3B. Air Quality

This section of the EIR addresses the potential impacts of proposed Specific Plan on ambient air quality. The information contained herein analyzes potential air pollution impacts from daily regional and localized pollution concentrations. This section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations, including the type and quantity of emissions that would be generated by the construction and operation of the proposed project. The analysis of project emissions focuses on whether the project would cause an exceedance of a state ambient air quality standard or an exceedance of a threshold set forth by the South Coast Air Quality Management District (SCAQMD).

3B.1 Environmental Setting

Regional and Local Climate

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and ambient air quality.

The proposed development site is located within the South Coast Air Basin (Basin). The distinctive climate of the Basin is determined by its terrain and geographical location. The Basin contains a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild Mediterranean climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The topography and climate of Southern California combine to make the Basin an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions which produce ozone (SCAQMD, 2007).

The Basin's severe air pollution problem is a consequence of the combination of emissions from the nation's second largest urban area and meteorological conditions which are adverse to the dispersion of those emissions. In addition, the summertime maximum mixing height (an index of how well pollutants can be dispersed vertically in the atmosphere) in Southern California averages the lowest in the U.S. The Southern California area is also an area with abundant sunshine, which drives the photochemical reactions which form pollutants (SCAQMD, 2007).

The climate of Los Angeles is characterized by warm summers, mild winters, infrequent rainfall, moderate afternoon breezes, and generally fair weather. Temperatures near the project site average 70 degrees year-round. Summer afternoons are typically in the mid-80s, and winter mornings drop to the upper 40s. Significant extremes of temperature are rare and temperatures rarely exceed 90 degrees in summer or drop below 35 degrees in winter.

Baseline Air Quality

SCAQMD maintains a network of air quality monitoring stations located throughout the Basin and has divided the Basin into air quality monitoring areas. The monitoring stations record concentrations of various criteria pollutants, including ozone (O_3); carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulate matter less than 10 microns in diameter (PM_{10}); particulate matter less than 2.5 microns in diameter ($PM_{2.5}$); lead (Pb); and sulfates (SO_4). **Table 3B-1** summarizes the state and federal standards as well as the health effects and sources of the criteria pollutants.

The monitoring station that is most representative of existing air quality conditions in the proposed project area is the Los Angeles-North Main Street Station. Criteria pollutants, including CO, NO_2, PM_{10}, $PM_{2.5}$, and SO_2 are monitored at this station. The most recent data available from this monitoring station is provided in **Table 3B-2** and encompasses the years 2004 through 2006. In addition, Table 3B-2 compares the pollutants to the state and national air quality standards. A summary of each criteria pollutant and associated health effects is provided below.

Ozone (O_3). O_3 is a colorless gas and is the chief component of urban smog. Ozone impacts lung function by irritating and damaging the respiratory system. In addition, ozone causes damage to vegetation, buildings, rubber, and some plastics. Ozone is one of a number of substances called photochemical oxidants that are formed when reactive organic gases (ROG) also referred to as volatile organic compounds (VOC) and nitrogen oxides, both byproducts of the internal combustion engine, react in the presence of ultraviolet sunlight. Ozone is present in relatively high concentrations within the Basin, and the damaging effects of photochemical smog are generally related to the concentrations of ozone. Meteorology and terrain play major roles in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and cloudless skies provide optimum conditions for ozone formation.

Carbon Monoxide (CO). CO is a gas that interferes with the transfer of oxygen to the blood. It can cause dizziness and fatigue, and can impair central nervous system functions. CO is a product of incomplete combustion emitted, along with carbon dioxide, by motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, CO is emitted primarily by automobiles, trucks, and motorcycles. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient carbon monoxide concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind, speed, topography, and atmospheric stability. When surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February, CO from motor vehicle exhaust can

become locally concentrated. The highest CO concentrations measured in the Basin are typically recorded during the winter.

TABLE 3B-1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

O_3	1-hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/ industrial mobile equipment.
	8-hour	---	0.08 ppm		
CO	1-hour	20 ppm	35 ppm	Classified as a chemical asphyxiate, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8-hour	9.0 ppm	9 ppm		
NO_x	1-hour	0.18 ppm	---	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Average	---	0.053 ppm		
SO_2	1-hour	0.25 ppm	---	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	24-hour	0.04 ppm	0.14 ppm		
	Annual Average	---	0.03 ppm		
PM10	24-hour	50 µg/m^3	150 µg/m^3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m^3	50 µg/m^3		
$PM_{2.5}$	24-hour	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3		
Lead	30-day	1.5 µg/m^3	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 µg/m^3		

NOTES: ppm = parts per million; µg/m^3 = micrograms per cubic meter.

SOURCE: California Air Resources Board (CARB), 2006a.

TABLE 3B-2
AIR QUALITY DATA SUMMARY (2004 - 2006)

Pollutant	Monitoring Data by Year			
	Standard[a]	2004	2005	2006
Ozone – North Main St.				
Highest 1 Hour Average (ppm)[b]	0.09	**0.11**	**0.12**	**0.11**
Days over State Standard		**7**	**2**	**8**
Highest 8 Hour Average (ppm)[b]	0.075	**0.091**	**0.098**	0.079
Days over National Standard		1	1	0
Particulate Matter (PM10) – North Main St.				
Highest 24 Hour Average ($\mu g/m^3$)[b]	50	**72**	**69**	**58**
Est. Days over State Standard[c]		30	17	18
Highest 24 Hour Average ($\mu g/m^3$)[b] – National Measurement	150	72	70	59
Est. Days over National Standard[c]		0	0	0
State Annual Average ($\mu g/m^3$)[b]	20	32.5	29.2	30.1
Particulate Matter ($PM_{2.5}$) – North Main St.				
Highest 24 Hour Average ($\mu g/m^3$)[b]	35	**75.0**	**73.7**	**56.2**
Days over National Standard		0	2	0
State Annual Average ($\mu g/m^3$)[b]	12	NA	17.8	16.0

[a] Generally, state standards and national standards are not to be exceeded more than once per year.
[b] ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
[c] PM_{10} is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.
NOTES: Values in **bold** are in excess of at least one applicable standard. NA = Not Available.
SOURCE: California Air Resources Board, 2007a. *Summaries of Air Quality Data*, 2004, 2005, 2006; http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrendsb.d2w/start

Nitrogen Oxides (NO_x). NO_x is a by-product of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form nitrogen dioxide, creating the mixture of NO and nitrogen dioxide commonly called NO_x. Nitrogen dioxide acts as an acute irritant and, in equal concentrations is more injurious than NO at atmospheric concentrations, however, Nitrogen dioxide is only potentially irritating. This is of concern due to its being an ozone precursor, as well as due to its ability to exacerbate the symptoms of asthma.

