CHAPTER 3.2
AIR QUALITY

3.2.1 INTRODUCTION

This section focuses on the potential air quality impacts associated with the proposed project. Information in this section is based primarily on the Aerometric Data Analysis and Measurement System (ADAM) Statistics (California Air Resources Board [CARB] 2004 through 2008); the *CEQA Air Quality Handbook* prepared by the South Coast Air Quality Management District (SCAQMD), April 1993 (as revised through November 1993); and the *SCAQMD Final Air Quality Management Plan* (August 2007); refer to Appendix B, *Air Quality Data*, for the assumptions used in this analysis.

3.2.2 ENVIRONMENTAL SETTING

The project site lies within the northwestern portion of the Salton Sea Air Basin (SSAB), which is composed of the central portions of Riverside County, and all of Imperial County. The southeastern edge of the SSAB is bounded by the Colorado River. The western boundary follows the ridge line of a series of high mountain ranges: the San Gabriel, San Bernardino, and San Jacinto ranges, which form both a physical and climatological barrier between the Salton Sea and South Coast Air Basins. The SSAB, including the Coachella Valley, has a desert climate characterized by low annual rainfall, low humidity, hot days and very cool nights. The mean annual precipitation in the Coachella Valley averages approximately three inches, most of which occurs between October and January. Temperature in the Palm Springs and Cathedral City area varies greatly between summer and winter, ranging from 30 degrees Fahrenheit (ºF) in winter to over 100ºF in the summer. Relative humidity is generally low in summer with particularly dry afternoons. These clear, dry conditions result in intense solar radiation that, combined with high temperatures, is highly conducive to photochemical smog formation.

Wind direction and speed (which in turn affect atmospheric stability) are the most important climatological elements affecting the ambient air quality within the project area. The onshore dominant daytime wind pattern (from the west) occurs between 12:00 P.M. and 7:00 P.M., following the peak travel period (6:00 A.M. to 9:00 A.M.) in the Los Angeles/Orange County area. Consequently, during periods of low inversions and low wind speeds, the photochemical smog formed in these areas is transported downwind into Riverside County and San Bernardino County. Within the vicinity of the project site the wind direction is generally in a southeast direction.

The Coachella Valley rarely experiences the summer temperature inversions that frequently "cap" polluted air layers in the Los Angeles basin area. However, inversions can form during cold nights with mild winds (typically during winter months), but are usually removed during daytime heating. When these desert inversions form, they may trap pollutants near low-level emission sources such as freeways or parking lots.

Criteria Pollutants

The SCAQMD operates several air quality monitoring stations throughout the SSAB. The project site is located within Source Receptor Area (SRA) 30, one of the 37 areas under the jurisdiction of the SCAQMD. The communities within a SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The Palm Springs Fire Station Monitoring Station is the closest monitoring station to the site within SRA 30. This station monitors O_3, CO, NO_X, PM_{10}, and $PM_{2.5}$. The Calexico – Ethel Monitoring Station was used to gather data for SO_X. The data collected at these stations is considered to be representative of the air quality experienced on-site. Air quality data from 2004 to 2008 is provided in Table 3.2-1, *Local Air Quality Levels*. The following air quality information briefly describes the various types of pollutants.

Table 3.2-1
Local Air Quality Levels

Pollutant	California Standard	Federal Standard	Year	Maximum[1] Concentration	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-Hour) [2]	0.09 ppm for 1 hour	NA	2004	0.125 ppm	36/N/A
			2005	0.139	41/N/A
			2006	0.126	37/N/A
			2007	0.126	29/N/A
			2008	0.112	26/N/A
Ozone (O_3) (8-Hour)[2]	0.07 ppm for 8 hours	0.075 ppm for 8 hours	2004	0.106 ppm	88/53
			2005	0.110	78/61
			2006	0.109	79/61
			2007	0.102	83/58
			2008	0.101	70/51
Carbon Monoxide (CO)[2]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2004	0.80 ppm	0/0
			2005	0.80	0/0
			2006	0.85	0/0
			2007	0.79	0/0
			2008	0.54	0/0
Nitrogen Dioxide (NO_2) [2]	0.18 ppm for 1 hour	0.053 ppm annual average	2004	0.066 ppm	0/0
			2005	0.059	0/0
			2006	0.093	0/0
			2007	0.063	0/0
			2008	0.049	0/0
Sulfur Dioxide (SO_2)[3]	0.04 ppm for 24 hours	0.14 ppm for 24 hours	2004	0.003ppm	0/0
			2005	0.002	0/0
			2006	0.041	0/0
			2007	0.004	0/0
			2008	0.007	0/0
Particulate Matter (PM_{10}) [2,4,5]	50 µg/m³ for 24 hours	150 µg/m³ for 24 hours	2004	79.0 µg/m³	2/0
			2005	66.0	2/0
			2006	226.0	3/1
			2007	83.0	3/0
			2008	75.0	4/0
Fine Particulate Matter ($PM_{2.5}$) [2,5]	No Separate State Standard	35 µg/m³ for 24 hours	2004	27.1 µg/m³	N/A/0
			2005	25.0	N/A/0
			2006	24.7	N/A/0
			2007	32.5	N/A/0
			2008	18.1	N/A/0

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; µg/m³ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; N/A = not applicable.

Notes:

1. Maximum concentration is measured over the same period as the California Standards.
2. Palm Springs Fire Station Monitoring Station located at 590 East Racquet Club Avenue Palm Springs, California 92262.
3. Calexico – Ethel Street Monitoring Station located at 1029 Belcher Street, Calexico California 92231.
4. PM_{10} exceedances are based on state thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resource Board, Aerometric Data Analysis and Measurement System (ADAM), summaries from 2004 to 2008, http://www.arb.ca.gov/adam.

Carbon Monoxide (CO)

Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

Carbon monoxide replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies) and patients with chronic hypoxemia (oxygen deficiency), as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide. Exposure to high levels of carbon monoxide can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations. The maximum eight-hour concentration ranged between 0.54 ppm and 0.85 ppm from 2004 to 2008 at the Palm Spring Fire Station Monitoring Station. State and Federal standards were not exceeded between 2004 and 2008.

Ozone (O_3)

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), NO_x, and sunlight to form; therefore, VOCs and NO_x are ozone precursors. VOCs and NO_x are emitted from various sources throughout the area. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue as well as chest pain, dry throat, headache, and nausea.

The one-hour O_3 levels ranged from 0.112 parts per million (ppm) to 0.139 ppm from 2004 to 2008 at the Palm Spring Fire Station Monitoring Station. The State ozone standard is 0.09 parts per million (ppm), averaged over one hour, and was exceeded 169 times between 2004 and 2008. The Federal Standard for O_3 was revoked as of June 5, 2005 and therefore does not apply. The 8-hour O_3 levels between 2004 and 2008 ranged between 0.101 ppm and 0.110 ppm at the Palm Spring Fire Station Monitoring Station. The State 8-hour standard for O_3 is 0.07 ppm, was approved by CARB on April 28, 2005, and was exceeded 398 times between 2004 and 2008. The Federal standard for O_3 is 0.075 ppm, averaged over eight hours, and was exceeded 284 times between 2004 and 2008.

Nitrogen Dioxide (NO_2)

Nitrogen oxides (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_x) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

From 2004 through 2008, there were no exceedances of the State standard of 0.18 ppm over one hour at the Palm Spring Fire Station Monitoring Station. For NO_2, the SSAB is designated as being in attainment under both State and Federal standards.

Coarse Particulate Matter (PM_{10})

PM_{10} refers to suspended particulate matter which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003 CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

The State standard for PM_{10} is 50 micrograms per cubic meter ($\mu g/m^3$) averaged over 24 hours; this standard was exceeded 14 days at the Palm Spring Fire Station Monitoring Station between 2004 and 2008. The Federal standard for PM_{10} is 150 $\mu g/m^3$ averaged over 24 hours; this standard was exceeded once between 2004 and 2008.

Fine Particulate Matter ($PM_{2.5}$)

Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the EPA announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA's new standards.

On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates non-attainment areas for Federal $PM_{2.5}$ standards. For $PM_{2.5}$, the Federal standard is 35 $\mu g/m^3$ over 24 hours. There is no separate State standard for $PM_{2.5}$. At the Palm Spring Fire Station Monitoring Station, there were no exceedances between 2004 and 2008. Furthermore, the SSAB is designated as attainment/unclassified for State and Federal regulations.

