The air quality section of the EIR summarizes the existing topography, meteorology, climate, and air quality conditions at the project site; identifies potential air quality impacts related to the implementation of the proposed project; and presents mitigation measures to reduce or eliminate air quality impacts. This section is based on an air quality and green house gas emissions analysis prepared by PMC and carbon monoxide modeling conducted by Ambient Air Quality & Noise Consulting in January and December 2006, which is incorporated herein. This section was prepared using information from the Monterey Bay Unified Air Pollution Control District (MBUAPCD), their respective air quality management plans and CEQA guidance documents. Carbon monoxide modeling print outs are incorporated as **Appendix B.**

3.2.1 ENVIRONMENTAL SETTING

The project site is located in the North Central Coast Air Basin (NCCAB), which is under the jurisdiction of the MBUAPCD. Dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability. The factors affecting the dispersion of air pollution with respect to the NCCAB are discussed below.

TOPOGRAPHY

The NCCAB encompasses Santa Cruz, San Benito, and Monterey counties. The NCCAB is generally bounded by the Diablo Range to the northeast and 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 (MBUAPCD 2005).

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 the coast of 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 the high pressure cell is the weakest and farthest south. Under these conditions 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 rainstorms. 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 average in the mid 50s during the day, with nighttime temperatures averaging in the low 40s, summer daytime temperatures averaging in the 60s during the day, and 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 (MBUAPCD 2005).

AMBIENT AIR QUALITY

Ambient air quality in the Monterey County area can be inferred from ambient air quality measurements conducted by the MBUAPCD at its Monterey-Silver Cloud Court and Salinas #3 air quality monitoring stations. The Monterey station monitors only ozone concentrations, whereas the Salinas station monitors ambient concentrations of ozone, particulate matter, carbon monoxide, and nitrogen dioxide. **Table 3.2-1, Summary of Ambient Air Quality Data** summarizes the most current published data from both the Monterey and Salinas monitoring stations.

Table 3.2-1
SUMMARY OF AMBIENT AIR QUALITY DATA

Pollutant Standards	2002	2003	2004	2005
Monterey-Silver Cloud Court Air Quality Monitoring Station [1]				
Ozone (O_3)				
Maximum concentration (ppm)	0.082/0.067	0.092/0.081	- -	- -
Number of days state standard exceeded	0	0	- -	- -
Number of days federal standard (1-hr/8-hr) exceeded	0/0	0/0	0/0	0/0
Suspended Particulates (PM_{10})				
Maximum 24-hour concentration ($\mu g/m^3$)	62.4	38.0	46.1	46.1
Number of days state standard exceeded	- -	- -	- -	- -
Number of days federal standard exceeded	0	0	0	0
Salinas #3 Air Quality Monitoring Station				
Ozone (O_3)				
Maximum concentration (ppm) (1-hr/8-hr)	0.075/0.062	0.073/0.063	0.077/0.070	0.069/0.0570
Number of days state standard exceeded	0	0	0	
Number of days federal standard (1-hr/8-hr) exceeded	0/0	0/0	0/0	0/0

Pollutant Standards	2002	2003	2004	2005
Carbon Monoxide (CO)				
Maximum concentration, 1-hr/8-hr period (ppm)	2.3/1.38	2.8/1.09	1.9/1.21	2.1/0.86
Number of days state (1-hr/8-hr) standard exceeded	0/0	0/0	0/0	0/0
Number of days federal (1-hr/8-hr) standard exceeded	0/0	0/0	0/0	0/0
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)	0.049	0.053	0.1394	0.052
Number of days state standard exceeded	0	0	0	0
Annual arithmetic mean (AAM)	0.007	0.006	0.007	0.008
AAM exceed federal standard	0	0	0	0
Respirable Particulate Matter (PM_{10})				
Maximum 24-hour concentration ($\mu g/m^3$)	44.0	66.0	44.0	36.0
Number of days state standard exceeded	0	0	0	0
Number of days federal standard exceeded	0	4	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Maximum 24-hour concentration ($\mu g/m^3$)	23.5	15.9	22.3	16.2
Number of days federal standard exceeded	0	0	0	0

Notes:

[1] Ambient air monitoring at this station was discontinued in 2004, AAM Annual Arithmetic Mean, ($\mu g/m^3$) Micrograms per Cubic Meter, ppm - Parts per Million, -- Not Calculated or Insufficient Data Available

Source: ARB 2005

Attainment Status for Criteria Air Pollutants

The attainment status of the NCCAB is summarized in **Table 3.2-2, NCCAB Attainment Status Designations**. 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. A nonattainment-transitional designation indicates that the area is close to attaining state standards for that pollutant(s). An unclassified designation indicates that the data does not support a nonattainment or attainment designation.

TABLE 3.2-2
NCCAB ATTAINMENT STATUS DESIGNATIONS

Pollutant	National Designation	State Designation
Ozone, 1 hour[1]	Attainment	Nonattainment/Transitional
Ozone, 8 hour	Unclassified/Attainment	Not Applicable
PM10	Unclassified	Nonattainment
PM2.5	Unclassified	Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Sulfates	Not Applicable	Attainment
Lead	Not Applicable	Attainment
Hydrogen Sulfide	Not Applicable	Unclassified
Visibility Reducing Particles	Not Applicable	Unclassified

Notes: 1. The federal 1-hour standard for ozone was revoked on July 15, 2005.
Source: ARB 2005

Under the Federal Clean Air Act, the NCCAB is currently designated a maintenance area for the federal one-hour ozone AAQS. The NCCAB was redesignated from a moderate nonattainment area to a maintenance area in 1997 after meeting the federal one-hour ozone standard in 1990. The NCCAB is designated as an attainment area for the eight-hour ozone NAAQS. Under the California Clean Air Act, the basin is a moderate nonattainment area for the State ozone ambient air quality standards (AAQS). The NCCAB is designated a nonattainment basin for the state PM_{10} AAQS.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. The California Air Resources Board (ARB) has identified the following people who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks.

