.32	6.84	4,148.52
Fine Grading 11/30/2010-01/11/2011	5.71	43.82	26.40	0.00	21.61	2.53	24.14	4.51	2.32	6.84	4,148.52
Fine Grading Dust	0.00	0.00	0.00	0.00	21.60	0.00	21.60	4.51	0.00	4.51	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	0.12	0.23	2.77	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.63
Time Slice 12/28/2010-12/31/2010 Active Days: 4	12.99	69.77	41.04	0.01	21.65	4.38	26.03	4.53	4.03	8.56	6,612.69
Asphalt 12/28/2010-01/11/2011	7.28	25.95	14.64	0.01	0.04	1.85	1.90	0.01	1.71	1.72	2,464.17
Paving Off-Gas	3.69	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	0.65	8.66	3.29	0.01	0.04	0.35	0.38	0.01	0.32	0.33	1,059.88
Paving Worker Trips	0.08	0.16	1.98	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.88
Fine Grading 11/30/2010-01/11/2011	5.71	43.82	26.40	0.00	21.61	2.53	24.14	4.51	2.32	6.84	4,148.52
Fine Grading Dust	0.00	0.00	0.00	0.00	21.60	0.00	21.60	4.51	0.00	4.51	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	0.12	0.23	2.77	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.63

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Time Slice 1/3/2011-1/10/2011 Active Days: 6	12.42	65.41	39.59	0.01	21.65	4.14	25.79	4.53	3.81	8.34	6,612.48
Asphalt 12/28/2010-01/11/2011	7.07	24.36	14.10	0.01	0.04	1.76	1.81	0.01	1.62	1.64	2,464.08
Paving Off-Gas	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.61	7.91	3.00	0.01	0.04	0.31	0.35	0.01	0.29	0.30	1,059.88
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Fine Grading 11/30/2010- 01/11/2011	5.34	41.05	25.49	0.00	21.61	2.38	23.98	4.51	2.18	6.70	4,148.40
Fine Grading Dust	0.00	0.00	0.00	0.00	21.60	0.00	21.60	4.51	0.00	4.51	0.00
Fine Grading Off Road Diesel	5.24	40.84	22.92	0.00	0.00	2.37	2.37	0.00	2.18	2.18	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	0.11	0.21	2.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.51

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Time Slice 1/11/2011-1/11/2011 Active Days: 1	16.70	**88.82**	**64.94**	**0.02**	21.69	**5.77**	27.47	4.54	**5.31**	9.85	**9,761.84**
Asphalt 12/28/2010-01/11/2011	7.07	24.36	14.10	0.01	0.04	1.76	1.81	0.01	1.62	1.64	2,464.08
Paving Off-Gas	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.61	7.91	3.00	0.01	0.04	0.31	0.35	0.01	0.29	0.30	1,059.88
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31
Fine Grading 11/30/2010- 01/11/2011	5.34	41.05	25.49	0.00	21.61	2.38	23.98	4.51	2.18	6.70	4,148.40
Fine Grading Dust	0.00	0.00	0.00	0.00	21.60	0.00	21.60	4.51	0.00	4.51	0.00
Fine Grading Off Road Diesel	5.24	40.84	22.92	0.00	0.00	2.37	2.37	0.00	2.18	2.18	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	0.11	0.21	2.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	184.51
Time Slice 1/12/2011-8/5/2011 Active Days: 148	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31

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Time Slice 8/8/2011-8/22/2011 Active Days: 11	**75.43**	23.58	27.52	0.01	0.05	1.64	1.69	0.02	1.51	1.52	3,304.91
Building 01/11/2011-08/22/2011	4.28	23.41	25.35	0.01	0.04	1.63	1.68	0.02	1.50	1.52	3,149.35
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	0.07	0.68	0.63	0.00	0.00	0.03	0.03	0.00	0.02	0.03	115.77
Building Worker Trips	0.45	0.88	10.78	0.01	0.04	0.03	0.07	0.01	0.03	0.04	774.31
Coating 08/08/2011-09/05/2011	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Architectural Coating	71.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.09	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Time Slice 8/23/2011-9/5/2011 Active Days: 10	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Coating 08/08/2011-09/05/2011	71.16	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55
Architectural Coating	71.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.09	0.18	2.17	0.00	0.01	0.01	0.01	0.00	0.01	0.01	155.55

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2010 - 1/11/2011 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

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PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh3.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph3

Project Location: Monterey County

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
2011 TOTALS (tons/year unmitigated)	0.05	0.40	0.23	0.00	2.67	0.02	2.69	0.56	0.02	0.58	39.40
2011 TOTALS (tons/year mitigated)	0.05	0.40	0.23	0.00	0.19	0.02	0.21	0.04	0.02	0.06	39.40
Percent Reduction	0.00	0.00	0.00	0.00	93.03	0.00	92.27	93.03	0.00	89.77	0.00
2012 TOTALS (tons/year unmitigated)	0.89	1.57	1.66	0.00	0.93	0.10	1.03	0.19	0.09	0.29	216.50
2012 TOTALS (tons/year mitigated)	0.89	1.57	1.66	0.00	0.07	0.10	0.17	0.01	0.09	0.11	216.50
Percent Reduction	0.00	0.00	0.00	0.00	92.75	0.00	83.49	92.54	0.00	62.26	0.00

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

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2011	0.05	0.40	0.23	0.00	2.67	0.02	2.69	0.56	0.02	0.58	39.40
Fine Grading 11/30/2011-01/11/2012	0.05	0.37	0.21	0.00	2.67	0.02	2.69	0.56	0.02	0.57	36.10
Fine Grading Dust	0.00	0.00	0.00	0.00	2.67	0.00	2.67	0.56	0.00	0.56	0.00
Fine Grading Off Road Diesel	0.04	0.36	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	34.59
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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
Asphalt 12/28/2011-01/11/2012	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
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	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20

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2012	0.89	1.57	1.66	0.00	0.93	0.10	1.03	0.19	0.09	0.29	216.50
Asphalt 12/28/2011-01/11/2012	0.02	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.79
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	0.01	0.01	0.00	0.01	0.01	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	3.17
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
Fine Grading 11/30/2011-01/11/2012	0.02	0.12	0.07	0.00	0.93	0.01	0.93	0.19	0.01	0.20	12.56
Fine Grading Dust	0.00	0.00	0.00	0.00	0.93	0.00	0.93	0.19	0.00	0.19	0.00
Fine Grading Off Road Diesel	0.01	0.12	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.03
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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
Building 01/11/2012-08/22/2012	0.29	1.36	1.52	0.00	0.00	0.09	0.09	0.00	0.08	0.08	193.94
Building Off Road Diesel	0.26	1.28	0.89	0.00	0.00	0.09	0.09	0.00	0.08	0.08	140.58
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.94
Building Worker Trips	0.02	0.05	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.42
Coating 08/08/2012-09/05/2012	0.56	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Architectural Coating	0.56	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22

Phase Assumptions

Phase: Fine Grading 11/30/2011 - 1/11/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 46.36

Maximum Daily Acreage Disturbed: 11.59

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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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: Paving 12/28/2011 - 1/11/2012 - Default Paving Description

Acres to be Paved: 11.59

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 1/11/2012 - 8/22/2012 - 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 8/8/2012 - 9/5/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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:

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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
2011	0.05	0.40	0.23	0.00	0.19	0.02	0.21	0.04	0.02	0.06	39.40
Fine Grading 11/30/2011-01/11/2012	0.05	0.37	0.21	0.00	0.19	0.02	0.21	0.04	0.02	0.06	36.10
Fine Grading Dust	0.00	0.00	0.00	0.00	0.19	0.00	0.19	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.04	0.36	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	34.59
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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
Asphalt 12/28/2011-01/11/2012	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
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	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20

