Viejas Hotel South Tower Project Draft TEIR

Appendix C

Air Quality Assessment

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April 11, 2014

AIR QUALITY ASSESSMENT

Viejas Second Hotel Project
County of San Diego, CA

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EXECUTIVE SUMMARY

This air quality impact study has been completed to determine the air quality impacts associated with the development of the proposed Viejas Hotel/Casino Project located on the Viejas Indian Reservation within the eastern area of San Diego County. The proposed project envisions providing 128 additional hotel rooms and 16,500 SF of gaming area within a general area consisting of roughly 5 acres to include staging. All phases (i.e. demolition, grading, paving and construction) of the proposed Project are anticipated to start in June 2014 with construction being complete in November 2015.

During construction of the proposed Project, fugitive dust emissions will be expected during grading, heavy equipment usage, and from construction workers commuting to and from the site. During short-term construction activities, the Project would exceed Particulate Matter (PM_{10}) thresholds established by the San Diego Air Pollution Control District (SDAPCD) and will require mitigation. It was found that the following mitigation measures reduced construction impacts to less than significant.

- *Apply water during grading/grubbing activities to all active disturbed areas at least twice daily (Assuming a 51% control efficiency).*
- *Apply water to all onsite unpaved roadways at least two times daily (Assuming 51% control efficiency).*

Furthermore, a screening-level health risk assessment was conducted to determine the potential for the Project to result in a significant impact on nearby sensitive receptors during short-term construction activities. For purposes of this analysis, the primary pollutant of concern is diesel particulate matter (DPM) which is emitted by the operation of heavy diesel equipment during construction activities. The result of the health risk assessment indicates that the proposed Project could increase the cancer risk to above one in one million and would require mitigation measures to comply. It was found that the following mitigation measures reduced construction impacts to less than significant.

- *Ensure all heavy diesel construction equipment is either classified as Tier II at a minimum and has diesel particulate filters installed on the exhaust systems to limit diesel particulates. This will be considered appropriate under T-BACT guidelines.*

Finally, the proposed Project would be expected to generate short term construction odors however, significant due to the nature of the short term events, no impacts are expected.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential air quality impacts (if any) that may be created by construction, area or operational emissions (short term or long term) from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant.

1.2 Project Location

The project area is located north of Willows Road and south of Viejas Creek within the Viejas Indian Reservation. The project is located north of Interstate 8 (I-8) and the community of Alpine. I-8 and Willows Road (with two interchanges to I-8) provide access to the site. A general project vicinity map is shown in Figure 1–A on the following page.

1.3 Project Description

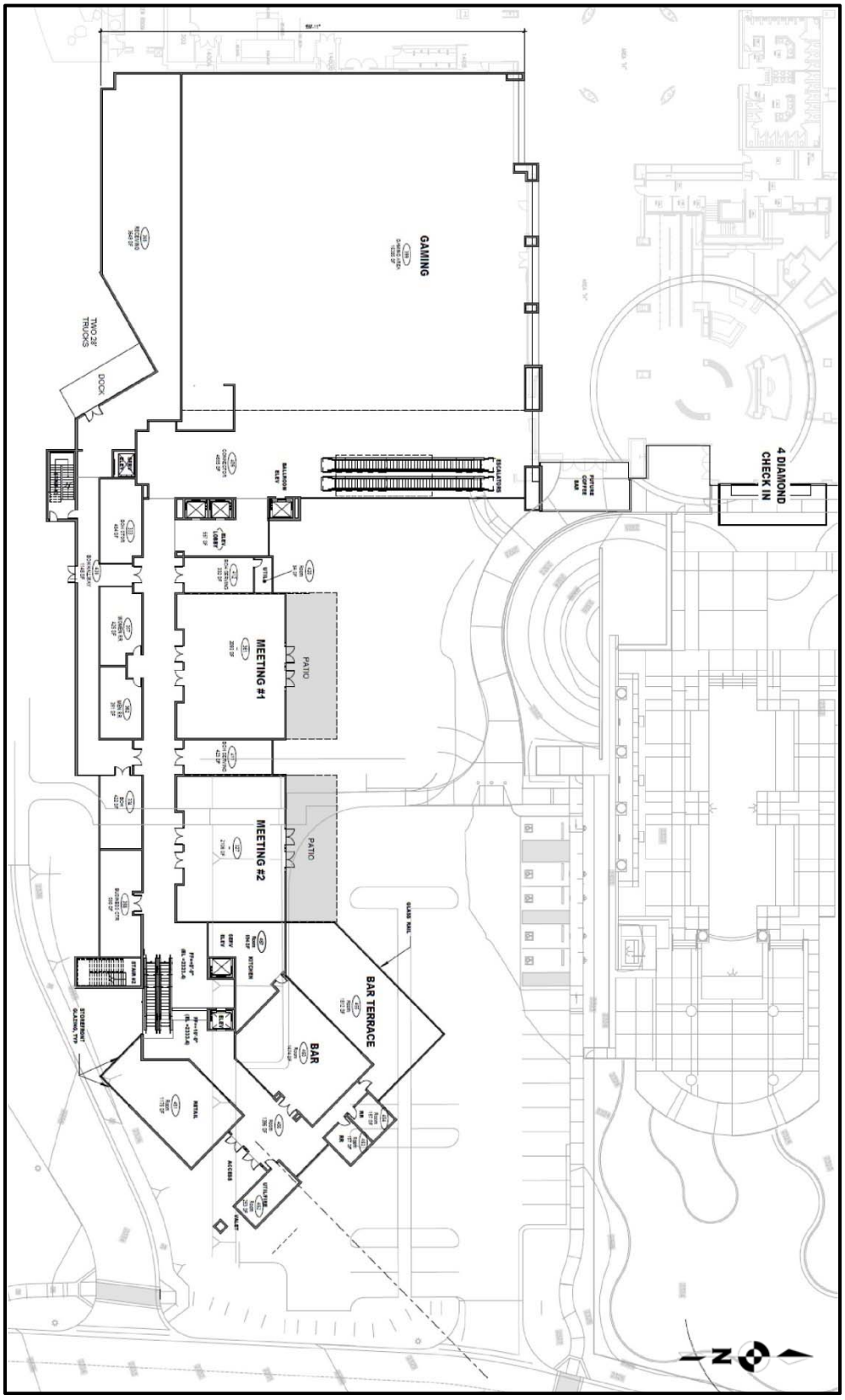
The project is an approximately 128-room, 6-story hotel, adjacent to the existing Viejas Casino. The expansion would demolish the existing office space on the southeastern portion of the casino and replace it with a second hotel tower. The south hotel tower project would include additional gaming space, a kitchen in the basement, ballroom, pre-function terrace, meeting rooms, bar, retail, and pool area. The office space would be relocated within the existing facility.