Oxides of Sulfur (SO_x or Sulfur Dioxide [SO_2])

Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. Sulfur dioxide levels in all areas of the

SSAB do not exceed Federal or State standards, and the SSAB is designated as in attainment for both State and Federal SO_2 standards.

Volatile Organic Compounds (VOCs or Reactive Organic Gasses [ROG])

Hydrocarbon compounds are any compounds containing various combinations of hydrogen and carbon atoms that exist in the ambient air. VOCs contribute to the formation of smog and/or may themselves be toxic. VOCs often have an odor and some examples include gasoline, alcohol and the solvents used in paints. There are no specific State or Federal VOC thresholds as they are regulated by individual air districts as O_3 precursors.

Visibility

Visibility can be defined as the distance that atmospheric conditions permit a person to see at any given time. Technically, visibility is defined as the farthest distance an observer can distinguish a large black object against the horizon. Reduced visibility causes aesthetic impairment of surroundings and also interferes with aircraft operations. Visibility may be impaired by natural or man-made sources, including natural aerosols such as precipitation, fog, soil particles, volcanic emissions, vegetation, sea spray and organic decomposition products; and man-made sources such as sulfates and nitrates. The greatest contribution to visibility reduction in the Salton Sea Air Basin is from light scattering by "fine particle" aerosols with the size range of 0.1 to 2 microns (a micron is one-millionth of a meter). Visibility is not measured in Source Receptor Area 30.

Total Suspended Particulates (TSP)

Total Suspended Particulates (TSP) is the name given to the solid matter suspended in the atmosphere. Approximately 9.5 percent of TSP is generated by stationary sources. This complicated mixture of natural and man-made materials includes soils particles, biological materials, sulfates, nitrates, organic (or carbon-containing compounds), and lead. TSP tends to be at higher concentrations in the day and has an unclear seasonal pattern. High dust levels result from strong winds and loose, arid soil. Larger dust particles pose a less serious health threat than small particles produced by fossil fuel combustion. TSP monitoring was discontinued in 1991.

Lead (Pb)

In the SSAB, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as TSP. Atmospheric lead concentrations have been reduced substantially in recent years due to the lowering of average lead content in gasoline. Exceedances of the State air quality standard for lead (monthly average concentration of 1.50 $\mu g/m^3$) now are confined to the densely populated portions of Riverside County where vehicle traffic is greatest.

Blowsand

Both the topography and meteorology that make up the Coachella Valley contribute to a unique annual sand migration process termed "blowsand." Although blowsand particles are larger than PM_{10}, there is still a direct relationship between blowsand and PM_{10}. In natural conditions, sand particles collide with each other, creating the natural uncontrollable portion of PM_{10}. In addition, after the winds subside, blowsand deposited in the streets is crushed by automobiles and resuspended into the air, thus creating additional PM_{10}.

The SCAQMD's *2007 Air Quality Management Plan* is governed by State and Federal law and is part of the State Implementation Plan (SIP) submitted to the EPA. Although the Coachella Valley is within the SCAQMD jurisdiction, it is not included in the Air Quality Management Plan (AQMP) for PM_{10} attainment because PM_{10} is generated primarily within the Coachella Valley, rather than from sources in the South Coast Air Basin

(SCAB). Therefore, a separate SIP for PM_{10} is required, and the SCAQMD is the appointed authority to prepare it. The SCAQMD's *Final 2003 State Implementation Plan for PM_{10} in the Coachella Valley* (Coachella Valley SIP) addresses the Valley's non-attainment designation for PM_{10}. The Coachella Valley SIP focuses on reducing PM_{10} from man-made dust producing activities and the reduction of blowsand intrusion into populated areas, and does not attempt to reduce naturally caused PM_{10} produced during desert wind storms.

The Coachella Valley SIP identifies candidate control measures to reduce fugitive dust from the five major sources. The applicability of the control measures depends on site-specific factors, including: wind conditions, soil type, crop type, and condition of the surrounding area. Based on the candidate control measures and input from the Coachella Valley Area Governments (CVAG), within the Coachella Valley SIP, the SCAQMD recommends control measures, which include but are not limited to the following: requiring watering of all active construction projects; requiring the chemical treatment of unattended construction areas; prohibiting all construction grading activities on days when the wind gusts exceed or are forecast to exceed 30 mph; requiring construction trucks to maintain at least two feet of freeboard (freeboard means vertical space between the top of the load and the top of the trailer); requiring all trucks hauling dirt, sand, soil, or other loose dirt material to be covered; and encouraging the planting of vegetative ground cover as soon as possible on construction sites. The Coachella Valley SIP also provides supplementary (contingency) control measures, should the recommended measures fail to achieve the level of control specified in the Coachella Valley SIP.

Global Climate Change Gases

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[1] The greenhouse effect traps heat in the troposphere through a three fold process as follows: Short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and greenhouse gases (GHG) in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most-abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1.

GHGs normally associated with the proposed project include the following:[2]

- **Carbon Dioxide (CO_2)** - CO_2 is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of CO_2 in the atmosphere has increased 35 percent.[3] CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWP s for other GHGs. In 2004, 83.8 percent of California's GHG emissions were CO_2.[4]

- **Nitrous Oxide (N2O)** - N_2O is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment,

[1] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.
[2] All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).
[3] United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 to 2004*, April 2006.
[4] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, December 2006.

mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N_2O is 310.

- **Methane (CH_4)** - CH_4 is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of CH_4 come from landfills, natural gas systems, and enteric fermentation. CH_4 is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of CH_4 is 21.

In addition to the GHGs discussed above, many other compounds have the potential to contribute to the greenhouse effect. The following is a listing of these compounds:

- **Hydrofluorocarbons (HFCs)** - HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.

- **Perfluorocarbons (PFCs)** - PFCs are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. The GWP of PFCs range from 5,700 to 11,900.

- **Sulfur hexafluoride (SF_6)** - SF_6 is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to CO_2 (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]).[5]

- **Hydrochlorofluorocarbons (HCFCs)** - HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. The GWP of HCFCs ranges from 93 for HCFC-123 to 2,000 for HCFC-142b.[6]

- **1,1,1 trichloroethane** - 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of CO_2.[7]

- **Chlorofluorocarbons (CFCs)** - CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the EPA's Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. CFCs are potent GHGs with the GWP ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[8]

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely

[5] United States Environmental Protection Agency, *High GWP Gases and Climate Change*, October 19, 2006.
[6] United States Department of Energy, *Energy and Global Warming Impacts of HFC Refrigerants and Emerging Technologies*, 1997.
[7] Sponsored by United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006.
[8] United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 25, 2008.

to be adversely affected by air pollution, as identified by CARB: children under fourteen, elderly over sixty-five, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools and parks.

Existing sensitive receptors located in the project vicinity include single and multi-family residential homes, schools, parks, places of worship and a hospital. Sensitive receptors in the project area can be seen below in Table 3.2-2, *Sensitive Receptors*.

Table 3.2-2
Sensitive Receptors

Type	Name	Approximate Distance from Project Site (feet)	Direction from Project Site
Residential	Residential Uses	540	North
		2,297	Northwest
		2,875	East
Hotel/Motel	Travelodge	1,783	West
	Ozz Resort	1,864	North
	Villa Mykonos	2,237	Northwest
	Beckley's Villa Motel	2,267	Northwest
	Cathedral City Boys Club/Resort Hotel	3,296	East
Schools	King's Preschool	3,048	North
	Cathedral City Elementary School	5,235	East
Parks	Town Square Park	4,795	East
Places of Worship	Friends of Jesus Christian	1,006	North
	Northgate Community Church	4,268	Northeast
	Glory to God Ministries	4,336	East
	First Southern Baptist Church	4,454	East
	St. Louis Catholic Church	4,988	East

Source: Google Earth 2008.

3.2.3 PROJECT SETTING

The project site is located at the mouth of Eagle Canyon, in the hills to the southwest of East Palm Canyon Drive (Highway 111) in both the City of Palm Springs and Cathedral City, California. The Canyon drains the northeastern portion of the San Jacinto Mountains and currently discharges into a wash and vacant land between Perez Road and Canyon Plaza Drive. A portion of the project would be sited within Agua Caliente

Indian Reservation property. The canyon floor is approximately 100 to 150 feet wide throughout the length of the project site. The axis of the canyon is aligned generally southwest to northeast.

3.2.4 APPLICABLE REGULATIONS

Regulatory oversight for air quality in the SSAB rests with the South Coast Air Quality Management District (SCAQMD) at the regional level, the California Air Resources Board (CARB) at the State level, and the U.S. Environmental Protection Agency (EPA) Region IX office at the Federal level.