The closest sensitive receptors in the project vicinity include approximately five existing single-family residential homes located along Meyer Road and San Benancio Middle School located at 43 San Benancio Road. The closest residence is located approximately 1,200 feet from Lot #17. San Benancio Middle School is located approximately one mile from the entrance to the project site and approximately 3,000 feet from Lots #1, #3, #7 and #9.

Toxic Air Contaminants

The ARB works in partnership with the local air districts to enforce regulations that reduce toxic air contaminants (TAC) in the state. The ARB has authority for motor vehicles, fuels, and consumer products. The ARB identifies the TAC, researches prevention or reduction methods, adopts standards for control, and enforces the standards. Particulate Matter (PM) emissions from diesel-fueled vehicles and engines are the primary TAC of concern for mobile sources. Of all controlled TAC, diesel-exhaust particulate matter emissions are estimated to be responsible for about 70 percent of the total ambient TAC risk. The ARB has made the reduction of the public's exposure to diesel particulate matter one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (ARB 2005).

The local air districts have the authority over stationary or industrial sources. MBUAPCD requires permits for all source operations that may emit TAC. All projects that require air quality permits from the MBUAPCD are evaluated for TAC emissions. The MBUAPCD limits emissions and public exposure to TAC 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 Assembly Bill (AB) 2588 Program (Air Toxics "Hot Spot" Information and Assessment Act of 1987, discussed below) (MBUAPCD 2005).

The ARB identified particulate emissions from diesel-fueled engines (diesel-exhaust PM) as a TAC in August 1998. The ARB has since developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (2000) and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines (2000). Both documents were approved by the ARB on September 28, 2000. The ARB is developing regulations designed to reduce diesel particulate matter emissions from diesel-fueled engines and vehicles. 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 particulate matter emissions. These regulations will require substantial reductions in diesel-exhaust particulate matter beginning with the 2004 model year. More stringent standards will apply to engines starting in the 2007 model year. Off-road vehicles came under more stringent regulation beginning with the 2005 model year. Each set of regulations will serve to significantly reduce diesel particulate matter emissions and long-term human health risks attributable to diesel-fueled vehicles and equipment.

Odors

Although offensive odors rarely cause physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and agencies. Facilities commonly known to produce odors include wastewater treatment facilities, chemical manufacturing, painting/coating operations, feed

lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause 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 MBUAPCD.

Greenhouse Gas Emissions & Climate Change

The earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. The greenhouse gases (GHG) include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons. GHGs most typically associated with community development include emissions of CO_2 and, to a lesser extent, CH_4. Greenhouse gases absorb infrared energy that would otherwise escape from the earth. As the infrared energy is absorbed, the air surrounding the earth is heated. Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. High global warming potential (GWP) gases such as hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6) are the most heat-absorbent. Methane traps over 21 times more heat per molecule than CO_2, and N_2O absorbs 310 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its GWP. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. **Table 3.2-3, Global Warming Potentials for Greenhouse Gases** shows the global warming potential for different greenhouse gases for a 100-year time horizon.

TABLE 3.2-3
GLOBAL WARMING POTENTIALS FOR GREENHOUSE GASES

Greenhouse Gas	Global Warming Potential
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310
Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs)	6,500
sulfur Hexafluoride (SF_6)	23,900

Source: BAAQMD Source Inventory of Bay Area Greenhouse Gas Emissions. November 2006.

An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The ten warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history. Human activities have been attributed to an increase in the

atmospheric abundance of greenhouse gases. There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will have in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy (ARB 2005, 2006b).

The State of California has been studying the impacts of climate change since 1988, when AB4420 was approved. This legislation directed the California Energy Commission, in consultation with the California Air Resources Board and other agencies, to study the implications of global warming on California's environment, economy, and water supply. The Energy Commission was also directed to prepare and maintain the state's inventory of GHG emissions. That bill directed the California Air Resources Board to adopt regulations to achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. The staff's proposal implementing these regulations was approved by the California Air Resources Board in September, 2004. With implementation, the average reduction of greenhouse gases from new California cars and light trucks will be about 22 percent in 2012 and about 30 percent in 2016, compared to today's vehicles (ARB 2005, 2006).

Most recently, California adopted AB32, the Global Warming Solutions Act of 2006. AB 32 codifies the state's goal by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012. In order to effectively implement the cap, AB 32 directs ARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions.

3.2.2 REGULATORY SETTING

Air quality in the NCCAB is regulated by federal, state, and regional control authorities. EPA is involved in local air quality planning through the Federal Clean Air Act (CAA), as amended by the Clean Air Act Amendments of 1990. At the state level, the Lewis-Presley Air Quality Management Act (originally adopted in 1976 and substantially amended in 1987) and the California Clean Air Act of 1988 set air quality planning and regulatory responsibilities for the NCCAB. The ARB is charged with the responsibility for coordinating efforts to attain and maintain ambient air quality standards and conducting research into the causes of, and solutions to, air pollution problems. ARB delegates the permitting authority of stationary sources of emissions to local and regional air districts, such as the MBUAPCD.