Particulate Matter (PM_{10}). PM_{10} consists of suspended particles less than 10 microns in diameter. Particulate in this size category can be inhaled, irritating the human respiratory tract and aggravating pre-existing respiratory disease. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly; be absorbed into the bloodstream and cause damage elsewhere in the body; and can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Particulates also damage and discolor surfaces on which they

settle, and reduce regional visibility. PM_{10} is most harmful to children and the elderly, as it lowers the body's defense against inhaled materials.

Particulate in the atmosphere result from natural sources, such as wind erosion and ocean spray, and from human activities. Man-made sources include many types of dust- and fume-producing industrial and agricultural operations; fuel combustion and vehicle travel; grading, excavating, demolition, and blasting from construction; and atmospheric chemical and photochemical reactions. Motor vehicle traffic is the major source of PM_{10}. In urban areas, PM_{10} concentrations generally are higher in winter when more fuel is burned and meteorological conditions favor the concentration of primary air pollutants.

Particulate Matter ($PM_{2.5}$). Fine particles, such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller ($PM_{2.5}$). Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California. Control of $PM_{2.5}$ is primarily achieved through the regulation of emission sources, such as the USEPA's Clean Air Interstate Rule and Clean Air Visibility Rule for stationary sources; the 2004 Clean Air Nonroad Diesel Rule, the Tier 2 Vehicle Emission Standards, and Gasoline Sulfur Program; or the California Air Resources Board (CARB) Goods Movement reduction plan. $PM_{2.5}$ can impair lung function and cause chemical exposure, and is most harmful to children and the elderly.

Global Climate Change

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases (GHG). The major concern is that increases in GHG are causing Global Climate Change. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is tremendous disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emission of GHG and long term global temperature. What GHG have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H_2O). Carbon dioxide is the reference gas for climate change because it gets the most attention and is considered the most important GHG. To account for the warming potential of GHGs, greenhouse gas emissions are often quantified and reported as CO_2 equivalents (CO_2E). Large emission sources are reported in million metric tons of CO_2E (MMT CO_2 E). HFCs are used in refrigeration systems as substitutes for CFCs, which were banned for destroying the ozone layer.

Sensitive Receptors

In an urbanized environment, air pollutant concentrations are usually most prominent along busy streets and at busy intersections, where automotive exhausts can build up while vehicles stop and idle or slow down to approach and proceed through or make turning movements. Carbon monoxide is a primary pollutant within automotive exhaust and therefore a good indicator of pollutant concentrations that affect everyone. Some people are especially sensitive to air pollution emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise should also be considered sensitive receptors.[1] Such structures include residences, schools, childcare facilities, hospitals, and parks and recreation sites.

The proposed project is located near sensitive receptors. There are single-family residential land uses north, south, east and west of the proposed project area. There is also a community recreation center that is located immediately northeast of the project area. The project site itself is occupied by sensitive receptors, including students that live and attend classes on the site, and students, faculty, and employees who engage in athletic activities at on-site athletic facilities. **Table 3B-3** identifies the hospitals, schools and childcare facilities located within a one-mile radius from the center of the project site.

TABLE 3B-3
NEARBY FACILITIES CONTAINING SENSITIVE RECEPTORS

Facility	Approximate Distance from Center of Project Site (miles)
Hospitals	
College Vista Convalescent Hospital	0.46
Schools	
American Montessori Preschool-4817 Eagle Rock Boulevard	0.48
American Montessori Preschool-4475 Eagle Rock Boulevard	0.50
Benjamin Franklin High School	0.09
Delevan Drive Elementary	0.80
Eagle Rock Elementary	0.57
Eagle Rock High School	0.48
Montessori Children's World	0.64
Childcare Facilities	
Angel's in Play Family Child Care	0.40
Ducharme Y Espinoza Child Care	0.63
Pathways Child Development Center	0.40
Toland Way Children's Center	0.60
Westminster Child Center	0.50

SOURCE: ESA, 2008.

[1] SCAQMD, *CEQA Air Quality Handbook*, April 1993.

Toxic Air Contaminants

Toxic air contaminants (TACs) refer to a category of air pollutants that pose a present or potential hazard to human health, but which have more localized impacts than criteria air pollutants. Some TAC sources are regulated with emission and risk-based regulations at the federal, state and local levels. There are more than 700 toxic contaminants recognized by different regulatory agencies.

There are numerous TACs that may cause short-term and or long-term adverse human health effects. This potential is evaluated in terms of a calculated risk that assumes that an individual is exposed continuously over a 70-year period at the point of greatest ground-level concentration.

The calculated risk is based on a health risk assessment that characterizes human health risks as a result of exposure to hazards by using estimated or measured ambient air toxic concentrations and risk/potency factors to estimate the cancer risk to individuals or the number of potential cancer cases in the exposed population. It includes a comprehensive analysis of dispersion of hazardous substances in the environment, the potential for human exposure, and a quantitative assessment of both individual and population-wide health risks associated with those levels of exposure. The calculated health risk is an approximation of the worst foreseeable risk within the framework of the inherent uncertainties and assumptions made for the assessment.

3B.2 Regulatory Background

Federal Clean Air Act

The Federal Clean Air Act (CAA) is a comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The CAA was passed in 1963, and has since undergone five major amendment cycles. The latest major amendment cycle was completed in 1990, with prior major amendments having occurred in 1965, 1967, 1970, 1977, and 1997.