Local

City of Palm Springs General Plan

The Air Quality Element of the Palm Springs General Plan is intended to ensure that the City, in collaboration with regional agencies, is able to preserve and improve air quality in the Coachella Valley to the greatest extent possible. The following goals, policies, and objectives are applicable to the proposed project:

Policy AQ1.1:	Work to attain ozone, nitrogen dioxide, carbon monoxide, lead, particulate matter, and sulfate standards as enforced by SCAQMD.
Policy AQ1.4:	Incorporate the provisions of the SCAQMD Air Quality Management Plan into project review procedures.
Policy AQ1.8:	Support and implement the provisions of the Coachella Valley Dust Control Ordinance, Handbook, and Memorandum of Understanding
Policy AQ2.1:	Require those projects meeting specialized criteria as identified in the Zoning Ordinance to submit a Fugitive Dust Control Plan prior to the issuance of grading or building permits.
Policy AQ2.2:	Encourage the use of landscaping, vegetation, and other natural materials to trap particulate matter or control other pollutants. Establish windbreaks immediately downwind of large open spaces. Tree species used for windbreaks should be drought tolerant.
Policy AQ2.3:	Reduce the transport of blowsand adjacent to paved roadways and residential areas through the use of chemically stabilizing soil surfaces or snow fence windbreaks. Chemical stabilizing measures should only be used in areas where they will not impact endangered habitats or species.
Policy AQ2.6:	Prohibit the transport of earth/soil through the City when wind gusts exceed 25 miles per hour per the City's PM10 Ordinance.
Policy AQ2.7:	Require the planting of vegetative ground covers as soon as possible on construction sites.
Policy AQ2.9:	Phase mass grading in a way that minimizes, to the greatest extent possible, the exposure of large expanses of graded areas to wind that causes blowing sand.
Policy AQ3.1:	Discourage the development of land uses and the application of land use practices that contribute significantly to the degradation of air quality.

Policy AQ3.2: Carefully consider the placement of sensitive land uses (schools, residences, daycare, medical uses, etc.) in proximity to sources of air contaminants that pose significant health risks.

City of Cathedral City General Plan

The Air Quality Element of the Cathedral City *General Plan* includes goals, policies and programs to preserve and enhance local and regional air quality to assure the long-term protection of the community's health and welfare. The following goals, policies, and programs are applicable to the proposed project:

Policy 1: The City shall be proactive in regulating local pollutant emitters and shall cooperate with Coachella Valley Association of Governments and the South Coast Air Quality Management District to assure compliance with air quality standards.

Policy 2: The City shall fully implement dust control ordinances, and coordinate and cooperate with local, regional and federal efforts to monitor, manage and reduce the levels of major pollutants affecting the City and region, with particular emphasis on PM10 emissions.

Policy 3: City land use planning efforts shall assure that sensitive receptors are separated from polluting point sources, to the greatest extent practical.

Policy 4: Development proposals brought before the City shall be reviewed for their potential to adversely impact local and regional air quality and shall be required to mitigate any significant impacts.

South Coast Air Quality Management District

The SCAQMD is one of 35 air quality management districts that have prepared AQMPs to accomplish a five-percent annual reduction in emissions. The *2007 Air Quality Management Plan for the South Coast Air Basin* (*2007 Air Quality Management Plan*) relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. The *2007 Air Quality Management Plan* proposes policies and measures to achieve Federal and State standards for improved air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction.

The *2007 Air Quality Management Plan* also addresses several State and Federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The *2007 Air Quality Management Plan* is consistent with and builds upon the approaches taken in the *2003 Air Quality Management Plan*, the *1997 Air Quality Management Plan*, and the *1999 Amendments to the Ozone State Implementation Plan* for the Basin for the attainment of the Federal ozone air quality standard.

The *2007 Air Quality Management Plan* includes new information on key elements such as:

- Current air quality;
- Improved emission inventories, especially significant increase in mobile source emissions;

- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, State and Federal Stationary and Mobile Source Control Measures, and the Southern California Association of Governments Regional Transportation Strategy and Control Measures;

- New attainment demonstration for $PM_{2.5}$ and O_3;

- Milestones to the Federal Reasonable Further Progress Plan; and

- Preliminary motor vehicle emission budgets for transportation conformity purposes.

In addition to the *2007 Air Quality Management Plan* and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook*. The SCAQMD *CEQA Air Quality Handbook* provides guidance to assist local government agencies and consultants in developing the environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook* approved by the SCAQMD Governing Board in 1993.

State

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 3.2-3, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide and sulfates.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparation of the State Implementation Plan (SIP) for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment. Under the CCAA, the SSAB is designated as a nonattainment area for O_3 and PM_{10}. The SSAB is designated as an attainment area for CO, NO_2, $PM_{2.5}$, SO_2 and Pb; refer to Table 4.2-3. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. The AQMP is the plan for improving air quality in the region.

Table 3.2-3
National And California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	**Extreme Nonattainment**	NA[5]	NA[5]
	8 Hours	0.07 ppm (137 µg/m³)	**Nonattainment**	0.075 ppm (147 µg/m³)	**Serious Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 µg/m³	**Nonattainment**	150 µg/m³	**Serious Nonattainment**
	Annual Arithmetic Mean	20 µg/m³	**Nonattainment**	N/A	**Serious Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 µg/m³	Attainment
	Annual Arithmetic Mean	12 µg/m³	Unclassified	15.0 µg/m³	Attainment
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 µg/m³)	Attainment	9 ppm (10 µg/m³)	Attainment
	1 Hour	20 ppm (23 µg/m³)	Attainment	35 ppm (40 µg/m³)	Attainment
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57µg/m³)	N/A	0.053 ppm (100 µg/m³)	Attainment
	1 Hour	0.18 ppm (339 µg/m³)	Attainment	N/A	N/A
Lead (Pb)	30 days average	1.5 µg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m³	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (80 µg/m³)	Attainment
	24 Hours	0.04 ppm (105 µg/m³)	Attainment	0.14 ppm (365 µg/m³)	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m³)	Attainment	N/A	N/A
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/ m³)	Unclassified		

µg/m³ = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, CARB identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.
2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over the three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1-hour ozone standard was revoked on June 15, 2005.

Source: California Air Resources Board and U.S. Environmental Protection Agency, November 17, 2008.

Global Climate Change Regulatory Programs

Assembly Bill 1493

In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, Assembly Bill (AB) 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set greenhouse gas emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is noncommercial personal transportation in the State. The bill required that CARB set the greenhouse gas emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. CARB adopted the standards in September 2004. These standards are intended to reduce emissions of carbon dioxide and other greenhouse gases (e.g., nitrous oxide and methane). Some currently used technologies that achieve greenhouse gas reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drive.

Assembly Bill 32

The Legislature enacted AB 32 (AB 32, Nuñez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit greenhouse gas emissions from all major industries, with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of statewide greenhouse gas emissions. This program would be used to monitor and enforce compliance with the established standards. The first greenhouse gas emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted. In order to advise CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. In December 2008, CARB adopted a scoping plan to achieve reductions in greenhouse gas emissions in California. The plan indicates how reductions in significant greenhouse gas sources would be achieved through regulations, market mechanisms, and other actions.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: greenhouse gas emissions should be reduced to 2000 levels by 2010; greenhouse gas emissions should be reduced to 1990 levels by 2020; and greenhouse gas emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce greenhouse gases. Some of the agencies involved in the greenhouse gas reduction plan include Secretary of Business, Transportation, and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward greenhouse gas 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, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

Executive Order S-1-07

On January 18, 2007, California further solidified its dedication to reducing greenhouse gases by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State. Executive Order S-1-07 sets a declining standard for greenhouse gas emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least ten percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of the California Environmental Protection Agency to coordinate with actions of the California Energy Commission, CARB, the University of California, and other agencies to develop a protocol to measure the "life cycle carbon intensity" of transportation fuels. CARB is anticipated to complete its review of the Low Carbon Fuel Standard protocols, which are currently undergoing regulatory development for consideration in 2009.