The Casino currently offers approximately 133,000 square feet (sf) of gaming area in a 325,000 square foot casino. Current gaming offerings include 2,000 slot machines, 86 gaming tables, a 150-seat off-track betting facility, a 750 seat bingo pavilion, a special events venue, five restaurants, a 150-room hotel, and a parking structure. With construction of the recently developed first Viejas Hotel, the Casino reduced the amount of original gaming area by approximately 20,000 sf. The proposed project would add approximately 16,500 sf of gaming area in the new development, resulting in a net reduction of approximately 3,500 sf of gaming area. It should also be noted that no new infrastructure would be required, or is proposed, for the Viejas South Tower Hotel. A general site layout is shown in Figure 1–B on Page 3 of this report.

Figure 1-A: Project Vicinity Map

Source: Google Maps, 3/14

Figure 1-B: Proposed Project Site Plan



Source: JCJ Architecture, 2013

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The project site and surroundings are extensively developed with commercial uses. The project would be near the Viejas Outlet Center which is located south of the project site. Residential areas also are found along Willows Road both to the east and west of the Viejas Indian Reservation. North, east, and west of the Reservation is the Cleveland National Forest. There are residential in-holdings between the Reservation and the Forest.

2.2 Climate and Meteorology

Climate within the San Diego Air Basin SDAB area often varies dramatically over short geographical distances due to the size and topography. Most of southern California is dominated by high-pressure systems for much of the year, which keeps the East County sunny and warm. Typically, during the winter months, the high pressure system drops to the south and brings cooler, moister weather from the north. It is common for inversion layers to develop within high-pressure areas, which mostly define pressure patterns over the SDAB. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Meteorological trends within the Viejas Reservation area generally are very similar to that of nearby Alpine where daytime highs typically range between 65ºF in the winter to approximately 90ºF in the summer with August usually being the hottest month. Median temperatures range from approximately 54ºF in the winter to approximately 76ºF in the summer. The average humidity is approximately 64% in the winter and about 73% in the summer (Source: http://www.city-data.com/city/Alpine-California.html). Alpine usually receives 16.53 inches of rain per year with February usually being the wettest month (Source: http://www.weather.com/weather/wxclimatology/monthly/graph/USCA0017).

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. ***Primary Standards*** set limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. ***Secondary Standards*** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. ***Carbon Monoxide (CO):*** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.*
2. ***Lead (Pb):*** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.*
3. ***Nitrogen Dioxide (NO_2):*** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_2 is usually visible as a reddish-brown air layer over urban areas. NO_2 along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_2 above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.*
4. ***Particulate Matter (PM_{10} or $PM_{2.5}$):*** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM_{10} particles are 10 microns (µm) or less and $PM_{2.5}$ particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.*

5. ***Ozone (O_3)****: is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.*
6. ***Sulfur Dioxide (SO_2)****: is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.*