USEPA utilizes six “criteria pollutants” as indicators of air quality and has established for each of them a maximum concentration level (i.e., NAAQS) above which adverse effects on human health may occur. These six criteria pollutants are CO, O_3, SO_2, NO_2, inhalable particulate matter (PM_{10} and $PM_{2.5}$), and lead. Federal standards for these criteria pollutants are displayed in Table 3B-1. The CAA specifies future dates for achieving compliance with NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

As noted above, the development site is located in the Basin, which has been designated a federal non-attainment area for certain criteria pollutants. The Basin fails to meet the federal standards for eight-hour O_3, PM_{10}, and $PM_{2.5}$. Deadlines for meeting NAAQS within the Basin have been set at 2021 for eight-hour O_3 and 2006 for PM_{10}. As of 2006, the deadline for meeting the $PM_{2.5}$ standard has not been set. The Basin met the CO standard by December 2002; however, the Basin has not yet been redesignated to attainment for CO.

California Clean Air Act

In 1988, the state legislature passed the California CAA, which established California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress for the first time. The California CAA provides the state with a comprehensive framework for air quality planning regulation and sets state air quality standards. The California Ambient Air Quality Standards (CAAQS) incorporate additional standards for most of the criteria pollutants and has set standards for other pollutants recognized by the state. In general, the state standards are more health protective than the federal standards. California has also set standards for $PM_{2.5}$, sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin does meet the California standards for sulfates, hydrogen sulfide, and vinyl chloride, but does not meet the California standard for visibility. In addition, the Basin fails to meet the state standards for one-hour O_3, PM_{10}, and $PM_{2.5}$. It should also be noted that the Basin is currently designated as a severe non-attainment area for ozone. However, the AQMD is requesting to redesignate the Basin to an extreme non-attainment area.

Global Climate Change

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gas would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The Secretary of CalEPA is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the CEC, and the President of the Public Utilities Commission.

Representatives from each of the aforementioned agencies comprise the Climate Action Team. The Climate Action Team is responsible for implementing global warming emissions reduction programs. The CalEPA secretary is required to submit a biannual progress report from the Climate Action Team to the governor and state legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and reporting possible mitigation and adaptation plans to combat these impacts. The Climate Action Team has fulfilled both of these report requirements through its March 2006 Climate Action Team Report to Governor Schwarzenegger and the legislature.2 According to the report, implementation of current and future emission reduction strategies have the potential to achieve the goals set forth in Executive Order S-3-05.

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2 Climate Action Team, *Climate Action Team Report*, (2006).

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions).

In June 2007 CARB directed staff to pursue 37 early actions for reducing greenhouse gas emissions under the California Global Warming Solutions Act of 2006 (AB 32). The broad spectrum of strategies to be developed – including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance, and protocols for local governments to facilitate greenhouse gas reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible (CARB, 2007).

In addition to approving the 37 greenhouse gas reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within six months. The general sentiment of CARB suggested a desire to try to pursue greater greenhouse gas emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has evaluated all 48 recommendations submitted by several stakeholder and several internally-generated staff ideas and published the *Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in September 2007 (CARB, 2007a). Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures, which are listed in **Table 3B-4**.

The 2020 target reductions are currently estimated to be 174 MMT CO_2E. In total, the 44 recommended early actions (see Table 3B-4) have the potential to reduce greenhouse gas emissions by at least 42 million metric tons of carbon dioxide (CO_2) equivalent (MMT CO_2E) emissions by 2020, representing about 25 percent of the estimated reductions needed by 2020. CARB staff is working on 1990 and 2020 greenhouse gas emission inventories in order to refine the projected reductions needed by 2020 and expects to present its recommendations to CARB by the end of 2007. On December 6, 2007, ARB adopted 427 million metric tons of carbon dioxide equivalent (MMT CO_2E) as the total statewide aggregated greenhouse gas 1990 emissions level and the 2020 emissions limit. The 44 measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression.

In addition to identifying early actions to reduce greenhouse gases, CARB has also developed the greenhouse gas mandatory reporting regulation, which required reporting beginning on January 1,

TABLE 3B-4
RECOMMENDED AB32 GREENHOUSE GAS MEASURES TO BE INITIATED BY CARB BETWEEN 2007 AND 2012 (CARB, 2007A)

ID #	Sector	Strategy Name
1	Fuels	Above Ground Storage Tanks
2	Transportation	Diesel – Offroad equipment (non-agricultural)
3	Forestry	Forestry protocol endorsement
4	Transportation	Diesel – Port trucks
5	Transportation	Diesel – Vessel main engine fuel specifications
6	Transportation	Diesel – Commercial harbor craft
7	Transportation	Green ports
8	Agriculture	Manure management (methane digester protocol)
9	Education	Local gov. Greenhouse Gas (GHG) reduction guidance / protocols
10	Education	Business GHG reduction guidance / protocols
11	Energy Efficiency	Cool communities program
12	Commercial	Reduce high Global Warming Potential (GWP) GHGs in products
13	Commercial	Reduction of PFCs from semiconductor industry
14	Transportation	SmartWay truck efficiency
15	Transportation	Low Carbon Fuel Standard (LCFS)
16	Transportation	Reduction of HFC-134a from DIY Motor Vehicle AC servicing
17	Waste	Improved landfill gas capture
18	Fuels	Gasoline disperser hose replacement
19	Fuels	Portable outboard marine tanks
20	Transportation	Standards for off-cycle driving conditions
21	Transportation	Diesel – Privately owned on-road trucks
22	Transportation	Anti-idling enforcement
23	Commercial	SF_6 reductions from the non-electric sector
24	Transportation	Tire inflation program
25	Transportation	Cool automobile paints
26	Cement	Cement (A): Blended cements
27	Cement	Cement (B): Energy efficiency of California cement facilities
28	Transportation	Ban on HFC release from Motor Vehicle AC service / dismantling
29	Transportation	Diesel – offroad equipment (agricultural)
30	Transportation	Add AC leak tightness test and repair to Smog Check
31	Agriculture	Research on GHG reductions from nitrogen land applications
32	Commercial	Specifications for commercial refrigeration
33	Oil and Gas	Reduction in venting / leaks from oil and gas systems
34	Transportation	Requirement of low-GWP GHGs for new Motor Vehicle ACs
35	Transportation	Hybridization of medium and heavy-duty diesel vehicles
36	Electricity	Reduction of SF_6 in electricity generation
37	Commercial	High GWP refrigerant tracking, reporting and recovery program
38	Commercial	Foam recovery / destruction program
39	Fire Suppression	Alternative suppressants in fire protection systems
40	Transportation	Strengthen light-duty vehicle standards
41	Transportation	Truck stop electrification with incentives for truckers
42	Transportation	Diesel – Vessel speed reductions
43	Transportation	Transportation refrigeration – electric standby
44	Agriculture	Electrification of stationary agricultural engines

SOURCE: CARB 2007

2008 pursuant to requirements of AB32. The regulations also require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO_2 per year (CO_2/yr). This reporting limit is consistent with European Union reporting. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 MT CO_2/yr, make up 94 percent of the point source CO_2 emissions in California (CARB, 2007b).