FEDERAL CLEAN AIR ACT AND AMENDMENTS

The early federal legislative response to air quality concerns consisted of the Air Pollution Control Act of 1955, the Clean Air Act of 1963, and the Air Quality Act of 1967. The goal of the Clean Air Act of 1970, as stated by Congress in the 1977 CAA Amendments, was "to protect and enhance the quality of the Nation's air resources." The Clean Air Act Amendments of 1990 are extremely broad. The major titles of the 1990 Amendments address attainment of air quality standards, mobile source emissions, air toxics, acid rain, a new federal permit program, enforcement, and protection of stratospheric ozone. The titles that most substantially affect the air quality analysis of the proposed project are Title I (attainment and maintenance provisions) and Title II (mobile source provisions).

TITLE I OF THE CLEAN AIR ACT AMENDMENTS OF 1990

The goal of Title I is to attain federal air quality standards for six criteria pollutants: ozone (O_3), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). A description of these pollutants and associated health effects are summarized in **Table 3.2-4, Summary of Common Sources and Effects of Criteria Pollutants.** National Ambient Air Quality Standards (AAQS) for these criteria pollutants are summarized in **Table 3.2-5, Ambient Air Quality Standards.** The EPA's daily fine particle ($PM_{2.5}$) standard has been revised from 65 micrograms of particles per cubic meter to 35 micrograms of particles per cubic meter of air and the annual coarse particle (PM_{10}) standard has been revoked. The 1990 Amendments divided the nation into five categories of planning regions, depending on the severity of their pollution, and set new timetables for attaining the air quality standards. The categories range from "marginal" to "extreme." Attainment deadlines are from 3 to 20 years, depending on the category.

Title I also requires each nonattainment area to submit a comprehensive inventory of actual emissions as part of a State Implementation Plan (SIP) revision to demonstrate the means for achieving federal standards by the established deadlines. Each nonattainment area must achieve a 15 percent reduction from its actual 1990 emissions inventory within 6 years. Thereafter, each area must achieve a three percent annual reduction.

Provisions of Section 182 of the 1990 Clean Air Act Amendments relate to ozone non-attainment areas, and Sections 186 and 187 relate to carbon monoxide non-attainment areas. These sections emphasize strategies for reducing vehicle miles traveled. Section 182 requires submission of a SIP revision "that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area" to meet statutory requirements for demonstrating periodic emissions reduction requirements. Section 187 makes the same basic requirement applicable to carbon monoxide nonattainment areas. Section 188 sets forth requirements for PM_{10} nonattainment areas.

TABLE 3.2-4
SUMMARY OF COMMON SOURCES AND EFFECTS OF CRITERIA POLLUTANTS

Pollutant	Description	Sources	Health Effects	Welfare Effects
Carbon Monoxide	Colorless, odorless gas	Motor vehicle exhaust, indoor sources include kerosene wood-burning stoves	Headaches, reduced mental alertness, heart attack, cardiovascular diseases, impaired fetal development, death	Contribute to the formation of smog
Sulfur Dioxide	Colorless gas that dissolves in water vapor to form acid, and interacts with other gases and particulates in the air	Coal-fired power plants, petroleum refineries, manufacture of sulfuric acid and smelting of ores containing sulfur	Eye irritation, wheezing, chest tightness, shortness of breath, lung damage	Contribute to the formation of acid rain, visibility impairment, plant and water damage, aesthetic damage
Nitrogen Dioxide	Reddish brown, highly reactive gas	Motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels	Susceptibility to respiratory infections, irritation of the lung and respiratory symptoms (e.g., cough, chest pain, difficulty breathing)	Contribute to the formation of smog, acid rain, water quality deterioration, global warming, and visibility impairment
Ozone	Gaseous pollutant when it is formed in the troposphere	Vehicle exhaust and certain other fumes. Formed from the combination of reactive organic gases and oxides of nitrogen in the presences of sunlight	Eye and throat irritation, coughing, respiratory tract problems, asthma, lung damage	Plant and ecosystem damage
Lead	Metallic element	Metal refineries, lead smelters, battery manufacturers, iron and steel producers and use of leaded fuels by racing and aircraft industries	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ	Affects animals and plants, affects aquatic ecosystems

Pollutant	Description	Sources	Health Effects	Welfare Effects
Particulate Matter	Very small particles of dust, soot, or other matter, including tiny droplets of liquids	Diesel engines, power plants, industries, windblown dust, and wood stoves	Eye irritation, asthma, bronchitis, lung damage, cancer, heavy metal poisoning, cardiovascular effects	Visibility impairment, atmospheric deposition, aesthetic damage, impaired plant photosynthesis