Senate Bill 97

Senate Bill (SB) 97 of 2007 requires the California Office of Planning and Research to develop CEQA guidelines for analysis and, if necessary, the mitigation or effects of greenhouse gas emissions to the Resources Agency by July 1, 2009. These guidelines for analysis and mitigation must address, but are not limited to, greenhouse gas emissions effects associated with transportation or energy consumption. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by the Office of Planning and Research by January 1, 2010. In his signing statement, Governor Arnold Schwarzenegger noted:

> *Current uncertainty as to what type of analysis of greenhouse gas emissions is required under the California Environmental Quality Act has led to legal claims being asserted, which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.*

The Office of Planning and Research has begun the process of formulating the guidelines called for in SB 97. Part of that effort includes a survey of existing climate change analyses performed by various lead agencies under CEQA.

Senate Bill 375

SB 375 would require metropolitan planning organizations to include sustainable communities strategies in their regional transportation plans. The purpose of SB 375 would be to reduce greenhouse gas emissions from automobiles and light trucks, require CARB to provide greenhouse gas emission reduction targets from the automobile and light truck sector for 2020 and 2035 by January 1, 2010, and update the regional targets until 2050. SB 375 would require certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill would also require affected regional agencies to prepare an alternative planning strategy to the sustainable communities strategies if the sustainable communities strategy is unable to achieve the greenhouse gas emissions reduction targets. Governor Schwarzenegger signed and approved SB 375 on September 30, 2008.

Senator Steinberg, author of SB 375, is also making efforts to clean up the bill. The clean up efforts include CEQA streamlining changes for projects that are consistent with the Sustainable Community Strategy (SCS). Currently, SB 375 applies those streamlining provisions to residential and mixed-use projects. The Governor and many interest groups are also lobbying to extend those provisions to Proposition 1B Transportation projects, state highway projects, and infrastructure, retail, and commercial development. A timetable to

eliminate schedule conflicts with the new eight-year housing element and the four-year Regional Transportation Plans is also being considered. In addition to a clean up bill, there will continue to be ongoing discussions with CARB to coordinate AB 32 local land use implementation strategies with SB 375, including a new proposed CARB CEQA thresholds of significance proposal to determine which projects will be subject to AB 32 requirements.

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2, which is a form of nitrogen oxides [NO_x]), sulfur dioxide (SO_2, which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and lead (Pb); refer to Table 4.2-3, *National and California Ambient Air Quality Standards*.

3.2.5 ENVIRONMENTAL RESOURCE IMPACT STANDARDS AND METHODS

Standards of Significance

Under *CEQA*, the SCAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the FCAA, the SCAQMD has adopted federal attainment plans for O_3 and PM_{10}. The SCAQMD reviews projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, and used by the Riverside County Flood Control District (the District) in its environmental review process. The Initial Study Checklist includes questions relating to air quality. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and
- Create objectionable odors affecting a substantial number of people.

Based on these standards and thresholds, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

3.2.6 IMPACTS AND MITIGATION

Construction Activities

3.2-1: *Short-term construction activities associated with the proposed project would result in significant air pollutant emission impacts.*

Preferred Project Alternative

The Preferred Project Alternative includes the construction, operation, and maintenance of a 40-foot-high earthen dam, debris basin and underground storm drain.

Future construction of the project site would generate short-term air quality impacts during grading and construction operations. The analysis considers the following temporary impacts:

- Demolition/clearing (removal of dumped fill from existing gravel pits), grading, and using heavy equipment or trucks creating fugitive dust;
- Heavy equipment required for grading and earthwork generates and emits diesel exhaust emissions; and
- The vehicles of commuting construction workers and trucks hauling equipment would generate and emit exhaust emissions.

Construction of the proposed project is anticipated to commence in 2010. For purposes of the air quality analysis, an approximate 8-month period was assumed.

Construction activities would include grading and earthwork, consisting of a grader and off-highway trucks. Paving equipment would include construction trucks, pavers, surfacing equipment, and rollers. Exhaust emission factors for typical diesel-powered heavy equipment are based on the URBEMIS 2007 program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction-related activities to a less than significant level.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust (PM_{10} and $PM_{2.5}$) emissions that may have a substantial, although temporary, impact on local air quality. These particles are either directly emitted or are formed in the atmosphere from the combustion of gasses such as NO_X and SO_X combining with ammonia. Fugitive dust emissions are associated with land clearing, excavation, cut and fill, and truck travel on unpaved roadways. Fugitive dust from demolition, grading, and construction is expected to be short-term and would cease upon project completion.

The URBEMIS 2007 computer model calculates PM_{10} and $PM_{2.5}$ fugitive dust as part of the site grading emissions; refer to Table 3.2-4, *Construction Air Emissions*. Maximum particulate matter emissions would occur during the early stages of construction, when demolition, excavation, and grading activities would occur.

Table 3.2-4
Construction Air Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions	3.66	40.19	18.19	0.04	322.97	67.19
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***Yes***	***Yes***
Mitigated Emissions[2,3]	3.66	40.19	18.19	0.04	33.57	8.37
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
	Pollutant (tons/year)[4]					
Mitigated Emissions[2,3]	0.31	2.69	1.41	0.00	1.73	0.13
Federal de minimus Thresholds	*50*	*50*	*100*	*100*	*70*	*100*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter; up to 10 microns; $PM_{2.5}$ = particulate matter; up to 2.5 microns

Notes:
1. Emissions were calculated using the URBEMIS 2007 version 9.2.4 Computer Model, as recommended by the South Coast Air Quality Management District.
2. The reduction/credits for construction emission mitigations are based on mitigation included in the URBEMIS 2007 version 9.2.4 computer model and as typically required by the South Coast Air Quality Management District through Rule 403. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. Refer to Appendix B, *Air Quality Data*, for assumptions used in this analysis, including quantified emissions reduction by mitigation measures.
4. *De minimis* thresholds for SSAB nonattainment pollutants ROG, NO_X (ozone precursors), and PM_{10}. The basin is in federal attainment for CO, SO_X, and $PM_{2.5}$.

Since PM_{10} emissions primarily occur during the grading phase of construction, the SCAQMD has established Rule 403 and Rule 402, which reduce the ambient entrainment of fugitive dust, and require that air pollutant emissions to not be a nuisance off-site, respectively. During construction, the property owner, developer, and contractors are required to comply with regional rules, which assist in reducing short-term construction-related air pollutant emissions.

Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. The applicable control measures target various construction operations such as backfilling, clearing and grubbing, crushing, cut and fill, demolition, earth-moving activities, bulk material import and export, construction staging, stockpiles/bulk material handling, trenching, and loading. These measures suggest methods such as covering stockpiles with tarps, and the application of water to stabilize materials.

Rule 403 also prohibits projects from allowing track-outs to extend 25 feet or more in cumulative length from the point of origin from an active operation. All track-outs are required to be removed at the conclusion of

each workday or evening shift. Any projects with a disturbed surface area of five or more acres or with a daily import or export of 100 cubic yards or more of bulk materials must utilize at least one of the specified track-out control measures at each vehicle egress from the site to a paved public road. The specified track-out control measures consist of installation of washed gravel pads, paving project ingress/egress, wheel shakers, wheel washing systems, and any other approved control measures.

Since the proposed project is located in the Coachella Valley, the project would be required to comply with Rule 403.1, *Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources*. The purpose of this rule is to reduce or prevent the amount of particulate matter entrained in the ambient air by high winds acting on anthropogenic (manmade) fugitive dust sources. The proposed project would implement all applicable measures presented in Rule 403.1 to attain a maximum reduction in particulate emissions. The measures in Rule 403.1 include mitigation measures for blowsand and for areas where wind speeds exceed 25 miles per hour.

Implementation of the Mitigation Measures AQ1 through AQ3, regarding dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to standard construction practices (watering of inactive and perimeter areas, track-out requirements, etc.), would reduce PM_{10} concentrations to 33.57 pounds per day and $PM_{2.5}$ would be reduced to 8.37 pounds per day during this period. Thus, impacts from fugitive dust would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. As presented in Table 3.2-4, construction equipment and worker vehicle exhaust emissions would be considered less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Localized Significance Thresholds

The estimated grading activities would be less than one acre per day. Therefore, a Localized Significance Thresholds analysis was performed. Appendix C of the SCAQMD *Localized Significant Threshold Methodology*

provides thresholds for one-, two-, and five-acre sites. Although the proposed project would disturb approximately less than one acre per day, the one-acre threshold is the smallest available and was used for the analysis.

The closest sensitive receptors to the project site are the residential uses located approximately 540 feet (approximately 164 meters) north of the project site. This sensitive land use may be potentially affected by air pollutant emissions generated during on-site construction activities.