South Coast Air Quality Management District Air Quality Management Plan

SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The previously discussed basin is a sub-region of the SCAQMD jurisdiction.

SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the Air Quality Management Plan (AQMP), which addresses federal and state CAA requirements. The AQMP details goals, policies, and programs for improving air quality and establishes thresholds for daily operation emissions. Environmental review of individual projects within the region must demonstrate whether daily construction and operation emissions thresholds established by SCAQMD would be exceeded, and whether the project would increase the number or severity of existing air quality violations.

SCAQMD adopted a comprehensive AQMP update, the 2007 AQMP for the Basin, on June 1, 2007. This Final 2007 AQMP employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources and area sources. The Final Plan proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of sulfur oxides (SO_x), directly-emitted $PM_{2.5,}$ and NO_x supplemented with VOCs by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional NO_x and VOCs reductions to meet the standard by 2024. The Final 2007 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin. This Final Plan also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. (SCAQMD, 2007)

This Final Plan builds upon the approaches taken in the 2003 AQMP for the Basin for the attainment of the federal ozone air quality standard. However, this Final Plan highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under federal Clean Air Act (SCAQMD, 2007).

South Coast Air Quality Management District CEQA Handbook

SCAQMD's handbook, *CEQA Air Quality Handbook* (April 1993) is intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts, pursuant to the CEQA. This handbook provides standards, methodologies, and procedures for conducting air quality analyses in CEQA documents and was used extensively in the preparation of this analysis.

California Air Resources Board and SCAQMD Land Use Planning Guidelines

The CARB adopted its *Air Quality and Land Use Handbook* (April 2005) to provide guidance to planning agencies and air districts for considering potential impacts to sensitive land uses proposed in proximity to TACs emission source(s). The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TACs emissions. CARB's siting guidelines recommended the following: (1) avoid siting sensitive receptors within 500 feet of freeways and high-traffic roads (i.e., roads within urbanized areas carrying more than 100,000 vehicles per day); (2) avoid siting sensitive receptors within 1,000 feet of an applicable distribution center; and (3) avoid siting sensitive receptors within 300 feet of a dry cleaning facility that use the chemical perchloroethylene. The recommendations provided are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. In addition, reducing diesel particulate matter (DPM) is one of the CARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing DPM emissions each year. The CARB's long-term goal is to reduce DPM emissions 85 percent by 2020.

The SCAQMD has adopted similar guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 2005), which also considers impacts to sensitive receptors from facilities that emit TACs emissions. SCAQMD's distance recommendations are the same as CARB's in that a 500-foot siting distance for sensitive receptors is recommended in proximity of freeways and high-traffic roads, and SCAQMD's criteria includes siting distances for distribution centers and dry cleaning facilities. The SCAQMD's document introduces land use related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

Southern California Association of Governments (SCAG) Regional Comprehensive Plan and Guide (RCPG)

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the RCPG for the SCAG region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and

transportation components of the AQMP and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

City of Los Angeles Congestion Management Plan (CMP)

The Congestion Management Plan (CMP) for the County of Los Angeles was developed to meet the requirements of Section 65089 of the California Government Code. In enacting the CMP statute, the State legislature noted the increasing concern that urban congestion was impacting the economic vitality of the State and diminishing the quality of life in many communities. The CMP was created to further the following objectives:

- To link land use, transportation and air quality decisions.
- To develop a partnership among transportation decision makers to encourage appropriate transportation solutions include all modes of travel.
- To propose transportation projects which are eligible for State gas tax funds.

City of Los Angeles General Plan- Air Quality Element

California state law requires that each city adopt a long-term comprehensive general plan which must be integrated, internally consistent and compatible statement of goals, objectives, policies and implementation programs. This document then becomes the basis for decision making regarding the city's long term physical development. The most recent revision of the Air Quality Element for the Los Angeles City General Plan was adopted in November 1992. The objectives of this revised Air Quality Element are to aid the region in attaining CAAQS and NAAQS, while continuing to allow economic growth and improvement in the quality of life for City residents and visitors. This Element also discusses how the city plans to implement local programs contained in the SCAQMD's AQMP.

City of Los Angeles Green Building Ordinance

On April 22, 2008, the Los Angeles City Council approved Ordinance No. 179820 to establish the Green Building Program of the City of Los Angeles. Among other things, this Green Building Ordinance adds provisions to the LAMC [3] that create a "Standard of Sustainability" for building permit issuance. This standard is applicable to certain new construction and alteration/rehabilitation projects in the City, as described below.

The following types of projects are required to meet the Standard of Sustainability in order to receive a building permit from the Los Angeles Department of Building and Safety (LADBS):

- A new non-residential building or structure of 50,000 gross square feet or more of floor area;
- A new mixed use or residential building of 50,000 gross square feet or more of floor area in excess of six stories;

[3] The Green Building Program is codified as LAMC§§16.10-16.11.

- A new mixed use or residential building of six or fewer stories consisting of at least 50 dwelling units in a building, which has at least 50,000 gross square feet of floor area, and in which at least 80 percent of the building's floor area is dedicated to residential uses;

- The alteration or rehabilitation of 50,000 gross square feet or more of floor area in an existing non-residential building for which construction costs exceed a valuation of 50 percent of the replacement cost of the existing building; and

- The alteration of at least 50 dwelling units in an existing mixed use or residential building, which has at least 50,000 gross square feet of floor area, for which construction costs exceed a valuation of 50 percent of the replacement cost of the existing building.