Source: U.S. EPA 2005

TABLE 3.2-5
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a, d]	National Standards [b, c]	
			Primary [d]	Secondary [e]
Ozone (O_3)	1-hour	0.09 ppm (180 $\mu g/m^3$)	--	Same as Primary
	8-hour	0.070 ppm (137 $\mu g/m^3$)	0.08 ppm (157 $\mu g/m^3$)	
Particulate Matter (PM_{10})	AAM	20 $\mu g/m^3$ *	50 $\mu g/m^3$ [f]	
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 $\mu g/m^3$*	15 $\mu g/m^3$	
	24-hour	No Standard	65 $\mu g/m^3$	
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
	8-hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	
Nitrogen Dioxide (NO_2) [f]	AAM	–	0.053 ppm (100 $\mu g/m^3$)	Same as Primary
	1-hour	0.25 ppm (470 $\mu g/m^3$)	–	
Sulfur Dioxide (SO_2)	AAM	–	0.03 ppm (80 $\mu g/m^3$)	–
	24-hour	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	–
	3-hour	–	–	0.5 ppm (1,300 $\mu g/m^3$)
	1-hour	0.25 ppm (655 $\mu g/m^3$)	–	–
Lead [g]	30-day Average	1.5 $\mu g/m^3$	–	–
	Calendar Quarter	–	1.5 $\mu g/m^3$	Same as Primary

Pollutant	Averaging Time	California Standards [a, d]	National Standards [b, c]	
			Primary [d]	Secondary [e]
Sulfates	24-hour	25 µg/m³	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m³)		
Vinyl Chloride[g]	24-hour	0.01 ppm (26 µg/m³)		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per 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%.		

[a] *California standards for O_3, CO (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, PM (PM_{10} and $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.*

[b] *National standards (other than O_3, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of daily concentrations, average over three years, are equal to or less than the standard.*

[c] *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 °C and a reference pressure of 760 torr.*

[d] *The levels of air quality necessary to protect the public health.*

[e] *The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[f] *On February 22, 2007 the ARB approved a new hourly CAAQS for NOx of 0.18 ppm and a new annual CAAQS of 0.30 ppm, not to be exceeded. These newly approved standards are due to become effective in late 2007, pending approval by the California Office of Administrative Law.*

AAM = Annual Arithmetic Mean;
Source: ARB 2007

TITLE II OF THE CLEAN AIR ACT AMENDMENTS OF 1990

Title II of the 1990 Amendments, which contains provisions to control emissions from mobile sources, includes the following measures to reduce pollutants from mobile sources: (1) mandatory use of cleaner, reformulated gasoline in those cities with the most severe ozone problem, (2) use of cleaner fuels, such as methanol and natural gas, to meet particulate standards, and (3) requirements on auto manufacturers to reduce tailpipe emissions of hydrocarbons (HC) and oxides of nitrogen. Section 177 of Title II permits California to adopt stricter vehicle emission standards and allows other states to adopt California's stricter standards.

CALIFORNIA CLEAN AIR ACT

The California Clean Air Act of 1988 (CCAA), amended in 1992, requires all air districts in the state to endeavor to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter by the earliest practicable date. California's ambient air quality standards are generally stricter than national standards for the same pollutants. California also has established its own standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles (**Table 3.2-5, Ambient Air Quality Standards**).

AIR QUALITY MANAGEMENT PLANS

As required by the CCAA, the MBUAPCD adopted the *1991 Air Quality Management Plan* (hereinafter referred to as AQMP) for the Monterey Bay Region. The 1991 AQMP addressed planning requirements to meet the ozone standard mandated by the CCAA and included measures to control emissions of VOC from stationary and mobile sources. Since the 1991 AQMP was adopted, control requirements have been reduced. The AQMP was most recently updated in 2004 to reflect these changes. The most recent 2004 AQMP update concluded that the NCCAB remains on the borderline between attainment and nonattainment in part due to variable meteorological conditions occurring from year to year, transport of air pollution from the San Francisco Bay Area, and locally generated emissions (MBUAPCD 2005). Emission forecasts contained in the AQMP are based, in part, on population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). For population-related projects, consistency with the AQMP is assessed by comparing the projected population growth associated with the project to population forecasts adopted by AMBAG (MBUAPCD 2004).

In December 1995, the MBUAPCD also prepared the 1995 Report on Attainment of the California Fine Particulate Standard in the Monterey Bay Region. This report was most recently updated in 2005. The report found that existing control on sources of NO_x emissions, which serve as precursors to PM_{10}, may lead to attainment and maintenance of the State PM_{10} standard through 2010 (MBUAPCD 2005).

COUNTY OF MONTEREY

Monterey County General Plan

Policies

20.2.3 The County shall continue to support air quality monitoring and air pollution control strategies and enforcement by the Monterey Bay Unified Air Pollution Control District.

20.2.4 The County should operate in accordance with current regional, state, and federal air quality standards.

20.2.5 The County shall encourage the use of the best available control technology as defined in the most current Monterey Bay Unified Air Pollution Control District rules and regulations in reducing air pollution emissions.

3.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

For the purpose of this analysis, the following applicable thresholds of significance from *MBUAPCD's CEQA Air Quality Guidelines* (MBUAPCD 2004) are used to determine if the proposed project would result in a significant air quality impact:

1) Short-Term Increases in Regional Criteria 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} NAAQS/CAAQS at nearby receptors.

2) Long-Term Increases in Regional Criteria Pollutants. Regional (operational) impacts would be significant if the project generates direct and indirect emissions of reactive organic gases (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.

3) Increases in 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 are emitted on-site (e.g., stationary sources, on-site mobile equipment).

4) Increases in 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.