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2012	0.89	1.57	1.66	0.00	0.07	0.10	0.17	0.01	0.09	0.11	216.50
Asphalt 12/28/2011-01/11/2012	0.02	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.79
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	0.01	0.01	0.00	0.01	0.01	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	3.17
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
Fine Grading 11/30/2011-01/11/2012	0.02	0.12	0.07	0.00	0.06	0.01	0.07	0.01	0.01	0.02	12.56
Fine Grading Dust	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.01	0.12	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.03
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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
Building 01/11/2012-08/22/2012	0.29	1.36	1.52	0.00	0.00	0.09	0.09	0.00	0.08	0.08	193.94
Building Off Road Diesel	0.26	1.28	0.89	0.00	0.00	0.09	0.09	0.00	0.08	0.08	140.58
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.94
Building Worker Trips	0.02	0.05	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.42
Coating 08/08/2012-09/05/2012	0.56	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Architectural Coating	0.56	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2011 - 1/11/2012 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh3.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph3

Project Location: Monterey County

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
2011 TOTALS (lbs/day unmitigated)	9.97	54.12	32.00	0.01	231.84	3.38	235.22	48.42	3.10	51.53	5,335.99
2011 TOTALS (lbs/day mitigated)	9.97	54.12	32.00	0.01	16.19	3.38	19.57	3.39	3.10	6.49	5,335.99
2012 TOTALS (lbs/day unmitigated)	56.62	67.64	49.69	0.02	231.87	4.25	236.12	48.43	3.91	52.34	7,745.06
2012 TOTALS (lbs/day mitigated)	56.62	67.64	49.69	0.02	16.22	4.25	20.47	3.40	3.91	7.30	7,745.06

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

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Time Slice 11/30/2011-12/27/2011 Active Days: 20	3.98	31.76	18.66	0.00	231.81	1.69	233.50	48.41	1.55	49.97	3,139.27
Fine Grading 11/30/2011-01/11/2012	3.98	31.76	18.66	0.00	231.81	1.69	233.50	48.41	1.55	49.97	3,139.27
Fine Grading Dust	0.00	0.00	0.00	0.00	231.80	0.00	231.80	48.41	0.00	48.41	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	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	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Time Slice 12/28/2011-12/30/2011 Active Days: 3	9.97	54.12	32.00	0.01	231.84	3.38	235.22	48.42	3.10	51.53	5,335.99
Asphalt 12/28/2011-01/11/2012	5.99	22.37	13.34	0.01	0.03	1.69	1.72	0.01	1.55	1.56	2,196.72
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.46	5.92	2.25	0.01	0.03	0.23	0.26	0.01	0.21	0.22	792.52
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Fine Grading 11/30/2011-01/11/2012	3.98	31.76	18.66	0.00	231.81	1.69	233.50	48.41	1.55	49.97	3,139.27
Fine Grading Dust	0.00	0.00	0.00	0.00	231.80	0.00	231.80	48.41	0.00	48.41	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	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	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79

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Time Slice 1/2/2012-1/10/2012 Active Days: 7	9.58	50.71	30.83	0.01	231.84	3.12	234.96	48.42	2.87	51.30	5,335.85
Asphalt 12/28/2011-01/11/2012	5.80	20.96	12.90	0.01	0.03	1.58	1.61	0.01	1.45	1.46	2,196.65
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.42	5.34	2.03	0.01	0.03	0.21	0.23	0.01	0.19	0.20	792.52
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Fine Grading 11/30/2011- 01/11/2012	3.78	29.75	17.93	0.00	231.81	1.54	233.35	48.41	1.42	49.83	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	231.80	0.00	231.80	48.41	0.00	48.41	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72

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Time Slice 1/11/2012-1/11/2012 Active Days: 1	13.18	**67.64**	**49.69**	**0.02**	**231.87**	**4.25**	**236.12**	**48.43**	**3.91**	**52.34**	**7,745.06**
Asphalt 12/28/2011-01/11/2012	5.80	20.96	12.90	0.01	0.03	1.58	1.61	0.01	1.45	1.46	2,196.65
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.42	5.34	2.03	0.01	0.03	0.21	0.23	0.01	0.19	0.20	792.52
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62
Fine Grading 11/30/2011- 01/11/2012	3.78	29.75	17.93	0.00	231.81	1.54	233.35	48.41	1.42	49.83	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	231.80	0.00	231.80	48.41	0.00	48.41	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Time Slice 1/12/2012-8/7/2012 Active Days: 149	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62

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Time Slice 8/8/2012-8/22/2012 Active Days: 11	**56.62**	17.05	20.35	0.01	0.04	1.13	1.17	0.01	1.04	1.05	2,525.05
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62
Coating 08/08/2012-09/05/2012	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Architectural Coating	52.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Time Slice 8/23/2012-9/5/2012 Active Days: 10	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Coating 08/08/2012-09/05/2012	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Architectural Coating	52.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84

Phase Assumptions

Phase: Fine Grading 11/30/2011 - 1/11/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 46.36

Maximum Daily Acreage Disturbed: 11.59

Fugitive Dust Level of Detail: Default

20 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

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Phase: Paving 12/28/2011 - 1/11/2012 - Default Paving Description

Acres to be Paved: 11.59

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 1/11/2012 - 8/22/2012 - 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 8/8/2012 - 9/5/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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Time Slice 11/30/2011-12/27/2011 Active Days: 20	3.98	31.76	18.66	0.00	16.16	1.69	17.85	3.38	1.55	4.93	3,139.27
Fine Grading 11/30/2011-01/11/2012	3.98	31.76	18.66	0.00	16.16	1.69	17.85	3.38	1.55	4.93	3,139.27
Fine Grading Dust	0.00	0.00	0.00	0.00	16.15	0.00	16.15	3.37	0.00	3.37	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	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	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Time Slice 12/28/2011-12/30/2011 Active Days: 3	9.97	54.12	32.00	0.01	16.19	3.38	19.57	3.39	3.10	6.49	5,335.99
Asphalt 12/28/2011-01/11/2012	5.99	22.37	13.34	0.01	0.03	1.69	1.72	0.01	1.55	1.56	2,196.72
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.30	9.26	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,272.41
Paving On Road Diesel	0.46	5.92	2.25	0.01	0.03	0.23	0.26	0.01	0.21	0.22	792.52
Paving Worker Trips	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79
Fine Grading 11/30/2011-01/11/2012	3.98	31.76	18.66	0.00	16.16	1.69	17.85	3.38	1.55	4.93	3,139.27
Fine Grading Dust	0.00	0.00	0.00	0.00	16.15	0.00	16.15	3.37	0.00	3.37	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	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	0.08	0.15	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.79

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Time Slice 1/2/2012-1/10/2012 Active Days: 7	9.58	50.71	30.83	0.01	16.19	3.12	19.31	3.39	2.87	6.26	5,335.85
Asphalt 12/28/2011-01/11/2012	5.80	20.96	12.90	0.01	0.03	1.58	1.61	0.01	1.45	1.46	2,196.65
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.42	5.34	2.03	0.01	0.03	0.21	0.23	0.01	0.19	0.20	792.52
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Fine Grading 11/30/2011- 01/11/2012	3.78	29.75	17.93	0.00	16.16	1.54	17.70	3.38	1.42	4.80	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	16.15	0.00	16.15	3.37	0.00	3.37	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72

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Time Slice 1/11/2012-1/11/2012 Active Days: 1	13.18	**67.64**	**49.69**	**0.02**	16.22	**4.25**	20.47	3.40	**3.91**	7.30	**7,745.06**
Asphalt 12/28/2011-01/11/2012	5.80	20.96	12.90	0.01	0.03	1.58	1.61	0.01	1.45	1.46	2,196.65
Paving Off-Gas	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.42	5.34	2.03	0.01	0.03	0.21	0.23	0.01	0.19	0.20	792.52
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62
Fine Grading 11/30/2011- 01/11/2012	3.78	29.75	17.93	0.00	16.16	1.54	17.70	3.38	1.42	4.80	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	16.15	0.00	16.15	3.37	0.00	3.37	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Time Slice 1/12/2012-8/7/2012 Active Days: 149	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62