The project must include a LEED® Accredited Professional (LEED® AP) on the Project team. While formal certification by the USGBC is not required, Applicants for Projects must demonstrate to the City Planning Department that the Project has met the intent of the US Green Building Council's (USGBC) LEED® Certified level.

The effective dates for the ordinance are November 1, 2008, for non-residential/high-rise residential projects, and May 1, 2009, for low-rise residential projects. Projects for which applications are submitted before these effective dates are considered "exceptions" to the Green Building Ordinance. The provisions of the Ordinance also do not apply to the following: *A Historic Resource,*[4] *if the Department of City Planning finds that full LEED® compliance would require alterations that conflict with the Secretary of the Interior's Standards for the Treatment of Historic Properties. In such case, a LEED®-AP must assert in writing that the Project has incorporated all other reasonable measures to achieve LEED® compliance, while avoiding adverse impacts to the Historic Resource's character-defining features.*

3B.3 Impacts and Mitigation Measures

Methodology

Air quality impacts due to the proposed project are studied from both project construction and project operations perspective. Regional construction emissions were compiled using URBEMIS 2007, version 9.2, which is an emissions estimation/evaluation model developed by the CARB that is based, in part, on SCAQMD *CEQA Air Quality Handbook* guidelines and methodologies (Rimpo Assoc., 2007). The URBEMIS 2007 software was also used to compile long-term project operational emissions from mobile sources (see **Appendix D**). Criteria pollutant emissions associated with the production and consumption of energy were calculated using applicable emission factors.

The SCAQMD's Localized Significance Threshold Methodology for CEQA Evaluations (SCAQMD Localized Significance Threshold (LST) Guidance Document) was used to evaluate

[4] A Historic resource is defined in the Green Building Ordinance as "A building, structure or site that is any of the following: a City Historic-Cultural Monument; listed in or formally determined eligible for the National Register of Historic Places or California Register of Historical Resources; a Contributing Element to a Historic Preservation Overlay Zone (HPOZ); or identified in an adopted historic resources survey as eligible for designation."

localized effects from mass emissions during construction.[5] In January 2005, SCAQMD supplemented the SCAQMD LST Guidance Document with Sample Construction Scenarios for Projects Less than Five Acres in Size.[6] SCAQMD's Final Methodology to Calculate PM2.5 Significance Thresholds were applied to calculate PM2.5.[7]

Criteria Significance

The criteria used to determine the significance of an impact are based on the Initial Study Checklist in Appendix G of the *CEQA Guidelines*.

The proposed project may result in significant air quality impacts if it would:

- Violate or conflict with any air quality standard, air quality plan or contribute substantially to an existing or projected air quality violation;
- Conflict with or obstruct implementation of the applicable air plan;

SCAQMD recommends that lead agencies apply the daily construction and operational emissions thresholds provided in **Table 3B-5** to assess the significance of regional impacts in the Basin.

TABLE 3B-5
SCAQMD REGIONAL SIGNIFICANCE THRESHOLDS

Air Contaminant	Construction (pounds per day)	Operations (pounds per day)
Carbon Monoxide	550	550
Nitrogen Oxides	100	55
Sulfur Oxides (SO_x)	150	150
Reactive Organic Gases	75	55
Particulate Matter (PM_{10})	150	150
Particulate Matter ($PM_{2.5}$)	55	55

SOURCE: SCAQMD, *CEQA Air Quality Handbook*, 1993.

- Create objectionable odors affecting substantial amounts of people;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Conflict with the state goal of reducing greenhouse gas emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006.

5 SCAQMD, Localized Significance Threshold Methodology, June 2003.
6 SCAQMD, Sample Construction Scenarios for Projects less than Five Acres in Size, January 2005.
7 SCAQMD, Final LST Methodology for PM2.5, October 2006.

The LST significance criteria is only applicable to NOx, CO, PM10 and PM 2.5 and varies based on the source receptor area, distance to the nearest sensitive receptor, and project size. For the proposed project, the LSTs are provided in Table 3B-8.

CEQA allows for the significance criteria established by the applicable AQMP or air pollution control district to be used to assess the impact of a project on air quality. SCAQMD has established the air pollution emissions criteria shown in Table 3B-5, above, for determining significance of impact during project construction and operation.

Project Impacts

The SCAQMD's CEQA Handbook suggests an evaluation of the following two criteria to determine whether a project involving a legislative land use action (in this case the proposed project) would be consistent or in conflict with the AQMP:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations; or

(2) Cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

Project-related air emissions would have a significant effect if they resulted in concentrations that create either a violation of an ambient air quality standard or contribute to an existing air quality violation. Ambient air quality currently exceeds existing SCAQMD for the primary pollutants that would be emitted by construction of the proposed project.

Construction Emissions

Construction emissions of the proposed project were estimated using the URBEMIS 2007 emissions inventory model. Construction-related emissions would primarily be 1) dust generated from demolition, earthmoving, excavation, and other construction activities; 2) hydrocarbon emissions from paints and asphalt; 3) exhaust emissions from powered construction equipment; and 4) motor vehicle emissions associated with construction equipment, worker commute, and debris-hauling activities.

The proposed project is part of a Specific Plan that extends to 2025 and includes specific development projects that would result in direct construction impacts. Additional future projects are anticipated to occur in the project area under the proposed Specific Plan but for purposes of worse case scenario analysis, it is assumed that two buildings, each 55,000 square feet, are constructed at any one time.

As shown in **Table 3B-6**, if construction activities of two buildings occur simultaneously under the Specific Plan, mitigated construction emissions would be below SCAQMD threshold levels. Therefore, the construction of two simultaneous buildings with mitigation would result in a less than significant air quality impact.

TABLE 3B-6
MITIGATED CONSTRUCTION EMISSIONS – OVERLAPPING CONSTRUCTION

Phase	Estimated Emissions (lbs/day)						
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2
Mass Grading	3	28	15	>1	13	4	3,685
Fine Grading	3	21	12	0	14	4	2,372
Trenching	2	14	9	0	1	1	1,839
Building	3	13	11	0	1	1	1,851
Asphalt	2	13	10	0	1	1	1,545
Architectural Coating	2	0	0	0	0	0	4
Regional Significance Threshold	75	100	550	150	150	55	NA
Exceed Threshold?	No	No	No	No	No	No	NA

NOTE: Project construction emissions estimates for off-road equipment were made using Urbemis2007, Version 9.2. PM_{10} and $PM_{2.5}$ emission estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries and achieves 61 percent or greater reduction in dust.
NA = not available

SOURCE: ESA, 2008.