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

With regard to the impact of the project on global climate change, the MBUAPCD has not identified a significance threshold for GHG emissions. Given the challenges associated with determining project-specific significance criteria for climate change, quantitative criteria are not proposed for the proposed subdivision. For this analysis, the proposed project's incremental contribution to global climate change would be considered significant if it would:

- result in substantial net increases in greenhouse gases and CO_2 emissions. For purposes of this analysis, a substantial net increase occurs if the proposed project exceeds any threshold of significance for criteria pollutants set by the MBUAPCD;[1]
- expose persons to significant risks associated with the effects of global climate change;
- conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05;
- be inconsistent with the Air Resources Board's 44 Early Action Measures for AB 32 compliance;
- be subject to CARB's mandatory reporting requirements (generally required for projects producing more than 25,000 annual metric tons of CO_2e); or
- be inconsistent with the recommended global warming mitigation measures from the Attorney General, CAPCOA, Office of Planning and Research, or other appropriate sources.

[1] This approach is consistent with guidance from the California Air Pollution Control Officers' Association (CAPCOA), which notes that implementing CEQA without an explicit threshold prior to formal guidance from the State of California's Office of Planning and Research is appropriate. This approach is also consistent with CAPCOA's assertion that by defining substantial emissions of GHGs to performance standards (e.g., criteria pollutant emission thresholds), lead agencies would amass information and experience with specific project categories that would support establishing explicit thresholds in the future.

METHODOLOGY

The impact analysis for this section is based on an air quality analysis prepared by PMC and carbon monoxide modeling conducted by Ambient Air Quality and Noise Consulting in January and December 2006, which is incorporated herein. This section was prepared using information from the Monterey Bay Unified Air Pollution Control District (MBUAPCD), their respective air management plans and CEQA guidance documents. Carbon monoxide modeling and letter from AMBAG regarding consistency with the *Air Quality Management Plan* for the Monterey Bay Region are incorporated as Appendix B.

PROJECT IMPACTS AND MITIGATION MEASURES

Short-Term Construction Emissions

Impact 3.2-1 Implementation of the proposed project would result in temporary earth movement and the use of diesel powered construction equipment during the construction activities, which may expose sensitive receptors to increased levels of airborne particulate matter (PM_{10}) and toxic air contaminates (TACs). This would be considered a **potentially significant impact**.

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 project would result in the temporary generation of emissions resulting from site grading and excavation, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. These emissions include airborne particulate matter (PM_{10}) and toxic air contaminates (TAC).

Airborne Particulate Matter

The proposed project would include grading of approximately 2,000 cubic yards of soil during construction activities at the project site. 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 per day, or more, could result in potentially significant temporary air quality impacts, if dust control measures are not implemented. Construction activities that require more extensive site preparation (e.g., grading and excavation) may result in significant impacts if the area of disturbance were to exceed 2.2 acres per day (MBUAPCD 2004).

Given that the average size of the lots is approximately 10 acres, it is conceivable that the maximum daily disturbance could potentially exceed the MBUAPCD's screening level thresholds, which would be considered a **potentially significant impact**. Implementation of the following mitigation measure would require that the project applicant implement

best available control measures to control dust emissions to a **less than significant** level during construction activities at the project site.

Mitigation Measure

MM 3.2-1a During construction activities, Monterey County Planning Department shall require that the project applicant implement best available control measures (BACM) to reduce airborne particulate matter, as recommended by the MBUAPCD and in accordance with Policy 20.2.5 of the *Monterey County General Plan*. BACM typically 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 and require all trucks to maintain at least 2 feet of freeboard;
- Plant vegetation ground cover in disturbed areas as quickly as possible;
- 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;
- Plant tree windbreaks on the windward perimeter of construction project if adjacent to open land;
- Cover in active storage piles;
- Install wheel washers at the entrance to construction sites for all existing trucks;
- Pave all roads on construction sites;

- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints; and
- 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).

Toxic Air Contaminates

Construction activities would involve the use of diesel-powered equipment that may result in localized concentrations of mobile source toxic air contaminants (TAC) at nearby receptors. Short-term exposure to localized concentrations of TAC (primarily acrolein) could exceed applicable air quality thresholds.

Particulate exhaust emissions from diesel-fueled engines were identified as a TAC by the ARB in 1998. During construction of the proposed project, diesel particulate matter emissions generated from the use of off-road diesel equipment used for site grading and excavation, paving, demolition, and other construction activities would occur.

Construction activities associated with the proposed project would likely occur over multiple years and would be concentrated on approximately 164 acres. Use of diesel-powered construction equipment in any one area would be temporary and episodic and would cease when construction is completed in that area. For these reasons, diesel particulate matter generated by construction activities on the project site, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors. However, depending on the construction activities, as well as site and meteorological conditions, short-term non-carcinogenic risks associated with diesel-exhaust pollutants, particularly acrolein, could potentially exceed a Hazard Index greater than 1 for the maximally exposed individual. Sensitive receptors, such as the neighboring residential homes located along Meyer Road, would be exposed to the diesel-exhaust pollutants emitted during the construction of the proposed project. The short-term health risks that the sensitive receptors may experience include, but are not limited to, eye and respiratory tract irritation and asthma. Short-term health risks associated with emissions of TAC from construction equipment are, therefore, considered **potentially significant.** Implementation of the following mitigation measure would require that the project applicant implement best available control measures to limit mobile/stationary source emissions to a **less than significant** level during construction activities.