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Time Slice 8/8/2012-8/22/2012 Active Days: 11	**56.62**	17.05	20.35	0.01	0.04	1.13	1.17	0.01	1.04	1.05	2,525.05
Building 01/11/2012-08/22/2012	3.60	16.93	18.86	0.01	0.03	1.12	1.16	0.01	1.03	1.04	2,409.21
Building Off Road Diesel	3.26	15.87	11.00	0.00	0.00	1.08	1.08	0.00	1.00	1.00	1,746.33
Building Vendor Trips	0.05	0.46	0.44	0.00	0.00	0.02	0.02	0.00	0.02	0.02	86.26
Building Worker Trips	0.30	0.60	7.42	0.01	0.03	0.02	0.05	0.01	0.02	0.03	576.62
Coating 08/08/2012-09/05/2012	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Architectural Coating	52.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Time Slice 8/23/2012-9/5/2012 Active Days: 10	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Coating 08/08/2012-09/05/2012	53.01	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84
Architectural Coating	52.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.06	0.12	1.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	115.84

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2011 - 1/11/2012 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

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PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh4.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph4

Project Location: Monterey County

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)	0.09	0.75	0.44	0.00	3.12	0.04	3.15	0.65	0.04	0.69	85.18
2012 TOTALS (tons/year mitigated)	0.09	0.75	0.44	0.00	0.37	0.04	0.41	0.08	0.04	0.11	85.18
Percent Reduction	0.00	0.00	0.00	0.00	88.18	0.00	87.07	88.18	0.00	83.50	0.00
2013 TOTALS (tons/year unmitigated)	0.96	1.50	1.68	0.00	1.21	0.09	1.31	0.25	0.09	0.34	227.07
2013 TOTALS (tons/year mitigated)	0.96	1.50	1.68	0.00	0.09	0.09	0.18	0.02	0.09	0.11	227.07
Percent Reduction	0.00	0.00	0.00	0.00	92.78	0.00	86.06	92.60	0.00	68.98	0.00

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

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2012	0.09	0.75	0.44	0.00	3.12	0.04	3.15	0.65	0.04	0.69	85.18
Demolition 08/02/2012-09/02/2012	0.05	0.41	0.23	0.00	0.16	0.02	0.18	0.03	0.02	0.05	48.33
Fugitive Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.03	0.25	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	24.51
Demo On Road Diesel	0.01	0.15	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	22.66
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Fine Grading 11/30/2012-01/11/2013	0.04	0.33	0.20	0.00	2.95	0.02	2.97	0.62	0.02	0.63	34.53
Fine Grading Dust	0.00	0.00	0.00	0.00	2.95	0.00	2.95	0.62	0.00	0.62	0.00
Fine Grading Off Road Diesel	0.04	0.33	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.08
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	1.45
Asphalt 12/28/2012-01/11/2013	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.32
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	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13

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2013	0.96	1.50	1.68	0.00	1.21	0.09	1.31	0.25	0.09	0.34	227.07
Asphalt 12/28/2012-01/11/2013	0.03	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.45
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	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.73
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
Fine Grading 11/30/2012-01/11/2013	0.02	0.13	0.08	0.00	1.21	0.01	1.21	0.25	0.01	0.26	14.13
Fine Grading Dust	0.00	0.00	0.00	0.00	1.21	0.00	1.21	0.25	0.00	0.25	0.00
Fine Grading Off Road Diesel	0.02	0.12	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.53
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	0.59
Building 01/11/2013-08/22/2013	0.27	1.28	1.52	0.00	0.00	0.08	0.08	0.00	0.07	0.08	201.09
Building Off Road Diesel	0.24	1.19	0.85	0.00	0.00	0.08	0.08	0.00	0.07	0.07	139.71
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.99
Building Worker Trips	0.03	0.05	0.63	0.00	0.00	0.00	0.01	0.00	0.00	0.00	53.39
Coating 08/08/2013-09/05/2013	0.64	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Architectural Coating	0.64	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41

Phase Assumptions

Phase: Demolition 8/2/2012 - 9/2/2012 - Type Your Description Here

Building Volume Total (cubic feet): 70000

Building Volume Daily (cubic feet): 35000

On Road Truck Travel (VMT): 486.11

Off-Road Equipment:

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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

Phase: Fine Grading 11/30/2012 - 1/11/2013 - Default Fine Site Grading Description

Total Acres Disturbed: 53.68

Maximum Daily Acreage Disturbed: 13.42

Fugitive Dust Level of Detail: Default

20 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: Paving 12/28/2012 - 1/11/2013 - Default Paving Description

Acres to be Paved: 13.42

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 1/11/2013 - 8/22/2013 - 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

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Phase: Architectural Coating 8/8/2013 - 9/5/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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2012	0.09	0.75	0.44	0.00	0.37	0.04	0.41	0.08	0.04	0.11	85.18
Demolition 08/02/2012-09/02/2012	0.05	0.41	0.23	0.00	0.16	0.02	0.18	0.03	0.02	0.05	48.33
Fugitive Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.03	0.25	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	24.51
Demo On Road Diesel	0.01	0.15	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	22.66
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Fine Grading 11/30/2012-01/11/2013	0.04	0.33	0.20	0.00	0.21	0.02	0.22	0.04	0.02	0.06	34.53
Fine Grading Dust	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.04	0.33	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.08
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	1.45
Asphalt 12/28/2012-01/11/2013	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.32
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	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13

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2013	0.96	1.50	1.68	0.00	0.09	0.09	0.18	0.02	0.09	0.11	227.07
Asphalt 12/28/2012-01/11/2013	0.03	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.45
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	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.73
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
Fine Grading 11/30/2012-01/11/2013	0.02	0.13	0.08	0.00	0.08	0.01	0.09	0.02	0.01	0.02	14.13
Fine Grading Dust	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	0.02	0.12	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.53
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	0.59
Building 01/11/2013-08/22/2013	0.27	1.28	1.52	0.00	0.00	0.08	0.08	0.00	0.07	0.08	201.09
Building Off Road Diesel	0.24	1.19	0.85	0.00	0.00	0.08	0.08	0.00	0.07	0.07	139.71
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.99
Building Worker Trips	0.03	0.05	0.63	0.00	0.00	0.00	0.01	0.00	0.00	0.00	53.39
Coating 08/08/2013-09/05/2013	0.64	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Architectural Coating	0.64	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2012 - 1/11/2013 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch ConstPh4.urb924

Project Name: Monterey County - Ferrini Ranch Construction Ph4

Project Location: Monterey County

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)	10.08	51.56	31.15	0.02	268.44	3.16	271.60	56.07	2.90	58.97	5,460.98
2012 TOTALS (lbs/day mitigated)	10.08	51.56	31.15	0.02	18.74	3.16	21.90	3.92	2.90	6.82	5,460.98
2013 TOTALS (lbs/day unmitigated)	64.73	64.23	49.06	0.02	268.48	3.93	272.41	56.08	3.61	59.69	7,974.44
2013 TOTALS (lbs/day mitigated)	64.73	64.23	49.06	0.02	18.78	3.93	22.71	3.93	3.61	7.54	7,974.44

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

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Time Slice 8/2/2012-8/31/2012 Active Days: 22	4.15	36.87	20.56	**0.02**	14.77	1.92	16.69	3.08	1.76	4.84	4,393.68
Demolition 08/02/2012-09/02/2012	4.15	36.87	20.56	0.02	14.77	1.92	16.69	3.08	1.76	4.84	4,393.68
Fugitive Dust	0.00	0.00	0.00	0.00	14.70	0.00	14.70	3.06	0.00	3.06	0.00
Demo Off Road Diesel	3.00	22.87	13.91	0.00	0.00	1.37	1.37	0.00	1.26	1.26	2,227.97
Demo On Road Diesel	1.10	13.89	5.28	0.02	0.07	0.54	0.61	0.02	0.49	0.52	2,060.33
Demo Worker Trips	0.06	0.11	1.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	105.38
Time Slice 11/30/2012-12/27/2012 Active Days: 20	3.78	29.75	17.93	0.00	268.41	1.54	269.95	56.06	1.42	57.47	3,139.20
Fine Grading 11/30/2012-01/11/2013	3.78	29.75	17.93	0.00	268.41	1.54	269.95	56.06	1.42	57.47	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	268.40	0.00	268.40	56.05	0.00	56.05	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72