Table 3.2-5, *Summary of Localized Significance of Construction Emissions*, shows the construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the localized significance thresholds for Source Receptor Area 30, Coachella Valley, for a one-acre site, at a distance of 164 meters (540 feet). Thresholds for receptors between 100 and 200 meters were determined through linear extrapolation based on the SCAQMD *Localized Significant Threshold Methodology*. As shown in Table 3.2-5, mitigated construction emissions would not exceed the localized significance thresholds. Therefore, localized significance construction impacts would be less than significant.

Table 3.2-5
Summary Of Localized Significance Of Construction Emissions

Construction Phase	Pollutant (pounds/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Total Emissions	3.66	18.19	33.57	8.37
Localized Significance Threshold	*290.45*	*4,797.23*	*64.07*	*19.04*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter; up to 10 microns; $PM_{2.5}$ = particulate matter; up to 2.5 microns
Note:
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* (July 2008) guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Thresholds were based on a receptor distance of 100 meters, one acre daily acreage of disturbance, and the source receptor area (SRA 30).

Impacts

As stated above, the Preferred Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants after mitigation. In addition, this Alternative would not exceed SCAQMD localized significance thresholds. Implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction-related activities to a less than significant level. **Level of Significance: Less Than Significant With Mitigation.**

Impoundment Alternative

The Impoundment Alternative proposes the construction and maintenance of earthen dam and debris basin. Unlike the Preferred Alternative, the impoundment alternative would have no drainage pipeline to divert storm flows to the West Cathedral Channel. Instead, the Impoundment Alternative will rely on percolation and evaporation to dissipate stormwater impounded behind the dam.

Future construction of the project site would generate short-term air quality impacts during grading and construction operations. Construction activities would include grading and earthwork, consisting of a grader and off-highway trucks. Exhaust emission factors for typical diesel-powered heavy equipment are based on the URBEMIS 2007 program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Similar to the preferred alternative, implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction related activities.

Impacts

Due to the increase crest height of the dam and basin capacity, the Impoundment Alternative would raise the amount of embankment fill volume by approximately 47 percent. As stated above, the Preferred Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants after mitigation. Likewise, an increase in grading by 47 percent under the Impoundment Alternative, which is assumed to increase the amount of criteria pollutant emission by approximately the same order of magnitude, would not raise emission levels above SCAQMD thresholds. In addition, a 47-percent increase in emissions would not exceed SCAQMD localized significance thresholds. Implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction-related activities to a less than significant level. **Level of Significance: Less Than Significant With Mitigation.**

Channel Alternative

The Channel Alternative proposes the construction and maintenance of flood control channel. The flood control channel would originate within Eagle Canyon and follow the general alignment of the wash. Similar to the Preferred Alternative, storm water flows from the wash would be conveyed in 3,300 linear feet of 42" drainage pipeline (Line 43), which extends to East Palm Canyon Drive (Highway 111) and follows the right-of-way (ROW) for approximately 1,000 LF, terminating at the West Cathedral Channel.

Future construction of the project site would generate short-term air quality impacts during grading and construction operations. Construction activities would include grading and earthwork, consisting of a grader and off-highway trucks. Paving equipment would include construction trucks, pavers, surfacing equipment, and rollers. Exhaust emission factors for typical diesel-powered heavy equipment are based on the URBEMIS 2007 program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Similar to the Preferred Project Alternative and Impoundment Alternative, implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction-related activities**.**

Impacts

Due to the elimination of the dam embankment and debris basin, the Channel Alternative would decrease the amount of cut and fill volumes. As stated above, the Preferred Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants after mitigation. Likewise, a decrease in the quantity of grading under the Channel Alternative, which would decrease the amount of criteria pollutant emission, would not raise emission levels above SCAQMD thresholds. However, the Channel Alternative would involve grading in closer proximity to sensitive receptors (i.e., residential homes) to the north of the mouth of Eagle Canyon. Since the volume of cut and fill materials would be reduced, mitigated construction emissions are not anticipated to exceed the localized significance thresholds. Implementing mitigation measures AQ-1 through AQ-3 will reduce impacts from construction-related activities to a less than significant level. **Level of Significance: Less Than Significant With Mitigation.**

No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if no state or federal action would occur. Riverside County would not seek agreements, permits, or approvals from AQMD, SWRCB, Corps, FWS, the District, City of Palm Springs, Cathedral City, DFG, and RWQCB. This alternative would not allow implementation of the proposed project or other physical improvements associated with the proposed project.

Compared to the Preferred Alternative, the No Project Alternative would not result in significant unavoidable impacts pertaining to potential dust impacts that could arise during earthwork activities. Grading, earthwork, and construction activities would not occur with the No Project Alternative. Therefore, emissions associated with construction activities would not occur.

Impacts

The No Project Alternative would not generate emissions, since this Alternative does not propose grading activities. Therefore, the No Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants. The No Project Alternative would also not exceed the localized significance thresholds. Impacts from construction-related activities would not occur. **Level of Significance: No Impact.**

AQ-1: **During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular water or other dust preventive measures using the following procedures, as specified in the SCAQMD Rule 402, 403, and 403.1.**

- **Limit on-site vehicle speed to 15 miles per hour.**
- **Water material excavated or graded sufficiently to prevent excessive amounts of dust. Water at least twice daily with complete coverage, preferable in the late morning and after work is done for the day.**
- **Water or securely cover material transported on-site or off-site sufficiently to prevent generating excessive amounts of dust.**
- **Minimize area disturbed by clearing, grading, earth moving, or excavation operations so as to prevent generating excessive amounts of dust.**
- **Indicated these control techniques in project specifications. Compliance with the measure will be subject to periodic site inspections by the District.**
- **Prevent visible dust from the Project from emanating beyond the property line, to the maximum extent feasible.**
- **Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).**
- **Trucks transporting soil, sand, cut or fill materials, and/or construction debris to or from the site shall be tarped from the point of origin.**

AQ-2: **Project construction contract documents shall show the duration of construction. Ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications.**

AQ-3: **All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Under this code, the following typical measures are required:**

- **Every vehicle used to transport aggregate materials shall be equipped with shed boards designed to prevent aggregate materials from being deposited on the vehicles body during top loading.**
- **A vehicle may not transport any aggregate material upon a highway unless the material is covered.**
- **Vehicles transporting loads composed entirely of asphalt material are exempt from having to cover their load.**
- **Vehicles transporting loads of aggregate materials are not required to cover their loads if the load, where it contacts the sides, front and back of the cargo container area, remains six inches from the upper edge of the container area, and if the load does not extend, at its peak above any part of the upper edge of the cargo container area.**

OPERATIONAL IMPACTS

3.2-2: *Long-term operation of the proposed project would not result in significant air pollutant emissions impacts.*

Preferred Project Alternative

The Preferred Project Alternative includes the construction, operation, and maintenance of a 51-foot-high earthen dam, debris basin and underground storm drain.

The Eagle Canyon Dam would only hold water for brief periods of time following significant flood events. Long-term operations would only consist of periodic maintenance visits. The District plans to maintain the upstream slope as required and/or on a timely schedule. Annual debris yields were calculated for the debris basin. These calculations resulted in an average estimated annual debris yield of 1.248 acre-feet (2,013 cubic yards) per year. The additional average hauling of 2,013 cubic yards would produce minor additional air emissions when compared to the 217,000 cubic yards required for embankment fill.

The proposed project would not be a trip-generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, the proposed project would not require any stationary equipment.

Impacts

The Preferred Project Alternative would not generate a significant amount of operational trips and would involve only minor additional earth-moving activities required for basin maintenance. In addition, no stationary equipment is proposed. Therefore, this Alternative would not exceed SCAQMD thresholds for any criteria pollutant as a result of operational activities. **Level of Significance: Less Than Significant Impact.**

Impoundment Alternative

The Impoundment Alternative proposes the construction and maintenance of earthen dam and debris basin. Unlike the preferred alternative, the impoundment alternative would have no drainage pipeline to divert storm flows to the West Cathedral Channel. Instead, the impoundment alternative will rely on percolation and evaporation to dissipate stormwater impounded behind the dam.

The Eagle Canyon Dam would only hold water for brief periods of time following significant flood events. Long-term operations would only consist of periodic maintenance visits. The Impoundment Alternative would not be a trip generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, this alternative would not require any stationary equipment.