Mitigation Measure

MM 3.2-1b During construction activities, Monterey County Planning Department shall require that the project applicant implement best available control measures (BACM) to reduce toxic air contaminants, as recommended by the MBUAPCD and in accordance with Policy 20.2.5 of the *Monterey*

County General Plan. BACM typically recommended by the MBUAPCD include, but are not limited to, the following:

- Limit the hours of operation and quantity of heavy duty equipment;
- Replace diesel-powered equipment with gasoline-powered equipment;
- Use PuriNOx emulsified diesel fuel in existing engines;
- Modify engine with ARB verified retrofit;
- Repower heavy equipment with current standard diesel technology or CNG/LNG technology; and
- Limit the area under construction at any one time.

Implementation of MBUAPCD recommended best available control measures, in accordance with Policy 20.2.5 of the *Monterey County General Plan* would reduce fugitive dust emissions and diesel-exhaust particulate matter emissions from construction activities. Fugitive dust emissions would be reduced by approximately 50 percent or more, depending on the activities conducted (MBUAPCD 2004). Use of diesel oxidation catalysts, particulate filters, and alternative fuels such as biodiesel, can reduce diesel-exhaust constituent emissions by approximately 90 percent, or more (MBUAPCD 2004). Therefore, short-term construction generated emissions associated with the proposed project would be reduced to a **less than significant** level.

Long-Term Exposure to Toxic Air Contaminants

Impact 3.2-2 The project site is located approximately 2,000 feet from State Route 68. If present, nearby sensitive receptors could be exposed to toxic air contaminant emissions from mobile sources along the heavily traveled roadway. However, the distance between the project site and State Route 68 would effectively reduce exposure of sensitive receptors to localized emissions of toxic air contaminants from mobile sources. Therefore, this would be considered a **less than significant impact**.

Although the northeastern boundary of the project site would be located approximately 2,000 feet from State Route 68, the closest building envelope would be located approximately 4,000 feet from State Route 68. State Route 68 is a two lane rural highway that experiences high traffic volumes. According to the *Air Quality and Land Use Handbook: A Community Health Perspective* released by the California Environmental Protection Agency and California Air Resources Board in April 2005, siting new sensitive land residential land uses at least 500 feet from a freeway; urban roads with 100,000 vehicles per day; or rural roads with 50,000 vehicles per day reduces exposure of sensitive

receptors to toxic air contaminates. The project site is more than 500 feet from State Route 68, which has an average daily traffic volume of approximately 35,500 vehicles per day. Based on the distance between the project site and the volume of cars on State Route 68, sensitive receptors at the project site would not be exposed to localized emissions of toxic air contaminants from mobile sources along the rural highway. Therefore, the exposure of toxic air contaminants at the project site would be considered **less than significant**. No mitigation measures are necessary.

Long-Term Operational Emissions – Ozone Precursors

Impact 3.2-3 Implementation of the proposed project would generate additional ozone precursor emissions that may affect long-term air quality in the air basin. However, the construction of 17 single-family homes, it is not expected to result in long-term operational emissions of ozone precursors that would exceed the MBUAPCD thresholds of significance. Therefore, this would be considered a **less than significant impact**. In addition to increases of local and regional air pollutants, the proposed project would also contribute to increases of greenhouse gas (GHG) emissions that are associated with global climate change.

According to the *MBUAPCD Air Quality CEQA Guidelines,* projects that emit 137 pounds per day or more of direct and indirect volatile organic compound (VOC) emissions would have a significant impact on regional air quality by emitting substantial amounts of ozone precursors. Similarly, projects that emit 137 pounds per day or more of direct and indirect NO_x emission would generate substantial emission and have a significant impact on regional air quality.

According to *Table 5-4, Indirect Sources with Potentially Significant Impacts on Ozone*, in the *MBUAPCD Air Quality CEQA Guidelin*es, single-family residential dwellings of 810 units or more would result in a significant impact from the emission of ozone precursors. As the proposed project includes the construction of 17 single-family homes, it is not expected to result in long-term operational emissions of ozone precursors that would exceed the MBUAPCD thresholds of significance. Based on the California Air Resources Board air quality modeling program, URBEMIS version 9.2.2, the operational emissions of the project would be well below established significance thresholds with long-term operational emissions of at 1.13 lbs/day of ROG, 0.22 lbs/day of NO_x, and 0.88 lbs/day of CO during long-term operation of the proposed project. Therefore, this is considered a **less than significant impact.**

Long-Term Operational Emissions – Localized Concentrations of Carbon Monoxide

Impact 3.2-4 Implementation of the proposed project would result in an increase in carbon monoxide concentrations at land uses near roadways and intersections. However, the proposed project would not generate

localized emissions of CO that would exceed the thresholds of significance for CO. This would be a **less than significant impact**.

The primary mobile source pollutant of local concern is carbon monoxide (CO). Localized concentrations of CO are a direct function of vehicle idling time and thus, traffic flow conditions. CO concentrations close to congested roadways or intersections may reach unhealthful levels, affecting local sensitive receptors (e.g. residents, school children, hospital patients, the elderly). Sensitive receptors in the vicinity of the project site include primarily residential uses approximately 1,200 feet and San Benancio Middle School located approximately 3,000 feet away. Under normal meteorological conditions, CO transport is extremely limited and disperses rapidly from the source. Typically, areas of high CO concentrations or "hot spots" are associated with signalized intersections or roadway segments operating at poor levels of service (LOS E or worse).