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Time Slice 12/28/2012-12/31/2012 Active Days: 2	10.08	51.56	31.15	0.01	268.44	3.16	271.60	56.07	2.90	58.97	5,460.98
Asphalt 12/28/2012-01/11/2013	6.31	21.80	13.22	0.01	0.04	1.61	1.65	0.01	1.48	1.50	2,321.78
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.49	6.19	2.35	0.01	0.03	0.24	0.27	0.01	0.22	0.23	917.65
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Fine Grading 11/30/2012-01/11/2013	3.78	29.75	17.93	0.00	268.41	1.54	269.95	56.06	1.42	57.47	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	268.40	0.00	268.40	56.05	0.00	56.05	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Time Slice 1/1/2013-1/10/2013 Active Days: 8	9.67	48.23	30.00	0.01	268.44	2.91	271.35	56.07	2.68	58.74	5,460.86
Asphalt 12/28/2012-01/11/2013	6.10	20.34	12.75	0.01	0.04	1.49	1.53	0.01	1.37	1.39	2,321.72
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.45	5.52	2.10	0.01	0.03	0.21	0.24	0.01	0.19	0.20	917.65
Paving Worker Trips	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Fine Grading 11/30/2012-01/11/2013	3.57	27.89	17.25	0.00	268.41	1.42	269.82	56.06	1.30	57.36	3,139.14
Fine Grading Dust	0.00	0.00	0.00	0.00	268.40	0.00	268.40	56.05	0.00	56.05	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	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66

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Time Slice 1/11/2013-1/11/2013 Active Days: 1	13.02	**64.23**	**49.06**	0.02	**268.48**	**3.93**	**272.41**	**56.08**	**3.61**	**59.69**	**7,974.44**
Asphalt 12/28/2012-01/11/2013	6.10	20.34	12.75	0.01	0.04	1.49	1.53	0.01	1.37	1.39	2,321.72
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.45	5.52	2.10	0.01	0.03	0.21	0.24	0.01	0.19	0.20	917.65
Paving Worker Trips	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37
Fine Grading 11/30/2012-01/11/2013	3.57	27.89	17.25	0.00	268.41	1.42	269.82	56.06	1.30	57.36	3,139.14
Fine Grading Dust	0.00	0.00	0.00	0.00	268.40	0.00	268.40	56.05	0.00	56.05	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	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Time Slice 1/14/2013-8/7/2013 Active Days: 148	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37

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Time Slice 8/8/2013-8/22/2013 Active Days: 11	**64.73**	16.13	20.65	0.01	0.05	1.02	1.07	0.02	0.94	0.95	2,647.65
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37
Coating 08/08/2013-09/05/2013	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Architectural Coating	61.31	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	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Time Slice 8/23/2013-9/5/2013 Active Days: 10	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Coating 08/08/2013-09/05/2013	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Architectural Coating	61.31	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	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07

Phase Assumptions

Phase: Demolition 8/2/2012 - 9/2/2012 - Type Your Description Here

Building Volume Total (cubic feet): 70000

Building Volume Daily (cubic feet): 35000

On Road Truck Travel (VMT): 486.11

Off-Road Equipment:

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

Phase: Fine Grading 11/30/2012 - 1/11/2013 - Default Fine Site Grading Description

Total Acres Disturbed: 53.68

Maximum Daily Acreage Disturbed: 13.42

Fugitive Dust Level of Detail: Default

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20 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: Paving 12/28/2012 - 1/11/2013 - Default Paving Description

Acres to be Paved: 13.42

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 1/11/2013 - 8/22/2013 - 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 8/8/2013 - 9/5/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 100

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

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

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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 8/2/2012-8/31/2012 Active Days: 22	4.15	36.87	20.56	**0.02**	14.77	1.92	16.69	3.08	1.76	4.84	4,393.68
Demolition 08/02/2012-09/02/2012	4.15	36.87	20.56	0.02	14.77	1.92	16.69	3.08	1.76	4.84	4,393.68
Fugitive Dust	0.00	0.00	0.00	0.00	14.70	0.00	14.70	3.06	0.00	3.06	0.00
Demo Off Road Diesel	3.00	22.87	13.91	0.00	0.00	1.37	1.37	0.00	1.26	1.26	2,227.97
Demo On Road Diesel	1.10	13.89	5.28	0.02	0.07	0.54	0.61	0.02	0.49	0.52	2,060.33
Demo Worker Trips	0.06	0.11	1.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	105.38
Time Slice 11/30/2012-12/27/2012 Active Days: 20	3.78	29.75	17.93	0.00	18.71	1.54	20.25	3.91	1.42	5.33	3,139.20
Fine Grading 11/30/2012-01/11/2013	3.78	29.75	17.93	0.00	18.71	1.54	20.25	3.91	1.42	5.33	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	18.70	0.00	18.70	3.91	0.00	3.91	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72

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Time Slice 12/28/2012-12/31/2012 Active Days: 2	10.08	51.56	31.15	0.01	18.74	3.16	21.90	3.92	2.90	6.82	5,460.98
Asphalt 12/28/2012-01/11/2013	6.31	21.80	13.22	0.01	0.04	1.61	1.65	0.01	1.48	1.50	2,321.78
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.49	6.19	2.35	0.01	0.03	0.24	0.27	0.01	0.22	0.23	917.65
Paving Worker Trips	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Fine Grading 11/30/2012-01/11/2013	3.78	29.75	17.93	0.00	18.71	1.54	20.25	3.91	1.42	5.33	3,139.20
Fine Grading Dust	0.00	0.00	0.00	0.00	18.70	0.00	18.70	3.91	0.00	3.91	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	0.07	0.14	1.70	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.72
Time Slice 1/1/2013-1/10/2013 Active Days: 8	9.67	48.23	30.00	0.01	18.74	2.91	21.65	3.92	2.68	6.60	5,460.86
Asphalt 12/28/2012-01/11/2013	6.10	20.34	12.75	0.01	0.04	1.49	1.53	0.01	1.37	1.39	2,321.72
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.45	5.52	2.10	0.01	0.03	0.21	0.24	0.01	0.19	0.20	917.65
Paving Worker Trips	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Fine Grading 11/30/2012-01/11/2013	3.57	27.89	17.25	0.00	18.71	1.42	20.12	3.91	1.30	5.21	3,139.14
Fine Grading Dust	0.00	0.00	0.00	0.00	18.70	0.00	18.70	3.91	0.00	3.91	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	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66

2/3/2009 9:15:13 AM

Time Slice 1/11/2013-1/11/2013 Active Days: 1	13.02	**64.23**	**49.06**	0.02	18.78	**3.93**	22.71	3.93	**3.61**	7.54	**7,974.44**
Asphalt 12/28/2012-01/11/2013	6.10	20.34	12.75	0.01	0.04	1.49	1.53	0.01	1.37	1.39	2,321.72
Paving Off-Gas	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.45	5.52	2.10	0.01	0.03	0.21	0.24	0.01	0.19	0.20	917.65
Paving Worker Trips	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37
Fine Grading 11/30/2012- 01/11/2013	3.57	27.89	17.25	0.00	18.71	1.42	20.12	3.91	1.30	5.21	3,139.14
Fine Grading Dust	0.00	0.00	0.00	0.00	18.70	0.00	18.70	3.91	0.00	3.91	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	0.06	0.13	1.56	0.00	0.01	0.01	0.01	0.00	0.00	0.01	131.66
Time Slice 1/14/2013-8/7/2013 Active Days: 148	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37

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Time Slice 8/8/2013-8/22/2013 Active Days: 11	**64.73**	16.13	20.65	0.01	0.05	1.02	1.07	0.02	0.94	0.95	2,647.65
Building 01/11/2013-08/22/2013	3.35	16.00	19.05	0.01	0.04	1.02	1.06	0.01	0.93	0.95	2,513.58
Building Off Road Diesel	2.99	14.88	10.67	0.00	0.00	0.97	0.97	0.00	0.89	0.89	1,746.33
Building Vendor Trips	0.05	0.47	0.47	0.00	0.00	0.02	0.02	0.00	0.02	0.02	99.88
Building Worker Trips	0.32	0.64	7.92	0.01	0.03	0.03	0.06	0.01	0.02	0.04	667.37
Coating 08/08/2013-09/05/2013	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Architectural Coating	61.31	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	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Time Slice 8/23/2013-9/5/2013 Active Days: 10	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Coating 08/08/2013-09/05/2013	61.38	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07
Architectural Coating	61.31	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	0.13	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	134.07

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/30/2012 - 1/11/2013 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