It is not anticipated that two buildings would be constructed simultaneously, but this scenario was analyzed for purposes of presenting a conservative analysis.

To minimize construction emissions to greatest extent feasible, the proposed project would be required to implement fugitive dust, equipment emissions, and architectural coatings emissions control measures set forth in the SCAQMD Rules 402 and 403. With these routine and mandatory control measures, along with the **Mitigation Measures 3B.1, 3B.2 and 3B.3,** construction emissions would be less than significant.

Operations Emissions

Regional emissions associated with project operations would be generated by on-road vehicles and energy consumption. The proposed project is anticipated to generate up to an additional 876 daily vehicle trips (including 88 trips during the AM peak hour and 86 trips during the PM peak hour).

Operational emissions of the proposed project were estimated using the URBEMIS 2007 emissions inventory model. The proposed project would not significantly increase or contribute to the severity or frequency of an existing violation of air quality standard or plan, and would not conflict with nor obstruct implementation of the applicable air quality plan, and would not contribute to an existing or projected air quality violation during operation of the proposed project. Projected operational emissions are shown in **Table 3B-7** and demonstrate that projected uses on the project area do not exceed SCAQMD operations emissions threshold levels. As such, proposed project operations emissions would be less than significant.

TABLE 3B-7
PROJECT OPERATIONAL EMISSIONS – FULL BUILDOUT

Emissions Source	Estimated Emissions (lbs/day)						
	ROG	NO_X	CO	PM_{10}	SO_x	$PM_{2.5}$	CO_2
Area Source	9	3	9	0	<1	0	3385
Operational Emission	31	17	216	82	<1	16	53279
Sum of Area Source and Operational Emissions	40	20	225	82	1	16	56664
Regional Significance Threshold	55	150	550	150	150	55	NA
Exceed Threshold?	No	No	No	No	No	No	NA

NOTE: Operational Emissions estimates were made using URBEMIS 2007, Version 9.2.
NA = not available.

SOURCE: ESA, 2008.

Sensitive Receptors and Toxic Air Contaminants

Future CO concentrations at intersections are expected to decrease significantly throughout the coming years and by the time this proposed project is fully implemented due to technology continuing to reduce car CO emissions in automotive exhausts.

The primary source of potential air toxics associated with proposed project operations include diesel particulates from delivery trucks (e.g., truck traffic on local streets and on-site truck idling). SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulates (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[8] Potential localized air toxic impacts from on-site sources of diesel particulate emissions would be minimal since only a limited number of heavy-duty trucks (e.g., transportation refrigeration units) would access the project area and the trucks that do visit the site would not idle on the project area for extended periods of time. Based on the limited activity of the TAC sources, the proposed project would not warrant the need for a health risk assessment associated with on-site activities, and, in this regard, potential air toxic impacts would be less than significant.

The localized effects of the daily emissions of construction from excavation and soil removal at BOS 5 on the nearest sensitive receptors (across Avenue 50) were evaluated using the SCAQMD's localized significance threshold (LST) five- acre site model. It was assumed that approximately 20,000 cubic yards of soils would be excavated and trucked from the site and approximately 20,000 cubic yards would be hauled in for fill. The model compares CO, NOx, PM10, and PM2.5 localized emissions to LSTs in the project area. The mitigated daily construction-related regional emissions for the proposed project presented in Table 3B-6 were used to calculate LST impacts. The total on-Site emissions compared to the LSTs at 15 meters are shown in **Table 3B-8**. As shown on Table 3B-8, emissions would not be greater than the

[8] SCAQMD, *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions*, December 2002.

thresholds. Therefore, the localized construction impacts would be less than significant with implementation of mitigation measures.

TABLE 3B-8
TOTAL ON-SITE MITIGATED EMISSIONS COMPARED LOCAL SIGNIFICANCE THRESHOLDS (LBS/DAY)[1]

Project Data	CO	NOx	PM10	PM2.5
Demolition	NA	NA	NA	NA
Mass Grading	20	34	15	4
Fine Grading	12	21	3	3
Trenching	8	14	1	1
Building	10	13	1	1
Arch Coating and Paving	11	26	2	2
Localized Significance Threshold	**1378**	**320**	**16**	**8**
Significant (Yes or No)?	No	No	No	No

1. Project construction estimates were made using SCAQMD's localized significance threshold (LST) five-acre site model. See Appendix AQ for more details.

NOTE: Values in bold are in excess of the applicable significance threshold. NA = Not Available

SOURCE: ESA, 2008.

Operational Impacts

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities. The proposed project may include these potential sources, however, regulatory measures would be in place to control and reduce potential hazardous toxic air contaminants generated from these land uses.

The most common area in which objectionable odors might occur is wherever there is trash storage/ pick up areas. The proposed project would require all trash enclosures to be self-closing (see Measure 3B.4), which would reduce a majority of potential odors emanating from these facilities. All developed properties must participate in the local trash pick-up service; therefore, no substantial odors involving trash storage/pick up areas are expected to occur.

Construction Impacts

In addition, objectionable construction related odors may result from the proposed project. Odors resulting from construction of the proposed project are considered short-term and temporary and construction workers would be required to do any construction activity that could cause offensive odors off-site before coming onto the project area. Compliance with SCAQMD Rule 402 (Nuisance) would potentially result in a less than significant impact.

SCAQMD and Air Quality Element Consistency

The SCAQMD has designated two key indicators of consistency with air quality policies. The first criterion requires that the project not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emission reductions specified in the AQMP. The second criterion requires that the project not exceed the growth assumptions made in preparing the AQMP.

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis include forecasts of project emissions in a regional context during construction and operation. As described above, operation of the project would result in less than significant emissions associated with vehicle traffic and operation of the facility. Also as described above, the project would not result in emissions that would exceed the SCAQMD significance threshold during the short-term duration of construction. The construction activities would not result in measurably more frequent or more severe air quality violations. The AQMP identifies construction activities as contributing factors to the overall emissions sources and provides source control measures to reduce this contribution, but does not conclude that individual projects would delay the attainment of air quality standards for the basin. Compliance with the Rules established by the SCAQMD to reduce construction emissions including fugitive dust control measures and vehicle maintenance measures would ensure that the project would not conflict with the current AQMP.