The traffic impact analysis prepared for the proposed project by Higgins Associates in November 2006, determined that the proposed project would generate approximately 163 daily weekday automobile trips with buildout of the proposed project. The traffic impact analysis determined that five of the six study intersections and all of the study roadway segments would operate at unacceptable levels of service, during either the AM or PM peak hours, under project conditions. As discussed in **Section 3.10, Transportation and Circulation**, the longest delay would be experienced at the Corral de Tierra/State Route 68 intersection, (see **Table 3.10-8, Intersection Level of Service for Project Conditions**), and the highest volume of traffic on the study roadway segments would be experienced along the segment of State Route 68 between State Route 218 and York Road (see **Table 3.10-9, Roadway Segment Level of Service for Project Conditions)**.

Ambient Air Quality & Noise Consulting conducted CO modeling for the Corral de Tierra/State Route 68 intersection and the segment of State Route 68 between State Route 218 and York Road to determine if operations at this intersection and roadway segment would generate direct emissions of greater than 550 lbs/day of CO and/or 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. The results are included in **Appendix B**. The CO modeling was run using worst-case meteorological conditions for particulate matter peak-hour conditions for the Corral de Tierra/State Route 68 intersection and State Route 68, between State Route 218 and York Road. Predicted traffic delays and traffic volumes at other intersections and roadway segments, respectively, would be less than those assumed for this analysis. To ensure a conservative analysis, the emission factors used in the analysis were based on the highest modeled emission factors for speeds ranging from 35 to 60 miles per hour to account for potential decreases in speeds typically anticipated for segments that operate under unacceptable LOS. Emission factors were obtained from the Emfac2002 computer model for winter conditions, based on Monterey County vehicle distribution percentages contained in the model. **Table 3.2-6, Predicted Carbon Monoxide (CO) Concentrations** summarizes the predicted maximum 1-hour and 8-hour CO

concentrations at sensitive receptors located approximately 50 meters from the intersection and roadway.

TABLE 3.2-6
PREDICTED CARBON MONOXIDE (CO) CONCENTRATIONS AT APPROXIMATELY 50 METERS

Carbon Monoxide Level	Carbon Monoxide Concentrations (ppm)	
	Intersection (Corral de Tierra/State Route 68)	Roadway Segment (State Route 68, between State Route 218 and York Road)
CO, 1 hour	4.2	3.1
CO, 8 hour	2.7	1.4

Source: Ambient Air Quality and Noise Consulting 2006

The predicted 1-hour and 8-hour CO concentrations at the Corral de Tierra/State Route 68 intersection and the State Route 68 roadway segment, between State Route 218 and York Road, would not exceed the State ambient air quality standards of 20 and 9.0 ppm, respectively. Therefore, implementation of the proposed project would not generate localized emissions of CO that would exceed the thresholds of significance for CO. Therefore, localized CO emissions would be considered **less than significant**. No mitigation measures are necessary.

Long-Term Operational Emissions – Odorous Emissions

The proposed project is development of 17 residential units. Residential land uses do not typically create objectionable odors; therefore the proposed project will have **no impact** resulting in long-term odorous emissions.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Air Quality Emissions

Impact 3.2-5 Development of the proposed project combined with other reasonably foreseeable projects in the project vicinity, would contribute to increased air quality emissions in the air basin. However, the combination of the proposed project's residential units, plus the existing and approved residential units in Monterey County, is less than the regional forecasts for Monterey County. Therefore, the proposed project is consistent with *MBUAPCD Air Quality Management Plan* (AMBAG 2005) and this would be considered a **less than significant cumulative impact**.

Cumulative air quality impacts are evaluated based on a quantification of the project related air quality impacts and consistency of the proposed project with regional air quality

plans (i.e. the *MBUACPD Air Quality Management Plan*). The proposed project would result in a significant cumulative impact on ozone if the proposed project is inconsistent with the MBUAPCD *Air Quality Management Plan* (AQMP) and/or if localized pollutant concentrations under cumulative project conditions exceed CAAQS.

Consistency of population-related projects with the *MBUACPD Air Quality Management Plan* is based on the number of residential units proposed. The number of residential units is assessed by comparing the projected population growth associated with the proposed project to population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). The proposed project consists of 17 new single family residential units. The *2004 Population, Housing Unit, and Employment Forecast* estimates there will be 151,844 housing units in Monterey County by the year 2010. Currently there are 147,776 existing, approved, and/or permitted residential units in Monterey County (AMBAG 2005). The combination of the proposed project's residential units, plus the existing and approved residential units in Monterey County, is less than the regional forecasts for Monterey County of approximately 151,844 residential units. Therefore, the proposed project is consistent with the 2004 regional forecasts and the *MBUAPCD Air Quality Management Plan* (AMBAG 2005) and the cumulative air quality emissions impact would therefore be considered **less than significant.**

Cumulative Impact on Global Climate Change

Impact 3.2-6 Development of the proposed project combined with other reasonably foreseeable projects would contribute to increased emissions of greenhouse gases which could increase global temperatures and associated impacts. However, the project would not result in a substantial increase in GHG emissions that would expose persons to significant risks associated with the effects of global climate change and would be consistent with State requirements and recommendations for addressing climate change in environmental analyses. As a result, the project's cumulative impact on climate change would be considered a **less than significant cumulative impact**.