Impacts under CEQA

The Impoundment Alternative would not generate a significant amount of operational trips and would involve only minor additional earth-moving activities required for basin maintenance. The Impoundment Alternative would, however, generate approximately the same level of debris yields as the Preferred Project Alternative. This maintenance activity would not generate emission in excess of SCAQMD thresholds. In addition, no stationary equipment is proposed. Therefore, this Alternative would not exceed SCAQMD thresholds for any criteria pollutant as a result of operational activities. **Level of Significance: Less Than Significant Impact.**

Impacts under NEPA

As stated above, the Impoundment Alternative would not generate a significant amount of operational trips. In addition, no stationary equipment is proposed. Minor additional earth-moving activities required for basin maintenance would not cause emissions to exceed federal *de minimis* thresholds. Therefore, this Alternative would not exceed federal *de minimis* thresholds for any criteria pollutant as a result of operational activities. **Level of Significance: Less Than Significant Impact.**

Channel Alternative

The Channel Alternative proposes the construction and maintenance of flood control channel. The flood control channel would originate within Eagle Canyon and follow the general alignment of the wash. Similar to the Preferred Alternative, storm water flows from the wash would be conveyed in 3,300 linear feet of 42" drainage pipeline (Line 43), which extends to East Palm Canyon Drive (Highway 111) and follows the right-of-way (ROW) for approximately 1,000 LF, terminating at the West Cathedral Channel.

The flood control channel would divert storm water flows from Eagle Canyon to West Cathedral Channel. Long-term operations would only consist of periodic maintenance visits. The Channel Alternative would not be a trip generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, the Channel Alternative would not require any stationary equipment.

Impacts under CEQA

The Channel Alternative would not generate a significant amount of operational trips and would involve only minor channel maintenance activities. Therefore, the Channel Alternative would not generate emission in excess of SCAQMD thresholds. In addition, no stationary equipment is proposed. Therefore, this Alternative would not exceed SCAQMD thresholds for any criteria pollutant as a result of operational activities. **Level of Significance: Less Than Significant Impact.**

Impacts under NEPA

The Channel Alternative would not generate a significant amount of operational trips. In addition, no stationary equipment is proposed and only minor channel maintenance activities would occur. Minor additional earth-moving activities required for channel maintenance would not cause emissions to exceed federal *de minimis* thresholds. Therefore, this Alternative would not exceed federal *de minimis* thresholds for any criteria pollutant as a result of operational activities. **Level of Significance: Less Than Significant Impact.**

No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if no state or federal action would occur. Riverside County would not seek agreements, permits, or approvals from AQMD, SWRCB, Corps, FWS, the District, City of Palm Springs, Cathedral City, DFG, and RWQCB. This alternative would not allow implementation of the proposed project or other physical improvements associated with the proposed project.

Impacts under CEQA

The No Project Alternative would not generate emissions, since this Alternative does not propose operational or maintenance activities. Therefore, the No Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants. The No Project Alternative would also not exceed the localized significance thresholds. Impacts from operational activities would not occur **Level of Significance: No Impact.**

Impacts under NEPA

The No Project Alternative would not generate emissions, since this Alternative does not propose operational or maintenance activities. Therefore, the No Project Alternative would not exceed federal *de minimis* thresholds for any criteria pollutants. Impacts from operational or maintenance activities would not occur. **Level of Significance: No Impact.**

Plan Consistency

3.2-3: *Development associated with the proposed project would be consistent with regional plans and the State Implementation Plan.*

Preferred Project Alternative

The Preferred Project Alternative includes the construction, operation, and maintenance of a 51-foot-high earthen dam, debris basin and underground storm drain.

The proposed project is located within the South Coast Air Basin (Basin), which is governed by the SCAQMD. The SCAQMD *CEQA Air Quality Handbook* (Handbook) provides guidelines on how to prepare air quality analyses. The Handbook also contains screening tables to provide local governments with the various types/amounts of land uses, which may exceed State or Federal air quality standards and would, therefore, result in potentially significant impacts.

Consistency with the *2007 Air Quality Management Plan* means that a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the Federal and State air quality standards. Per the Handbook, there are two main indicators of a project's consistency with the *2007 Air Quality Management Plan*:

- Whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the *2007 Air Quality Management Plan*; and

- Whether the project would exceed the *2007 Air Quality Management Plan's* assumptions for 2030 or yearly increments based on the year of project buildout and phase.

As indicated in the operational analysis, above (Impact Statement 3.2-2), the proposed project would not exceed the SCAQMD's thresholds of significance (refer to Impact Statement 3.2-1 for a detailed discussion). Therefore; the proposed project is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan* in this regard.

Emissions generated by the proposed project would not exceed the SCAQMD thresholds for short-term impacts, asbestos impacts, with the incorporation of short-term construction mitigation measures. Additionally, the proposed project would be consistent with the City of Palm Springs *General Plan* and Cathedral City *General Plan*, and thus, the proposed project is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. As a result, the proposed project would not exceed growth assumptions within the local general plan. Therefore, a less than significant impact would occur in this regard.

General Conformity Analysis

This analysis has been structured to illustrate how the proposed project would meet the requirements of the FCAA General Conformity requirements, as well as those set forth by the SCAQMD. The project site is located within the Salton Sea Air Basin (SSAB) and is designated non-attainment for O_3 and PM_{10}. The following outlines the screening level analysis consistent with the General Conformity process:

i) If the applicant's project is located in a nonattainment area or an attainment area subject to a maintenance plan (maintenance area) the environmental document should include a description of the air quality status for each criteria pollutant for which an area has been designated nonattainment or maintenance. Provide an estimate of the annual emissions that are expected from both the construction and operation of the project for each criteria pollutant. Projects in an attainment area not under a maintenance plan or in an unclassified area are not subject to a conformity analysis.

The SSAB fails to meet the Federal and State air quality standards for O_3 and PM_{10}. Atmospheric concentrations of the other criteria pollutants do not exceed Federal or State standards.

The majority of ozone formation occurs when nitrogen oxides (NO_X) and reactive organic gases (ROGs), react in the atmosphere in the presence of sunlight. NO_X and ROGs are called ozone precursors. Therefore, this analysis will quantify NO_X and ROGs with the URBEMIS 2007 model to determine ozone impacts. PM_{10} emissions are directly quantified with the URBEMIS 2007 model. As

illustrated in Table 3.2-4, construction-related activities for the Preferred Alternative would occur in 2010 and result in 0.31 tons of ROG, 2.69 tons of NO_X, and 1.73 tons of PM_{10}.

ii) Compare these emissions to the de minimis (applicability) levels specified for each nonattainment or maintenance area pollutant. See 40 C.F.R. Section 93.153(b) (Applicability).

Per 40 C.F.R. Section 93.153(b), the *de minimis* concentrations of ozone are limited to 25 tons/year (50 tons/year of ROG and 100 tons/year of NO_X), and PM_{10} is limited to 70 tons/year. Implementation of the Preferred Alternative would not alter the existing operations, and therefore would only introduce an increase in emissions during construction activities; refer to Table 3.2-4. As these compounds speciate in the troposphere and are not necessarily additive, predicted ozone levels are not expected to exceed the *de minimis* thresholds. Additionally, as stated above, construction would occur in 2010 and activities would emit 0.31 tons of ROG, 2.69 tons of NO_X, and 1.73 tons of PM_{10} which are also below the *de minimis* thresholds.

iii) If the projects emissions are below the appropriate de minimis level, compare the emissions to the emissions inventory for the non-attainment or maintenance area to ensure the project's emissions are less than 10% of the inventory. See 40 C.F.R. Section 93.153(i) (Regional Significance). Emissions inventories can be obtained from the local air pollution control agency.

The predicted emissions are compared to the 2008 annual average emissions by source category in the Coachella Valley established by the SCAQMD. As shown in Table 3.2-6, *Clean Air Act Conformity*, the Project emissions for non-attainment pollutants would be below ten percent of the emissions inventory. Therefore, Project-related emissions would be less than significant.

Table 3.2-6
Clean Air Act Conformity

SSAB Non-Attainment Pollutants	SSAB Emission Inventory (tons/year)[1]	Project Emissions (tons/year)[2]	Project Exceed Ten Percent of Inventory?
ROG	9,118	0.31	No
NO_X	16,556	2.69	No
PM_{10}	6,807	1.73	No

Notes:
1. 2008 Annual Average Emissions by Source Category in Coachella Valley, in the 2*007 Air Quality Management Plan*.
2. Project emissions derived from URBEMIS 2007 version 9.2.4 computer model; refer to Appendix B, *Air Quality Data*. Emissions have been quantified for the "worst case" construction scenario. The project would not create operational emissions; therefore, they are not presented in this table.

iv) If emissions are below the de minimis levels and are less than 10 percent of the area's inventory the project is not subject to any further general conformity analysis.