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PM10: 55% PM25: 55%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch.urb924

Project Name: Monterey County - Ferrini Ranch Operational Emissions

Project Location: Monterey County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.02	0.75	8.13	0.02	1.07	1.03	954.06

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.81	7.43	56.22	0.03	6.46	1.30	3,541.19

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	8.83	8.18	64.35	0.05	7.53	2.33	4,495.25

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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	0.05	0.62	0.32	0.00	0.00	0.00	779.49
Hearth	1.47	0.12	6.68	0.02	1.07	1.03	172.70
Landscape	0.18	0.01	1.13	0.00	0.00	0.00	1.87
Consumer Products	1.89						
Architectural Coatings	0.43						
TOTALS (tons/year, unmitigated)	4.02	0.75	8.13	0.02	1.07	1.03	954.06

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	4.18	6.55	49.62	0.03	5.72	1.15	3,136.35
General office building	0.47	0.72	5.42	0.00	0.61	0.12	335.87
WineTasting & Visitor Center	0.16	0.16	1.18	0.00	0.13	0.03	68.97
TOTALS (tons/year, unmitigated)	4.81	7.43	56.22	0.03	6.46	1.30	3,541.19

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

2/2/2009 2:25:05 PM

Analysis Year: 2010 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	269.30	9.57	dwelling units	212.00	2,028.84	17,980.19
General office building		11.01	1000 sq ft	25.00	275.25	1,924.00
WineTasting & Visitor Center		1.02	1000 sq ft	85.00	86.70	394.31
					2,390.79	20,298.50

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.1	1.9	93.1	5.0
Light Truck 3751-5750 lbs	20.3	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	23.1	76.9
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	20.0	80.0
Other Bus	0.2	0.0	50.0	50.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	68.6	31.4	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)	11.8	8.3	7.1	11.8	4.4	4.4
Rural Trip Length (miles)	11.8	8.3	7.1	11.8	4.4	4.4
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)						
General office building				35.0	17.5	47.5
WineTasting & Visitor Center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch.urb924

Project Name: Monterey County - Ferrini Ranch Operational Emissions

Project Location: Monterey County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	14.93	3.54	14.30	0.00	0.05	0.05	4,291.96

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	25.27	37.70	296.35	0.18	35.41	7.14	19,489.43

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	40.20	41.24	310.65	0.18	35.46	7.19	23,781.39

2/2/2009 2:24:25 PM

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	0.26	3.39	1.75	0.00	0.01	0.01	4,271.15
Hearth - No Summer Emissions							
Landscape	1.96	0.15	12.55	0.00	0.04	0.04	20.81
Consumer Products	10.37						
Architectural Coatings	2.34						
TOTALS (lbs/day, unmitigated)	14.93	3.54	14.30	0.00	0.05	0.05	4,291.96

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	21.84	33.26	261.76	0.16	31.36	6.32	17,261.37
General office building	2.43	3.65	28.49	0.02	3.36	0.68	1,848.48
WineTasting & Visitor Center	1.00	0.79	6.10	0.00	0.69	0.14	379.58
TOTALS (lbs/day, unmitigated)	25.27	37.70	296.35	0.18	35.41	7.14	19,489.43

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

2/2/2009 2:24:25 PM

Analysis Year: 2010 Temperature (F): 70 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	269.30	9.57	dwelling units	212.00	2,028.84	17,980.19
General office building		11.01	1000 sq ft	25.00	275.25	1,924.00
WineTasting & Visitor Center		1.02	1000 sq ft	85.00	86.70	394.31
					2,390.79	20,298.50

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.1	1.9	93.1	5.0
Light Truck 3751-5750 lbs	20.3	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	23.1	76.9
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	20.0	80.0
Other Bus	0.2	0.0	50.0	50.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	68.6	31.4	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)	11.8	8.3	7.1	11.8	4.4	4.4
Rural Trip Length (miles)	11.8	8.3	7.1	11.8	4.4	4.4
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)						
General office building				35.0	17.5	47.5
WineTasting & Visitor Center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\Monterey Ferrini Ranch.urb924

Project Name: Monterey County - Ferrini Ranch Operational Emissions

Project Location: Monterey County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	48.86	7.34	165.07	0.50	26.08	25.10	9,702.79

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	28.59	46.54	331.42	0.18	35.41	7.14	19,232.50

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	77.45	53.88	496.49	0.68	61.49	32.24	28,935.29

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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	0.26	3.39	1.75	0.00	0.01	0.01	4,271.15
Hearth	35.89	3.95	163.32	0.50	26.07	25.09	5,431.64
Landscaping - No Winter Emissions							
Consumer Products	10.37						
Architectural Coatings	2.34						
TOTALS (lbs/day, unmitigated)	48.86	7.34	165.07	0.50	26.08	25.10	9,702.79

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	25.10	41.07	292.14	0.16	31.36	6.32	17,033.78
General office building	2.80	4.50	32.14	0.02	3.36	0.68	1,824.13
WineTasting & Visitor Center	0.69	0.97	7.14	0.00	0.69	0.14	374.59
TOTALS (lbs/day, unmitigated)	28.59	46.54	331.42	0.18	35.41	7.14	19,232.50

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

2/2/2009 2:24:44 PM

Analysis Year: 2010 Temperature (F): 50 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	269.30	9.57	dwelling units	212.00	2,028.84	17,980.19
General office building		11.01	1000 sq ft	25.00	275.25	1,924.00
WineTasting & Visitor Center		1.02	1000 sq ft	85.00	86.70	394.31
					2,390.79	20,298.50

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.2	1.5	98.1	0.4
Light Truck < 3750 lbs	16.1	1.9	93.1	5.0
Light Truck 3751-5750 lbs	20.3	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.5	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	73.3	26.7
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	23.1	76.9
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	20.0	80.0
Other Bus	0.2	0.0	50.0	50.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	68.6	31.4	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)	11.8	8.3	7.1	11.8	4.4	4.4
Rural Trip Length (miles)	11.8	8.3	7.1	11.8	4.4	4.4
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)						
General office building				35.0	17.5	47.5
WineTasting & Visitor Center				2.0	1.0	97.0

GREENHOUSE GAS EMISSIONS SUMMARY

EMISSIONS INVENTORIES	ANNUAL (YEAR 2004) EMISSIONS INVENTORY (CO2e)
CALIFORNIA	5.0E+08

FERRINI RANCH				
	CO2 EQUIV TONS/YR			
SOURCE	CO2	N20	CH4	TOTAL
MOTOR VEHICLES	3,212.6	149.7	8.2	3,370.5
ELECTRICITY USE	810.4	1.9	0.1	812.4
NAT GAS	779.5	0.4	1.5	781.3
HEARTH	172.7	0.0	0.0	172.7
LANDSCAPE	1.87	0.0	0.0	1.9
	TOTAL CO2 EQUIV (TONS/YR):			5,138.8
	PERCENT OF CA INVENTORY:			0.001

REFERENCES

CALIFORNIA AIR RESOURCES BOARD. 2007. EMFAC2007. VERSION 2.30.

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CALIFORNIA ENERGY COMMISSION (CEC). JUNE 2004. CALIFORNIASTATEWIDE RESIDENTAL APPLIANCE SATURATION STUDY.

CALIFORNIA ENERGY COMMISSION (CEC). SEPTEMBER 2005. CALIFORNIA ENERGY DEMAND 2006-2016, CALIFORNIA ENERGY DEMAND 2006-2016, STAFF ENERGY DEMAND FORECAST.

CALIFORNIA ENERGY COMMISSION (CEC). MARCH 2006. CALIFORNIA COMMERCIAL END-USE SURVEY.

California Energy Commission. 2004. California Statewide Residential Appliance Saturation Study. Based on updated UECs for weather-sensitive FCZs (2006).

ELECTRICITY USE

ELECTRICITY USAGE RATES

ELECTRICITY USAGE RATES - PG&E FCZ4								
END USE	**QTY**	**UNIT**			**AVG USAGE RATE/UNIT**		**TOTAL**	
SFR	212	UNITS			8623	kWh/DU	1,828,076	kWh
Office	11.01	KSF			17,370	KWh/KSF	191,244	kWh
Commercial: Wine-Related	1.02	KSF			13,640	KWh/KSF	13,913	kWh

Usage rates derived from California Energy Commission. 2008. California Commercial End-Use Survey. http://capabilities.itron.com/CeusWeb/Chart.aspx, based on annual summary statistics. Wine-related land use based on "All Commercial" usage rates.