The cumulative increase in GHG concentrations in the atmosphere has resulted in and will continue to result in increases in global average temperatures and associated shifts in climatic and environmental conditions. Multiple adverse environmental effects are attributable to global climate change, such as sea level rise, increased incidence and intensity of severe weather events (e.g., heavy rainfall, droughts), and extirpation or extinction of plant and wildlife species. Given the significant adverse environmental effects linked to global climate change induced by GHGs, a substantial increase in the emission of GHGs is considered a significant impact.

The proposed project has the potential to temporarily emit up to 20,013 pounds per day of carbon dioxide (CO_2) emissions from construction activities, generation of vehicle traffic,

and energy use. This amount depends largely on the phasing and the extent of activities undertaken on an average construction day. The combustion of diesel and gasoline-fueled vehicles during demolition, construction, and other phases would also result in emissions of methane (CH_4) and nitrous oxide (N_2O); however, these emissions would be orders of magnitude lower based on their emissions profile.

As shown in **Table 3.2-7, Estimated Project Greenhouse Gas Emissions – Project Operation (Lbs./day)**, the long-term operations of the project will produce 1,962 pounds of CO_2 daily, primarily from motor vehicles that travel to and from the site. Estimated emissions of GHGs were calculated based on predicted increases in vehicle miles traveled attributable to the proposed development using the air quality modeling program, URBEMIS version 9.2.2. The proposed project would result in approximately 1,689 net pounds per day of CO_2. Emissions of the two other greenhouse gases that are likely from the proposed project, methane and nitrous oxide, are orders of magnitude lower. These emissions were estimated using technical data provided in the June 2008 *Draft of the Local Government Operations Protocol* issued by California Air Resources Board, California Climate Action Registry, ICLEI - Local Governments for Sustainability, and the Climate Registry. This data was then applied to vehicle activity data and fleet composition assumptions from both the traffic analysis performed for this EIR and the Air Resources Board BURDEN model.

TABLE 3.2-7
ESTIMATED PROJECT GREENHOUSE GAS EMISSIONS – PROJECT OPERATION (LBS./DAY)

Emission Source	CO_2	CH_4	N_2O	HFC	PFC	SF_6
Mobile Source (vehicles)	1,689.1	4.3	2.5	Negl.	Negl.	Negl.
Area Source (landscaping)	1.2	Negl.	Negl.	Negl.	Negl.	Negl.
Stationary Source (Electricity and Natural Gas)	271.9	0.2	0.2	Negl.	Negl.	Negl.
Total Emissions	**1,962.2**	**4.5**	**2.7**	Negl.	Negl.	Negl.

Notes: Negl. - Emissions of this GHG would be negligible from this source category (less than 0.01 pounds per day). CO_2 – Carbon Dioxide; CH_4 – Methane; N_20 – Nitrous Oxide; HFC – Hydrofluorocarbon; PFC – Perfluorocarbon; and SF_6 – Suflfur Hexafluoride.

Source: URBEMIS Version 9.2.4; CEC 2002; Draft Local Government Operations Protocol issued by California Air Resources Board, California Climate Action Registry, ICLEI - Local Governments for Sustainability, and the Climate Registry (June 2008).

It should be noted that emitting CO_2 into the atmosphere is not itself an adverse environmental effect. It is the increased concentration of CO_2 in the atmosphere resulting in global climate change and the associated consequences of climate change that results in adverse environmental affects (e.g., sea level rise, loss of snowpack, severe weather events). Ultimately, the proposed project would not trigger any of the remaining criteria used to determine significance of climate change impacts in that:

- It would not expose persons to significant risk associated with the effects of global climate change (e.g., increased risk of flooding from accelerated runoff from reduced Sierra snowpack, coastal subsidence from sea level rise).
- It would not conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05.
- It would be consistent with the Air Resources Board's 44 Early Action Measures for AB 32 compliance.
- It would not be a stationary source subject to CARB's mandatory reporting requirements (generally required for stationary sources producing more than 25,000 annual metric tons of CO_2e).
- It would be consistent with the recommended global warming mitigation measures from the Attorney General, CAPCOA, and the Office of Planning and Research.

Therefore, the cumulative air quality emissions impact on climate change would be considered **less than significant.**

REFERENCES/DOCUMENTATION

Association of Monterey Bay Area Governments (AMBAG). *Consistency Letter from Todd Muck, AICP, Senior Transportation Planner, to Pamela Lapham, Assistant Planner, PMC*. December 29, 2005.

California Air Resources Board (ARB). *Ambient Air Quality Standards*. http://www.arb.ca.gov/aqs/aaqs2.pdf.

California Air Resources Board, California Climate Action Registry, ICLEI - Local Governments for Sustainability, and the Climate Registry; *Draft Local Government Operations Protocol* (June 2008).

California Environmental Protection Agency (CEPA) and California Air Resource Board (ARB). *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

Higgins Associates. *Harper Canyon/Encina Hills Subdivision Traffic Impact Analysis*. Higgins Associates. May 28, 2008.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). *CEQA Air Quality Guidelines*. Adopted 1995 revised through June 2004.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). *2004 Air Quality Management Plan, Fourth Revision to the 1991 Air Quality Management Plan for the Monterey Bay Region*. September 2004.

Monterey, County of. *Monterey County General Plan*. August 1982 with Amendments through November 5, 1996.

Monterey, County of. *Toro Area Plan*. September 1983 with Amendments through 1998.

United States Environmental Protection Agency (US EPA). September 21, 2006. *PM Standards Revision*. url: http://www.epa.gov/pm/naaqsrev2006.html.

This page intentionally left blank.