The URBEMIS 2007 model was utilized to estimate emissions of air pollutants associated with short-term construction; refer to Appendix B, *Air Quality Data*. The URBEMIS 2007 model was used to estimate project-related construction. Default values representative of the Preferred Alternative were used when project-specific data were not available. As discussed above, the proposed Project would be less than significant in relation to the SCAQMD thresholds and Federal de minimus levels, and less than ten percent of the emissions inventory for the SSAB; refer to Table 3.2-4 and Table 3.2-6. Therefore, the Preferred Alternative would not be subject to a further general conformity analysis.

As further discussed above, the Preferred Alternative would not conflict with any applicable air quality management plans or induce growth.

Impacts under CEQA

The Preferred Project Alternative would not exceed the SCAQMD's threshold of significance with mitigation (refer to Impact Statement 3.2-1); therefore, this Alternative is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. This Alternative is also consistent with the Palm Springs and Cathedral City General Plans. Therefore, this Alternative is considered less than significant. **Level of Significance: Less Than Significant Impact.**

Impacts under NEPA

The Preferred Project Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Predicted ozone levels and PM_{10} emissions are not expected to exceed the federal *de minimis* thresholds and would not exceed 10 percent of the inventory for the non-attainment area. **Level of Significance: Less Than Significant Impact.**

Impoundment Alternative

The Impoundment Alternative proposes the construction and maintenance of earthen dam and debris basin. Unlike the preferred alternative, the impoundment alternative would have no drainage pipeline to divert storm flows to the West Cathedral Channel. Instead, the impoundment alternative will rely on percolation to dissipate stormwater impounded behind the dam.

Emissions generated by the Impoundment Alternative would not exceed the SCAQMD thresholds for short-term impacts, asbestos impacts, with the incorporation of short-term construction mitigation measures. Additionally, the Impoundment Alternative would be consistent with the City of Palm Springs *General Plan* and Cathedral City *General Plan*, and thus, this alternative is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. As a result, the Impoundment Alternative would not exceed growth assumptions within the local general plan.

Impacts under CEQA

The Impoundment Alternative would not exceed the SCAQMD's threshold of significance with mitigation (refer to Impact Statement 3.2-1); therefore, this Alternative is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. This Alternative is also consistent with the Palm Springs and Cathedral City General Plans. Therefore, this Alternative is considered less than significant. **Level of Significance: Less Than Significant Impact.**

Impacts under NEPA

The Impoundment Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Predicted ozone levels and PM_{10} emissions are not expected to exceed the federal *de minimis* thresholds and would not exceed 10 percent of the inventory for the non-attainment area. **Level of Significance: Less Than Significant Impact.**

Channel Alternative

The Channel Alternative proposes the construction and maintenance of flood control channel. The flood control channel would originate within Eagle Canyon and follow the general alignment of the wash. Similar to

the Preferred Alternative, the Channel Alternative would capture the 100-year storm flow (1,180 cfs) at the mouth of the canyon, but then would convey flows in a wide open channel facility following the general alignment of the existing wash/streambed to Palm Canyon Drive and then though existing residential and commercial development until ultimately terminating at the West Cathedral Canyon Channel.

Emissions generated by the Channel Alternative would not exceed the SCAQMD thresholds for short-term impacts, asbestos impacts, with the incorporation of short-term construction mitigation measures. Additionally, this alternative would be consistent with the City of Palm Springs *General Plan* and Cathedral City *General Plan*, and thus, the Channel Alternative is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. As a result, the Channel Alternative would not exceed growth assumptions within the local general plan.

Impacts under CEQA

The Channel Alternative would not exceed the SCAQMD's threshold of significance with mitigation (refer to Impact Statement 3.2-1); therefore, this Alternative is consistent with the *2007 Air Quality Management Plan* and the *2003 Coachella Valley PM_{10} State Implementation Plan*. This Alternative is also consistent with the Palm Springs and Cathedral City General Plans. Therefore, this Alternative is considered less than significant. **Level of Significance: Less Than Significant Impact.**

Impacts under NEPA

The Channel Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Predicted ozone levels and PM_{10} emissions are not expected to exceed the federal *de minimis* thresholds and would not exceed 10 percent of the inventory for the non-attainment area. **Level of Significance: Less Than Significant Impact.**

No Project Alternative

No Project Alternative considers what would reasonably be expected to occur on the site if no state or federal action would occur. Riverside County would not seek agreements, permits, or approvals from AQMD, SWRCB, Corps, FWS, the District, City of Palm Springs, Cathedral City, DFG, and RWQCB. This alternative would not allow implementation of the proposed project or other physical improvements associated with the proposed project.

Impacts under CEQA

The No Project Alternative would not generate emissions, since this Alternative does not propose grading activities. Therefore, the No Project Alternative would not exceed SCAQMD thresholds for any criteria pollutants. The No Project Alternative would also not exceed the localized significance thresholds. Therefore, no impacts would result, since no construction would occur. **Level of Significance: No Impact.**

Impacts under NEPA

The No Project Alternative would not generate emissions, since this Alternative does not propose grading activities. Therefore, the No Project Alternative would not exceed federal *de minimis* thresholds for any criteria pollutants. Therefore, no impacts would result, since no construction would occur. **Level of Significance: No Impact.**

Cumulative Impacts

3.2-4: *The proposed project and related cumulative projects would result in significant air quality impacts.*

Preferred Project Alternative

The Preferred Project Alternative includes the construction, operation, and maintenance of a 51 foot high earthen dam, debris basin and underground storm drain.

Construction-Related Impacts

With respect to the proposed project's construction-period air quality emissions and cumulative basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the *2007 Air Quality Management Plan* pursuant to Federal Clean Air Act mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures. As stated above, Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the project site. In addition, the proposed project would comply with adopted *2007 Air Quality Management Plan* emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted Air Quality Management Plan emissions control measures) would also be imposed on construction projects Basin-wide, which would include cumulatively-related projects.

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ1 through AQ3, would reduce the proposed project's construction related impacts to a less than significant level. Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality.

Global Climate Change

California is a substantial contributor of global greenhouse gases, emitting over 400 million tons of CO_2 a year.[9] Climate studies indicate that California is likely to see an increase of three to four degrees Fahrenheit over the next century. Methane is also an important greenhouse gas that potentially contributes to global climate change. Greenhouse gases are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary greenhouse gases have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

The impact of anthropogenic activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, methane, and nitrous oxide from before the start of the industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 parts per million (ppm) to 300 ppm. For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.

[9] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004,* 2006.

Regulations and Significance Criteria

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent concentration is required to keep global mean warming below 2 degrees Celsius (ºC), which in turn is assumed to be necessary to avoid dangerous climate change.

California Governor Arnold Schwarzenegger issued Executive Order S-3-05 in June 2005, which established the following greenhouse gas emission reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels;
- 2020: Reduce greenhouse gas emissions to 1990 levels; and
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

Assembly Bill (AB) 32 requires that CARB determine what the statewide greenhouse gas emissions level was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. CARB has approved a 2020 emissions limit of 427 metric tons of CO_2 equivalent.

Due to the nature of global climate change, it is not anticipated that any single development project would have a substantial effect on global climate change. It is difficult to deem a single development as individually responsible for a global temperature increase. In actuality, greenhouse gas emissions from the proposed project would combine with emissions emitted across California, the United States, and the world to cumulatively contribute to global climate change.

As the Lead Agency, the District has opted to utilize a quantitative non-zero project specific threshold using a methodology recommended by the California Air Pollution Control Officers Association (CAPCOA).[10] According to CAPCOA's *Threshold 2.3, CARB Reporting Threshold,* 10,000 metric tons of carbon dioxide equivalents[11] per year ($MTCO_2eq/yr$) is recommended as a quantitative non-zero threshold.[12] This threshold is being considered by the California Market Advisory Committee, whose mandate under the California Environmental Protection Agency is to develop market-based compliance mechanisms for reducing greenhouse gases. According to the CAPCOA White Paper; this threshold would be equivalent to 550 dwelling units, 400,000 square feet of office use, 120,000 square feet of retail, or 70,000 square feet of supermarket use. This approach is estimated to capture over half of the future residential and commercial development projects, and is designed to ensure the goals of AB 32 are not hindered.