Residential usage rates derived from California Energy Commission. 2004. California Statewide Residential Appliance Saturation Study. Based on updated UECs for weather-sensitive FCZs (2006). CEC. 2006. CSRASS Update to Air Conditioning Unit Energy Consumption Estimates Using 2004 Billing Data.

EMISSION FACTORS	LB/MWH
CO2	879
CH4	0.0067
N20	0.0037

Source: California Climate Action Registry, General Reporting Protocol. Reporting Entity-wide Greenhouse Gas Emissions. Version 3.0. April 2008.

	ELECTRICITY	GHG EMISSIONS (MTONS/YR)			CO2 EQUIV EMISSIONS (TONS/YR)			
SOURCE	**USE (MWH/YR)**	**CO2**	**N20**	**CH4**	**CO2**	**N20**	**CH4**	**TOTAL**
Ferrini Ranch (Total)	2,033	810.4	0.0	0.0	810.4	1.9	0.1	812.4

NATURAL GAS USE

NATURAL GAS USAGE RATES - PG&E FCZ4								
END USE	QTY	UNIT			USAGE RATE/UNIT		PROPOSED PROJECT TOTAL	
SFR	212	DU			549	therms/year/DU	116,388	11638.80
Office	11.01	KSF			94	therms/year/KSF	1,035	103.49
Commercial: Wine-Related	1.02	KSF			128	therms/year/KSF	131	13.06

Based on usage rates derived from California Energy Commission's California Commercial End-Use Survey. 2008. http://capabilities.itron.com/CeusWeb/Chart.aspx, based on annual summary statistics. Wine-related land use based on "All Commercial" usage rates.

Residential usage rates derived from California Energy Commission. 2004. California Statewide Residential Appliance Saturation Study. Based on UEC for homes with gas data. Rates were adjusted to reflect weather-sensitive FCZs, based on ratio of primary space heat usage for designated land use types between weather-sensitive FCZs (CEC 2006) and statewide averages (CEC 2004). Weather-sensitive data obtained from CEC's California Statewide Residential Appliance Saturation Study. Update to Air Conditioning Unit Energy Consumption Estimates Using 2004 Billing Data (2006).

NATURAL GAS EMISSION FACTORS	
	kg/MMBtu
N20	0.0001
CH4	0.0059

Source: California Climate Action Registry, General Reporting Protocol. Reporting Entity-wide Greenhouse Gas Emissions. Version 3.0. April 2008.

		MTONS/YEAR			CO2 EQUIVALENT (TONS/YR)			
	NATURAL GAS USE(MMBTU/YR)	CO2 (TONS/YEAR)	N2O (TONS/YEAR)	CH4 (TONS/YR)	CO2 (TONS/YR)	N20 (TONS/YEAR)	CH4 (TONS/YEAR)	TOTAL (N2O,CH4,CO2)
Ferrini Ranch (Total)	11,755.4	779.49	0.00	0.07	779.49	0.36	1.46	781.31

CO2 emissions were calculated using the URBEMIS2007 computer program. CH4 AND N20 emission factors derived from CA Climate Change Action Registry General Reporting Protocol, Version 2.2, March 2007; Appn C, Table C-1; and the estimated usage rates identified above.

MOBILE-SOURCES

N20 & CH4			GASOLINE			
			CH4		N2O	
VEHICLE TYPE	VEH. FLEET MIX	FUEL FRACTION	EMFAC	WT EMFAC	EMFAC	WT EMFAC
Light Auto	0.452	0.981	0.040	0.018	0.040	0.018
Light Truck < 3750 lbs	0.161	0.931	0.050	0.007	0.060	0.009
Light Truck 3751-5750 lbs	0.203	0.985	0.050	0.010	0.060	0.012
Med Truck 5751-8500 lbs	0.095	1.000	0.120	0.011	0.200	0.019
Lite-Heavy Truck 8501-10,000 lbs	0.015	0.733	0.120	0.001	0.200	0.002
Lite-Heavy Truck 10,001-14,000 lbs	0.009	0.556	0.120	0.001	0.200	0.001
Med-Heavy Truck 14,001-33,000 lbs	0.013	0.231	0.120	0.000	0.200	0.001
Heavy-Heavy Truck 33,001-60,000 lbs	0.005	0.200	0.120	0.000	0.200	0.000
Other Bus	0.002	0.500	0.120	0.000	0.200	0.000
Urban Bus	0.000	0.000				
Motorcycle	0.035	0.314	0.090	0.001	0.010	0.000
School Bus	0.001	0.000	0.120	0.000	0.200	0.000
Motor Home	0.009	0.889	0.120	0.001	0.200	0.002
				0.051		0.064

Vehicle fleet mix derived from URBEMIS2007 computer program for Monterey County Year 2010. Emission factors derived from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008.

N20 & CH4			DIESEL			
			CH4		N2O	
VEHICLE TYPE	VEH. FLEET MIX	FUEL FRACTION	EMFAC	WT EMFAC	EMFAC	WT EMFAC
Light Auto	0.452	0.004	0.010	0.000	0.020	0.000
Light Truck < 3750 lbs	0.161	0.050	0.010	0.000	0.030	0.000
Light Truck 3751-5750 lbs	0.203	0.005	0.010	0.000	0.030	0.000
Med Truck 5751-8500 lbs	0.095	0.000	0.060	0.000	0.050	0.000
Lite-Heavy Truck 8501-10,000 lbs	0.015	0.267	0.060	0.000	0.050	0.000
Lite-Heavy Truck 10,001-14,000 lbs	0.009	0.444	0.060	0.000	0.050	0.000
Med-Heavy Truck 14,001-33,000 lbs	0.013	0.769	0.060	0.001	0.050	0.000
Heavy-Heavy Truck 33,001-60,000 lbs	0.005	0.800	0.060	0.000	0.050	0.000
Other Bus	0.002	0.500	0.060	0.000	0.050	0.000
Urban Bus	0.000	0.000				
Motorcycle	0.035	0.000	0.090	0.000	0.010	0.000
School Bus	0.001	1.000	0.060	0.000	0.050	0.000
Motor Home	0.009	0.111	0.060	0.000	0.050	0.000
				0.002		0.002

Vehicle fleet mix derived from URBEMIS2007 computer program for Monterey County Year 2010 Emission factors derived from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008.

DAILY VMT	20298.5		
CO2	3,541.2		
SOURCE: URBEMIS2007			

MOBILE-SOURCE EMISSIONS SUMMARY										
		Composite EMFACs (g/mi)		Tons (short)/Year			CO2e (MTons/Year)			
	ANNUAL VMT	CH4	N2O	CH4	N2O	CO2	CH4	N2O	CO2	TOTAL
Mobile-Source Emissions	7.41E+06	0.053	0.065	0.4	0.5	3,541.2	8.2	149.7	3,212.6	3,370.5

CO SCREENING ASSESSMENT

The screening assessment for localized CO concentrations was based on Caline4 screening methodology developed by the BAAQMD, as identified in the *BAAQMD CEQA Guidelines* (April 1999). Local background CO concentrations were based on the highest measured 1-hour and 8-hour concentrations obtained from the Salinas air quality monitoring station for the last three years of available data (2006-2008). Average intersection vehicle speeds were based on methodology derived from Caltrans' *Transportation Project-Level Carbon Monoxide Protocol* (December 1997). Vehicle emissions factors were derived from ARB's EMFAC2007 model, version 2.3 (November 1, 2006). Traffic information was derived from the traffic analysis prepared for this project (Higgins Associates, *Ferrini Ranch Subdivision Traffic Impact Analysis* (October 29, 2008)..