The second consistency criterion requires that the project does not exceed the assumptions in the AQMP. A project is consistent with the AQMP if it is consistent with the population, housing and employment assumptions which were used in the development of the AQMP. The 2007 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates, in part, SCAG's 2004 Regional Transportation Plan (RTP) socioeconomic forecast projections of regional population and employment growth. The 2004 RTP is based on growth assumptions through 2030 developed by each of the cities and counties in the SCAG region. The project is consistent with growth assumptions included in the AQMP because it is consistent with the City General Plan, which is consistent with the RTP. As such, the impact would be less than significant.

Global Climate Change

As with other individual relatively small projects (e.g., projects that are not cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, or hydrogen plants or other stationary combustion sources that emit more than 25,000 MMT CO_2E/yr), the emissions from this project would not be expected to individually have an impact on Global Climate Change (AEP, 2007) and the primary concern would be whether the project would be in conflict with the state goals for reducing greenhouse gas emissions.

Three types of analyses are used to determine whether the project could be in conflict with the state goals for reducing greenhouse gas emissions. The analyses are reviews of:

A. The potential conflicts with the CARB 44 early action strategies and consistency with the Climate Action team's recommended GHG emissions reduction strategies;

B. The relative size of the project in comparison to the estimated greenhouse reduction goal of 174 MMT CO_2E by 2020 and in comparison to the size of major facilities that are required to report greenhouse gas emissions (25,000 metric tons of CO_2E/yr)[9]; and

C. The basis parameters of a project to determine whether its design is inherently energy efficient.

With regard to Item A, the project does not pose any apparent conflict with the most recent list of the CARB early action strategies (see Table 3B-4). In its report to the governor and the legislature, the Climate Action Team recommended strategies that could be implemented by various state boards, departments, commissions, and other agencies to reduce GHG emissions.[10] The Climate Action Team strategies that are relevant to the proposed project's design features and mitigation measures that would be consistent with these strategies are listed in Table 3B-9. Based on the analysis in this table, the proposed project would reduce its contribution to GHG emissions and global climate due to its consistency with these strategies.

TABLE IV.B-9:
PROJECT FEATURES AND MITIGATION MEASURES TO ACHIEVE CLIMATE ACTION TEAM STRATEGIES

CAT Strategy	Implementing Agency	Project Feature/Mitigation
Vehicle Climate Change Standards	Air Resources Board	The project would be consistent with this strategy to the extent that new passenger vehicle and light trucks are purchased by the project's users starting in the 2009 model year.[1]
HFC Reduction Strategies	Air Resources Board	Project air conditioning systems would comply with the latest standards for new systems. Use of consumer products using HFCs would comply with ARB regulations, when adopted.
Building Energy Efficiency Standards and Appliance Energy Efficiency Standards in Place	Energy Commission	The project will meet or exceed California energy standards and energy efficient lighting requirements.
Water Use Efficiency	Department of Water Resources	The project will meet or exceed California water use and conservation standards.

Source: California Climate Action Team, Final 2006 Climate Action Team Report to the Governor and Legislature*, (2006).*
[1] *The US EPA has denied the waiver that would allow these standards to be implemented; however, the state has filed a lawsuit to overturn this decision and Senate Bill 2555 that would essentially bypass the US EPA's decision and grant California the waiver is progressing through the United States Congress. The implementation of these standards and the time schedule for the introduction of compliance passenger vehicles and light trucks are in question at this time.*

With regard to Item B, project construction greenhouse gas emissions would be approximately 971 metric tons of CO_2E/yr and 12,214 metric tons of CO_2E/yr from operations (including

[9] The State of California has not provided guidance as to quantitative significance thresholds for assessing the impact of greenhouse gas emissions on climate change and global warming concerns. Nothing in the CEQA Guidelines has yet addressed this issue.
[10] California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).

emissions from vehicle trips, water heating, indirect emissions from use of electricity, and solid waste generation). The project would not be classified as a major source of greenhouse gas emissions (total emissions would be approximately 48 percent of the lower reporting limit, which is 25,000 metric tons of CO_2E/yr).

When compared to the overall state reduction goal of approximately 174 million metric tons CO_2E/yr, the maximum greenhouse gas emissions for the project (12,214 metric tons CO_2E/yr or 0.007 percent of the state goal) are quite small and should not conflict with the state's ability to meet the AB32 goals. Nonetheless, the proposed project would help contribute to a cumulative impact in the state regarding CO_2E emissions.

With regard to Item C, the project would serve the local population and present new opportunities for students to live on campus with shorter travel distances, which would be a positive effect of the project. In addition, future reductions in energy demand directly reduce the emission of greenhouse gases. However, the proposed project would also likely result in an increase in on-site energy consumption.

The proposed project would be built to meet LEED's Silver rating standard. The project would include erosion and sedimentation control, storm water management, the reduction of any heat island effects, the reduction of light pollution, the use of water efficient landscaping and innovative wastewater technologies, water use reduction, and other measures, such as the use of local and regional building materials, carbon dioxide (CO_2) monitoring, the use of low-emitting materials, and control of indoor chemical and pollutant sources. The use of these measures would help to reduce on-site energy consumption. Implementation of Mitigation Measure 3B.4 would ensure that on-site energy consumption would be a less-than-significant impact.

The review of Items A, B, and C indicates that the project would not conflict with the state goals in AB32 and therefore this impact would be less-than-significant.

Consistency with the Green Building Ordinance

New development resulting from the Occidental College Specific Plan would conform to the applicable provisions of the Green Building Ordinance because such development is intended to be constructed to LEED® standards. In addition, alterations to potentially historic structures will be required to conform to the Secretary of the Interior's Standards (see Section 3D, *Cultural Resources*), and therefore, the exception referenced above would not apply. To ensure that construction of any a new building over the thresholds of the Green Building Ordinance will comply with the requirements of the ordinance and will meet the energy efficiency standards of LEED® certification, Mitigation Measure No. 3B.5 is included in this DEIR (see below).