Direct Project-Related Sources of Greenhouse Gases

Table 3.2-7, *Estimated Greenhouse Gas Emissions*, presents the CO_2, N_2O, and CH_4 emissions as well as their CO_2 equivalent values for the construction phase of the proposed project. The project would not generate operational project-related greenhouse gas emissions from area sources and mobile sources. The URBEMIS 2007 version 9.2.4 computer model was used to calculate CO_2 emissions. The URBEMIS 2007 model relies upon construction worker trips and off-road equipment emissions. N_2O and CH_4 emissions were based on the

[10] California Air Pollution Control Officers Association, *CEQA & Climate Change White Paper*, January 2008.

[11] Carbon dioxide equivalent is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO_2 that would have the same global warming potential, when measured over a specified timescale (generally 100 years).

[12] It should be noted that CARB has also recommended 10,000 $mtCO_2eq/yr$ as the "de minimus greenhouse gas emission threshold" in their *Climate Change Proposed Scoping Plan*, which was approved by CARB's Board on January 11, 2009.

anticipated construction equipment fleet and the associated emissions factors provided by the SCAQMD. Direct, project-related operational emissions of the proposed project would result in 298.05 $MTCO_2eq$/year.

Table 3.2-7
Estimated Greenhouse Gas Emissions

Source	CO_2	N_2O		CH_4	
	Metric tons/year	**Metric tons/year**	**Metric tons of CO_2eq[2]**	**Metric tons/year**	**Metric tons of CO_2eq[2]**
Construction Emissions[1]					
▪ 2010	287.14	0.03	10.75	0.01	0.16
Total Construction Emissions ($MTCO_2eq$/year)[3]	**298.05**				
Greenhouse Gas Emissions Threshold ($MTCO_2eq$/year)[4]	*10,000*				
Is Threshold Exceeded?	***No***				

CO_2 = Carbon Dioxide; N_2O = Nitrous Oxide; CH_4 = Methane; $MTCO_2eq$/year = metric tons of CO_2 equivalent per year
Notes:
1. Emissions calculated using the South Coast Air Quality Management District's Average Emissions Factors (Diesel) and the URBEMIS 2007 computer model output.
2. CO_2 Equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed May 2009.
3. Totals may be slightly off due to rounding.
4. Greenhouse gas emissions threshold is based on the CAPCOA, *CEQA and Climate Change White Paper*, January 2008.

Refer to Appendix B, *Air Quality Data*, for detailed model input/output data.

Operational Impacts

As discussed previously, the proposed project would not result in long-term air quality impacts. Long-term operations would only consist of periodic maintenance visits. The proposed project would not be a trip generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, the proposed project would not require any stationary equipment. The proposed project would not contribute a cumulatively considerable net increase of any non-attainment criteria pollutant.

Impacts under CEQA

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ-1 through AQ-3, would reduce the proposed project's construction-related impacts to a less than significant level. The Greenhouse Gas Emissions Threshold would not be exceeded (refer to Table 3.2-7). Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant With Mitigation.**

Impacts under NEPA

The Preferred Project Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Emissions levels would not exceed the federal *de minimis* thresholds for any criteria pollutant and would not exceed 10 percent of the inventory for the non-attainment area. Therefore, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant Impact.**

Impoundment Alternative

The Impoundment Alternative proposes the construction and maintenance of earthen dam and debris basin. Unlike the Preferred Alternative, the Impoundment Alternative would have no drainage pipeline to divert storm flows to the West Cathedral Channel. Instead, the Impoundment Alternative will rely on percolation to dissipate stormwater impounded behind the dam.

Construction-Related Impacts

SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the *2007 Air Quality Management Plan* pursuant to Federal Clean Air Act mandates. The Impoundment Alternative project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures. As stated above, Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the project site. In addition, the proposed project would comply with adopted *2007 Air Quality Management Plan* emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted Air Quality Management Plan emissions control measures) would also be imposed on construction projects Basin-wide, which would include cumulatively-related projects.

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ1 through AQ3, would reduce the Impoundment Alternative's construction related impacts to a less than significant level. Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality.

Operational Impacts

The Impoundment Alternative would not result in long-term air quality impacts. Long-term operations would only consist of periodic maintenance visits. This alternative would not be a trip generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, the proposed project would not require any stationary equipment. This alternative would not contribute a cumulatively considerable net increase of any non-attainment criteria pollutant.

Impacts under CEQA

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ-1 through AQ-3, would reduce the Impoundment Alternative's construction-related impacts to a less than significant level. The Greenhouse Gas Emissions Threshold would not be exceeded, assuming a 47-percent increase in air emissions as discussed in Impact Statement 3.2-1. An estimated 436.94 metric tons of CO_2 equivalent per year ($MTCO_2$ eq/yr) would be generated under the Impoundment Alternative, well below the 10,000 $MTCO_2$ eq/year threshold. Thus, it can be reasonably inferred that construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant With Mitigation.**

Impacts under NEPA

The Impoundment Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Emissions levels would not exceed the federal *de minimis* thresholds for any criteria pollutant and would not exceed 10 percent of the inventory for the non-attainment area. Therefore, it

can be reasonably inferred that construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant Impact.**

Channel Alternative

The Channel Alternative proposes the construction and maintenance of a flood control channel. The flood control channel would originate within Eagle Canyon and follow the general alignment of the wash. Similar to the Preferred Alternative, the Channel Alternative would capture the 100-year storm flow (1,180 cfs) at the mouth of the canyon, but then would convey flows in a wide open channel facility following the general alignment of the existing wash/streambed to Palm Canyon Drive and then though existing residential and commercial development until ultimately terminating at the West Cathedral Canyon Channel.

Construction-Related Impacts

SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the *2007 Air Quality Management Plan* pursuant to Federal Clean Air Act mandates. The Channel Alternative would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures. As stated above, Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the project site. In addition, the proposed project would comply with adopted *2007 Air Quality Management Plan* emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted Air Quality Management Plan emissions control measures) would also be imposed on construction projects Basin-wide, which would include cumulatively-related projects.

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ1 through AQ3, would reduce the Impoundment Alternative's construction related impacts to a less than significant level. Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality.

Operational Impacts

The Channel Alternative would not result in long-term air quality impacts. Long-term operations would only consist of periodic maintenance visits. This alternative would not be a trip generating land use. As a result, any long-term mobile source emissions would be infrequent and nominal. Additionally, the proposed project would not require any stationary equipment. This alternative would not contribute a cumulatively considerable net increase of any non-attainment criteria pollutant.

Impacts under CEQA

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ-1 through AQ-3, would reduce the Channel Alternative's construction-related impacts to a less than significant level. The Greenhouse Gas Emissions Threshold would not be exceeded, assuming that less grading would be required under the Channel Alternative due to the elimination of the debris basin and earthen dam. Thus, it can be reasonably inferred that construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant With Mitigation.**

Impacts under NEPA

The Channel Alternative meets the requirements of the FCAA General Conformity requirements after mitigation. Emissions levels would not exceed the federal *de minimis* thresholds for any criteria pollutant and would not exceed 10 percent of the inventory for the non-attainment area. Therefore, it can be reasonably inferred that construction activities, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard. **Level of Significance: Less Than Significant Impact.**

No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if no state or federal action would occur. Riverside County would not seek agreements, permits, or approvals from AQMD, SWRCB, Corps, FWS, the District, City of Palm Springs, Cathedral City, DFG, and RWQCB. This alternative would not allow implementation of the proposed project or other physical improvements associated with the proposed project.

Construction-Related Impacts and Operational Impacts

As with the Preferred Alternative, the No-Project Alternative would not result in long-term air quality impacts. The No-Project Alternative would not construct new facilities, and periodic maintenance visits would not occur. As a result, long-term emissions would not occur. Therefore, this alternative would not contribute a cumulatively considerable net increase of any non-attainment criteria pollutant.

Impacts under CEQA

The No Project Alternative would not generate emissions, since this Alternative does not propose grading activities. Therefore, the No Project Alternative would not deteriorate the local air quality or cause cumulatively considerable impacts. Therefore, no impacts would result, since no construction would occur. **Level of Significance: No Impact.**

Impacts under NEPA

The No Project Alternative would not generate emissions, since this Alternative does not propose grading activities. Therefore, the No Project Alternative, in combination with other projects in the area, would not substantially deteriorate the local air quality or exceed federal *de minimis* thresholds for any criteria pollutants. Therefore, no impacts would result, since no construction would occur. **Level of Significance: No Impact.**

3.2.7 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

No significant unavoidable impacts related to air quality have been identified following implementation of the recommended mitigation measures.