BACKGROUND INFORMATION

PROJECT:	Ferrini Ranch Subdivision		
PROJECT LOCATION:	Monterey County		
NEAREST AIR QUALITY MONITORING STATION(S):	Salinas		
MONITORING YEARS:	2006	2007	2008
HIGHEST MEASURED 1-HR CO CONC. (PPM):	2.5	2	2.2
HIGHEST MEASURED 8-HR CO CONC. (PPM):	1.04	1.15	0.89
HIGHEST 3-YR MEASURED 1-HR CO CONC. (PPM):	2.5		
HIGHEST 3-YR MEASURED 8-HR CO CONC. (PPM):	1.15		

*Monitoring data is based on the highest measured values obtained from the neares monitoring stations for the last three years of available data.

REFERENCE CO CONCENTRATIONS

ROADWAY TYPE	PRIMARY ROAD (Highest Volume)		SECONDARY ROAD (Highest Volume)	
	At Edge	At 25'	At Edge	At 25'
At Grade				
2 lane	14	7.6	3.7	2.7
4 lane	11.9	7	3.3	2.6
6 lane	9.5	6.1	2.8	2.3
8 lane	8.5	5.7	2.6	2.2

EMISSION FACTORS

EMFAC2007

AIR BASIN:	NCCAB/Monterey County
MONTH:	JANUARY
TEMP:	35
HUMIDITY:	20
YEAR:	2010

AVERAGE INTERNAL INTERSECTION SPEEDS (APPROACH&DEPARTURE)

CRUISE SPEED (MPH)	%RED TIME	PEAK-HOUR TRAFFIC VOLUME 200	300	400	500	600	700	800	900	1000
40+	50	21	21	20	19	17	14	9	6	4
	EMFAC:	6.32	6.32	6.485	6.662	7.062	7.775	9.362	10.647	11.493

CO emission factors are dependent on speed. The US EPA recommends speeds be based on "free flow" conditions. During the peak-hour, "free-flow" conditions are typically lower than posted speed limits. Free-flow speeds identified for urban and suburban arterials generally range from 27-40 mph, respectfully. In urbanized areas with significant pedestrian conflicts and/or parking activities (e.g., central business districts), the use of substantially lower free-flow speeds (e.g., 15-20 mph) may be warranted (U.S. EPA, *Guideline for Modeling Carbon Monoxide From Roadway Intersections.* November 1992.)

Caltrans' *Transportation Project-Level Carbon Monoxide Protocol* (UC Davis, Institute of Transportation Studies, December 1997) includes methodology for the determination of average intersection approach and departure vehicle speeds taking into account the average segment cruise speed, percent red time, and traffic volumes. Emission factors used for this screening assessment are based on the average approach-departure speeds for primary and secondary roadway segments based on an average red time of fifty percent and traffic volumes derived from the traffic analysis prepared for this project (Higgins Associates 2008).

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & JOSSELYN CYN RD
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	1193				991
	72				45
		149	0	59	

SOUTH

HIGHEST VOLUMES	
N-S	325
E-W	2405

PM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	729				1473
	48				43
		71	0	83	

SOUTH

HIGHEST VOLUMES	
N-S	245
E-W	2328

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2405	11.493	3.87	2.10				
	Secondary Road	2	3.70	2.70	325	6.485	0.08	0.06	2.5	1.15	6.4	2.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2328.00	11.493	3.75	2.03				
	Secondary Road	2	3.70	2.70	245.00	6.32	0.06	0.04	2.5	1.15	6.3	2.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & OLMSTED
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		67	26	98	
WEST	141				245 EAST
	1086				899
	25				95
		71	31	77	

SOUTH

HIGHEST VOLUMES	
N-S	608
E-W	2500

PM PEAK-HOUR TRAFFIC:

NORTH

		219	42	251	
WEST	85				171 EAST
	707				1265
	19				54
		32	33	138	

SOUTH

HIGHEST VOLUMES	
N-S	801
E-W	2586

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2500.00	11.493	4.02	2.18				
	Secondary Road	2	3.70	2.70	608.00	7.775	0.17	0.13	2.5	1.15	6.7	2.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2586.00	11.493	4.16	2.26				
	Secondary Road	2	3.70	2.70	801.00	9.362	0.28	0.20	2.5	1.15	6.9	2.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & YORK
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

139	1	113	
253			395
765			1174
3			2
9	2	5	

WEST EAST

SOUTH

HIGHEST VOLUMES

N-S	903
E-W	2454

PM PEAK-HOUR TRAFFIC:

NORTH

188	3	373	
109			118
948			1220
10			7
5	1	3	

WEST EAST

SOUTH

HIGHEST VOLUMES

N-S	792
E-W	2669

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2454	11.493	3.95	2.14				
	Secondary Road	2	3.70	2.70	903	11.493	0.38	0.28	2.5	1.15	6.8	2.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2669.00	11.493	4.29	2.33				
	Secondary Road	2	3.70	2.70	792.00	9.362	0.27	0.20	2.5	1.15	7.1	2.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & LAURELES GRADE
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0
	737				1290
	136				240
		206	0	248	

EAST

SOUTH

HIGHEST VOLUMES

N-S	830
E-W	2515

PM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0
	1131				1030
	140				211
		217	0	385	

EAST

SOUTH

HIGHEST VOLUMES

N-S	953
E-W	2757

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2515	11.493	4.05	2.20				
	Secondary Road	2	3.70	2.70	830	10.647	0.33	0.24	2.5	1.15	6.9	2.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2757.00	11.493	4.44	2.41				
	Secondary Road	2	3.70	2.70	953.00	11.493	0.41	0.30	2.5	1.15	7.3	3.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & CORRAL DE TIERRA
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		5	1	8	
WEST	2				13
	936				1370
	56				88
		160	1	199	

EAST

SOUTH

HIGHEST VOLUMES	
N-S	505
E-W	2614

PM PEAK-HOUR TRAFFIC:

NORTH

		4	1	4	
WEST	1				7
	1395				1159
	121				157
		82	1	161	

EAST

SOUTH

HIGHEST VOLUMES	
N-S	523
E-W	2883

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2614	11.493	4.21	2.28				
	Secondary Road	2	3.70	2.70	505	7.062	0.13	0.10	2.5	1.15	6.8	2.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2883.00	11.493	4.64	2.52				
	Secondary Road	2	3.70	2.70	523.00	7.062	0.14	0.10	2.5	1.15	7.3	3.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & SAN BENANCIO
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		1	1	1	
WEST	1				1 EAST
	1076				1345
	37				73
		113	1	149	

SOUTH

HIGHEST VOLUMES	
N-S	374
E-W	2645

PM PEAK-HOUR TRAFFIC:

NORTH

		2	1	1	
WEST	2				1 EAST
	1454				1241
	114				157
		73	2	116	

SOUTH

HIGHEST VOLUMES	
N-S	463
E-W	2970

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2645	11.493	4.26	2.31				
	Secondary Road	2	3.70	2.70	374	6.485	0.09	0.07	2.5	1.15	6.8	2.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	2970.00	11.493	4.78	2.59				
	Secondary Road	2	3.70	2.70	463.00	6.662	0.11	0.08	2.5	1.15	7.4	3.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): BLANCO & HWY 68
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		231	647	107	
WEST	305				78 EAST
	666				462
	203				461
		240	904	630	

SOUTH

HIGHEST VOLUMES	
N-S	3085
E-W	2404

PM PEAK-HOUR TRAFFIC:

NORTH

		374	942	95	
WEST	482				127 EAST
	542				727
	186				690
		234	880	513	

SOUTH

HIGHEST VOLUMES	
N-S	3445
E-W	2694

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3085	11.493	4.96	2.69				
	Secondary Road	2	3.70	2.70	2404	11.493	1.02	0.75	2.5	1.15	8.5	3.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3445.00	11.493	5.54	3.01				
	Secondary Road	2	3.70	2.70	2694.00	11.493	1.15	0.84	2.5	1.15	9.2	3.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): BLANCO & DAVIS
PROJECT SCENARIO: BACKGROUND PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		761	451	176	
WEST	469				213
	537				610
	21				136
		26	532	221	

EAST

SOUTH

HIGHEST VOLUMES	
N-S	2602
E-W	2424

PM PEAK-HOUR TRAFFIC:

NORTH

		480	707	204	
WEST	739				359
	602				653
	18				306
		36	715	282	

EAST

SOUTH

HIGHEST VOLUMES	
N-S	3204
E-W	2528

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	2602	11.493	4.19	2.27				
	Secondary Road	2	3.70	2.70	2424	11.493	1.03	0.75	2.5	1.15	7.7	3.3
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3204.00	11.493	5.16	2.80				
	Secondary Road	2	3.70	2.70	2528.00	11.493	1.08	0.78	2.5	1.15	8.7	3.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & JOSSELYN CYN RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	1702				1408
	78				47
		155	0	63	

SOUTH

HIGHEST VOLUMES	
N-S	343
E-W	3343

PM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	1137				1997
	52				45
		74	0	87	

SOUTH

HIGHEST VOLUMES	
N-S	258
E-W	3266

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3343	11.493	5.38	2.92				
	Secondary Road	2	3.70	2.70	343	6.485	0.08	0.06	2.5	1.15	8.0	3.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3266.00	11.493	5.26	2.85				
	Secondary Road	2	3.70	2.70	258.00	6.485	0.06	0.05	2.5	1.15	7.8	3.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & OLMSTED
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		83	32	127	
WEST	174				303 EAST
	1562				1299
	29				110
		73	39	79	

SOUTH

HIGHEST VOLUMES	
N-S	758
E-W	3480

PM PEAK-HOUR TRAFFIC:

NORTH

		271	52	310	
WEST	105				211 EAST
	1100				1739
	19				54
		32	41	140	

SOUTH

HIGHEST VOLUMES	
N-S	990
E-W	3554

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3480	11.493	5.60	3.04				
	Secondary Road	2	3.70	2.70	758	9.362	0.26	0.19	2.5	1.15	8.4	3.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3554.00	11.493	5.72	3.10				
	Secondary Road	2	3.70	2.70	990.00	11.493	0.42	0.31	2.5	1.15	8.6	3.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & YORK
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		171	2	252	
WEST	340				564 EAST
	1001				1502
	4				3
		13	10	8	

SOUTH

HIGHEST VOLUMES	
N-S	1339
E-W	3330

PM PEAK-HOUR TRAFFIC:

NORTH

		230	5	489	
WEST	122				240 EAST
	1263				1529
	12				10
		7	5	5	

SOUTH

HIGHEST VOLUMES	
N-S	1091
E-W	3536

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3330	11.493	5.36	2.91				
	Secondary Road	2	3.70	2.70	1339	11.493	0.57	0.42	2.5	1.15	8.4	3.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3536.00	11.493	5.69	3.09				
	Secondary Road	2	3.70	2.70	1091.00	11.493	0.46	0.34	2.5	1.15	8.7	3.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & LAURELES GRADE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	1063				1741
	173				293
		262	0	303	

SOUTH

HIGHEST VOLUMES

N-S	1031
E-W	3400

PM PEAK-HOUR TRAFFIC:

NORTH

		0	0	0	
WEST	0				0 EAST
	1516				1397
	178				243
		276	0	460	

SOUTH

HIGHEST VOLUMES

N-S	1157
E-W	3616

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3400	11.493	5.47	2.97				
	Secondary Road	2	3.70	2.70	1031	11.493	0.44	0.32	2.5	1.15	8.4	3.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3616.00	11.493	5.82	3.16				
	Secondary Road	2	3.70	2.70	1157.00	11.493	0.49	0.36	2.5	1.15	8.8	3.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & CORRAL DE TIERRA
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		8	2	12	
WEST	6				19 EAST
	1258				1797
	102				169
		229	2	286	

SOUTH

HIGHEST VOLUMES	
N-S	790
E-W	3541

PM PEAK-HOUR TRAFFIC:

NORTH

		6	2	6	
WEST	3				10 EAST
	1745				1480
	228				301
		154	2	311	

SOUTH

HIGHEST VOLUMES	
N-S	998
E-W	3853

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3541	11.493	5.70	3.09				
	Secondary Road	2	3.70	2.70	790	9.362	0.27	0.20	2.5	1.15	8.5	3.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3853.00	11.493	6.20	3.37				
	Secondary Road	2	3.70	2.70	998.00	11.493	0.42	0.31	2.5	1.15	9.1	3.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & SAN BENANCIO
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		2	2	2	
WEST	2				2
	1512				1853
	42				76
		130	2	178	

EAST

SOUTH

HIGHEST VOLUMES

N-S	430
E-W	3623

PM PEAK-HOUR TRAFFIC:

NORTH

		3	2	2	
WEST	3				2
	1930				1703
	132				161
		85	3	122	

EAST

SOUTH

HIGHEST VOLUMES

N-S	505
E-W	3920

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3623	11.493	5.83	3.16				
	Secondary Road	2	3.70	2.70	430	6.662	0.11	0.08	2.5	1.15	8.4	3.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3920.00	11.493	6.31	3.42				
	Secondary Road	2	3.70	2.70	505.00	7.062	0.13	0.10	2.5	1.15	8.9	3.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): HIGHWAY 68 & BLANCO RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		239	607	176	
WEST	358				94 EAST
	659				595
	336				357
		350	883	595	

SOUTH

HIGHEST VOLUMES	
N-S	3128
E-W	2537

PM PEAK-HOUR TRAFFIC:

NORTH

		280	994	149	
WEST	475				156 EAST
	598				818
	340				678
		355	854	486	

SOUTH

HIGHEST VOLUMES	
N-S	3707
E-W	2885

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3128	11.493	5.03	2.73				
	Secondary Road	2	3.70	2.70	2537	11.493	1.08	0.79	2.5	1.15	8.6	3.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3707.00	11.493	5.96	3.24				
	Secondary Road	2	3.70	2.70	2885.00	11.493	1.23	0.90	2.5	1.15	9.7	4.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): BLANCO & DAVIS
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT

AM PEAK-HOUR TRAFFIC:

NORTH

		1013	449	265	
WEST	663				199 EAST
	636				698
	41				158
		71	293	226	

SOUTH

HIGHEST VOLUMES

N-S	2882
E-W	3122

PM PEAK-HOUR TRAFFIC:

NORTH

		423	805	299	
WEST	692				384 EAST
	412				491
	39				463
		58	783	692	

SOUTH

HIGHEST VOLUMES

N-S	3386
E-W	2741

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	3122	11.493	5.02	2.73				
	Secondary Road	2	3.70	2.70	2882	11.493	1.23	0.89	2.5	1.15	8.7	3.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	3386.00	11.493	5.45	2.96				
	Secondary Road	2	3.70	2.70	2741.00	11.493	1.17	0.85	2.5	1.15	9.1	3.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

November 16, 2006

Pamela Lapham
Pacific Municipal Consultants
585 Cannery Row, Suite 304
Monterey, CA 93940

Dear Ms. Lapham:

This letter is in response to your September 29, 2006 request for a determination of consistency of the Ferrini Ranch Subdivision Project in unincorporated Monterey County with the *Air Quality Management Plan for the Monterey Bay Region* (AQMP).

Consistency of this project with the AQMP was analyzed by comparing the total potential population growth facilitated by the project with the forecasted growth for Monterey County. The *2004 Population, Housing Unit, and Employment Forecasts* adopted by the AMBAG Board of Directors on April 14, 2004 are the forecasts used for this consistency determination.

AMBAG staff surveyed each jurisdiction in Monterey County to determine the number of housing units that jurisdictions have approved but have not yet received a building permit. The total number of units is 8,395. Building permit data was also collected. A total of 624 housing units have received building permits between January and September 2006. The California Department of Finance estimates there are 138,617 dwelling units in Monterey County as of 1/01/06. Combined, there are 147,636 existing, approved, and or permitted housing units in Monterey County.

The Ferrini Ranch Subdivision Project consists of a total of 212 residential units. Occupancy of the housing units is estimated to take place by 2009. The *2004 Population, Housing Unit, and Employment Forecast* forecasts there will be 151,844 housing units in Monterey County by the year 2010.

The combination of the existing and approved housing units in Monterey County (147,636) plus the 212 housing units in the Ferrini Ranch Subdivision Project is less then the regional forecasts for Monterey County (151,844.) Therefore the Ferrini Ranch Subdivision Project is **consistent** with the 2004 regional forecasts and the Air Quality Management Plan.

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Please feel free to contact me if you have any questions about this determination.

Sincerely,

Todd Muck, AICP
Senior Planner

cc: Jean Getchell, MBUAPCD