Mitigation Measures

The following mitigation measures shall be applied to the proposed project to reduce impacts to air quality:

SCAQMD Rule 402 defines standards to reduce quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.

SCAQMD Rule 403 regulates operations which periodically may cause fugitive dust emissions into the atmosphere.

In addition to adhering to requirements of SCAQMD Rules 402 and 403, the following mitigation measures are required to reduce short-term air pollutant emissions and minimize public health impacts to nearby sensitive receptors.

Construction Equipment Exhaust

Measure 3B.1: Reduce construction equipment emissions. Prior to approval of grading plans for surface areas that will be actively disturbed, the following notes shall be required on the contractor specifications: "To reduce construction equipment emissions, the following measures shall be implemented when feasible." And the following measures shall be included in the contractor specifications:

- Use low emission mobile construction equipment. Each individual construction project shall comply with CARB requirements for heavy construction equipment.
- All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.
- General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. Construction activities shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.
- Use low sulfur fuel for stationary construction equipment.
- Configure construction parking to minimize traffic interference.
- Minimize obstruction of through-lanes. When feasible, construction should be planned so that lane closures on existing streets are kept to a minimum.
- Schedule construction operations affecting traffic for off-peak hours.
- Develop a traffic plan to minimize traffic flow interference from construction activities.
- Use aqueous diesel fuel where feasible and reasonably commercially available.
- Use cooled exhaust gas recirculation where feasible and reasonably commercially available.
- Use construction equipment with a Diesel Oxidation Catalyst with a control efficiency ranging up to 40 percent when feasible.

Construction Fugitive Emissions

Measure 3B.2: Reduce fugitive emission. Prior to approval of grading plans for surface areas that will be actively disturbed, the following notes shall be included on the contractor specifications: "To reduce fugitive emissions from construction, the following measures shall be implemented when feasible." And the following measures shall be included in the contractor specifications:

- All paved access roads, parking areas, and staging areas shall be swept daily using SCAQMD Rule 1186 certified water sweepers or recommended water sweepers using reclaimed water.
- Traffic speeds on unpaved roads shall be limited to 15 miles per hour (mph) or less.
- Cease grading during periods when winds exceed 15 mph and install truck and tire wash facilities as needed to reduce off-site transport of fugitive dust from all unpaved staging areas and unpaved road surfaces.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard.
- Pave, water (three times daily), cover, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public and private streets within the project area.
- Hydroseed or apply non-toxic stabilizers to inactive construction areas
- Enclose, cover, water (twice daily) or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.)
- Install sandbags or other erosion control measures to prevent silt runoff to public and private roadways within the project area during rainy season construction (November through April).
- Replant vegetation in disturbed areas as quickly as possible.
- Heavy-duty trucks shall be prohibited from idling in excess of five minutes. In addition, the project site shall contain signs posted, and provide driver education, regarding the adverse health effects associated with diesel inhalation.

Construction Coating Activities

Measure 3B.3: Reduce emissions related to coating and paving activities, the following notes shall be included on the contractor specifications: "To reduce emissions from construction, the following measures shall be implemented when feasible." And the following measures shall be included in the contractor specifications.

- Architectural coatings and solvents shall have an ROG content of 75 grams per liter or lower.
- Minimize the amount of painting each day to a limited level.

- Minimize the amount of paint used by using pre-coated, pre-colored and naturally colored building materials.
- Use water-based and LOW-VOC coatings with VOC contents less than those required by SCAQMD Rule 1113.
- Use high transfer efficiency painting methods such as High Volume Low Pressure sprayers and brushes/rollers where possible.
- The applicant shall utilize building materials that do not require painting, as feasible.
- The applicant shall utilize pre-painted construction material, as feasible.
- Construction workers shall be required to handle and process, as feasible, construction activity that could cause offensive odors off-site before coming onto the project area.

Greenhouse Gas Mitigation Measures[11]

Measure 3B.4: The following sustainable and energy efficient measures would reduce greenhouse gas emissions from project implementation:

- Design buildings to take advantage of passive solar heating and cooling, and design buildings to take advantage of prevailing winds, landscaping and sun screens to reduce energy use for heating and cooling.
- Demonstrate a minimum 14% increase in the proposed building performance rating compared to the baseline building performance rating required by the current (2008) Title 24 standards.
- Install water-efficient landscaping and other water use reduction measures (see measure 3F.2).
- Install on-site renewable energy systems (solar power) to provide power for campus uses.
- Make use of local and recycled materials in construction of new buildings.
- Install efficient lighting and lighting control systems (including compact fluorescent light bulbs and LED lights) and use daylight as an integral part of lighting systems in buildings.
- Install high albedo (high reflectivity) light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Install energy efficient (e.g. Energy Star or equivalent) heating and cooling systems, appliances and equipment, and control systems.
- Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.

[11] California Department of Justice, The CEQA Addressing Global Warming Impacts at the Local Agency Level, May 21, 2008.

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.
- Provide education and publicity about reducing waste and available recycling services.
- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.

Measure 3B.5: To reduce GHG emissions associated with new construction resulting from the Specific Plan and to ensure energy efficient design, the construction of any new building over the thresholds of the Green Building Ordinance will comply with the provisions of this ordinance.

Operational Emissions

Measure 3B.6: The following measures would reduce any potential operational odor impacts and any potential impact from air pollutants on future project occupants:

- Install self-closing trash enclosures.
- All trash receptacles shall be at least 50 feet from the property line of any adjacent residential property.
- As may be necessary (based on review by the Department of Building and Safety) new buildings shall include air filtration with filters meeting or exceeding ASHRAE Standard 52.2 Minimum Energy Efficiency reporting Value (MERV) of 12, to the satisfaction of the Department of Building and Safety.

3B.4 Cumulative Impacts

Implementation of the proposed project would not result construction emissions exceeding an applicable threshold. In addition, long-term emissions associated with vehicular traffic, energy consumption and use of common cleaning and maintenance agents would not exceed an applicable thresholds during operation of the proposed project. As a result, the proposed project would not contribute to a cumulatively considerable impact.

3B.5 Significant Impacts after Mitigation

Implementation of the above mitigation measures would reduce construction emissions below the SCAQMD thresholds.