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive then the NAAQS and also restrict four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. ***Visibility Reducing Particles****: Particles in the Air that obstruct the visibility.*
2. ***Sulfates****: are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.*
3. ***Hydrogen Sulfide (H_2S)****: is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 ppm) can cause a loss of consciousness and possibly death.*
4. ***Vinyl Chloride****: also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Average Time**	**California Standards[1]**		**Federal Standards[2]**		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.075 ppm (147 µg/m3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		-		
Fine Particulate Matter PM2.5	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12.0 µg/m3	15 µg/m3	
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		-	-	-
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3)[8]	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm[8] (188/ µg/m3)	-	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm (for Certain Areas)	-	Ultraviolet Flourescence; Spectrophotometry (Pararoosaniline Method)[9]
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3)	-	
Lead[10]	30 Day Average	1.5 µg/m3	Atomic Absorption	-		-
	Calendar Quarter	-		1.5 µg/m3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	-		0.15 µg/m3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing articles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board (6/4/13)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as "non-attainment areas" for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the $PM_{2.5}$ standard and many areas are in non-attainment for PM_{10} as well. The state therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basis to attain ambient air quality standards.

The San Diego Air Pollution Control District (SDAPCD) is the government agency which regulates sources of air pollution within San Diego County. Therefore, the SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status. Currently, San Diego is in "non-attainment" status for O_3 under Federal regulations and both PM_{10} and $PM_{2.5}$ under State regulations. It should be noted however, an attainment plan is only available of O_3. The RAQS was adopted in 1992 and has been updated as recently as 2009 which was the latest update incorporating minor changes to the prior 2004 update.

The 2009 update mostly clarifies and enhances emission reductions by implementing new VOC and NOX reduction measures. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years. A complete listing of the current attainment status with respect to both federal and state nonattainment status by pollutants for San Diego County is shown in Table 2.2 on the following page.

The RAQS is largely based on population predictions by the San Diego Association of Governments (SANDAG). Projects that produce less growth than predicted by SANDAG would generally conform to the RAQS and projects create more growth than projected by SANDAG may create a significant impact assuming the project either produces unmitagble emission generation in excess of the regional standards. Also the project would be considered a significant impact if the project produces cumulative impacts.

Table 2.2: San Diego County Air Basin Attainment Status by Pollutant

San Diego County Air Basin Attainment Status by Pollutant			
Pollutant	Average Time	California Standards	Federal Standards
Ozone (O_3)	1 Hour	Non-attainment	No Federal Standard
	8 Hour		Basic Non-attainment
Respirable Particulate Matter (PM10)	24 Hour	Non-attainment	Unclassified[1]
	Annual Arithmetic Mean	No State Standard	Unclassified[2]
Fine Particulate Matter PM2.5	24 Hour	No State Standard	Attainment
	Annual Arithmetic Mean	Non-attainment	Attainment
Carbon Monoxide (CO)	8 hour	Attainment	Maintenance Area[3]
	1 hour		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	30 Day Average	Attainment	No Federal Standard
	Calendar Quarter	No State Standard	Attainment
Visibility Reducing Particles	8 Hour (10AM to 6PM, PST)	Unclassified	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard

1. Data reflects status as of March 19, 2009.

2. Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

3. Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines and are as follows:

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

A: Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP)?

B: Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?

C: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (PM10, PM2.5 or exceed quantitative thresholds for O3 precursors, oxides of nitrogen [NOX] and Volatile Organic Compounds [VOCs])?

D: Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?

E: Create objectionable odors affecting a substantial number of people?

2.5 SDAPCD Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources. The County's Guidelines for Determining Significance and Report Format and Content Requirements incorporate screening level thresholds from Rule 20.2 for use in all County related Air Quality Impact Assessments (AQIA) and for determining CEQA air quality impacts. These screening criteria can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Also, since SDAPCD does not have AQI threshold for Volatile Organic Compounds (VOCs), it is acceptable to use the Coachella Valley VOC threshold from South Coast Air Quality Management District. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These screening thresholds for construction and daily operations are shown in Table 2.3 below.

Table 2.3: Screening Threshold for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75
Operational Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75

Non Criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the cancer risk to over 10 in one million. At no time shall the project increase the cancer risk to over 10 in one million or a health hazard index (chronic and acute) greater than one. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

The U.S. Environmental Protection Agency (U.S. EPA) uses the term Volatile Organic Compounds (VOC) and the California Air Resources Board's (CARB's) Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) to essentially define the same thing. There are minor deviations between compounds that define each term however for purposes of this study we will assume they are essentially the same due to the fact SCAQMD interchanges these words and because URBEMIS2007 directly calculates ROG in place of VOC.

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the San Diego Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The SDAPCD is responsible for monitoring and reporting monitoring data. The District operates 10 monitoring sites, which collect data on criteria pollutants. SDAPCD published the five year air quality summary for all of the monitoring stations within the San Diego area air basin (Source: http://www.sdapcd.org/info/reports/5-year-summary.pdf). The proposed development project is closest to the Alpine and El Cajon monitoring stations which are approximately 3.74 and 14.3 miles away. Table 2.4 on the following page identifies the criteria pollutants monitored at the aforementioned station.

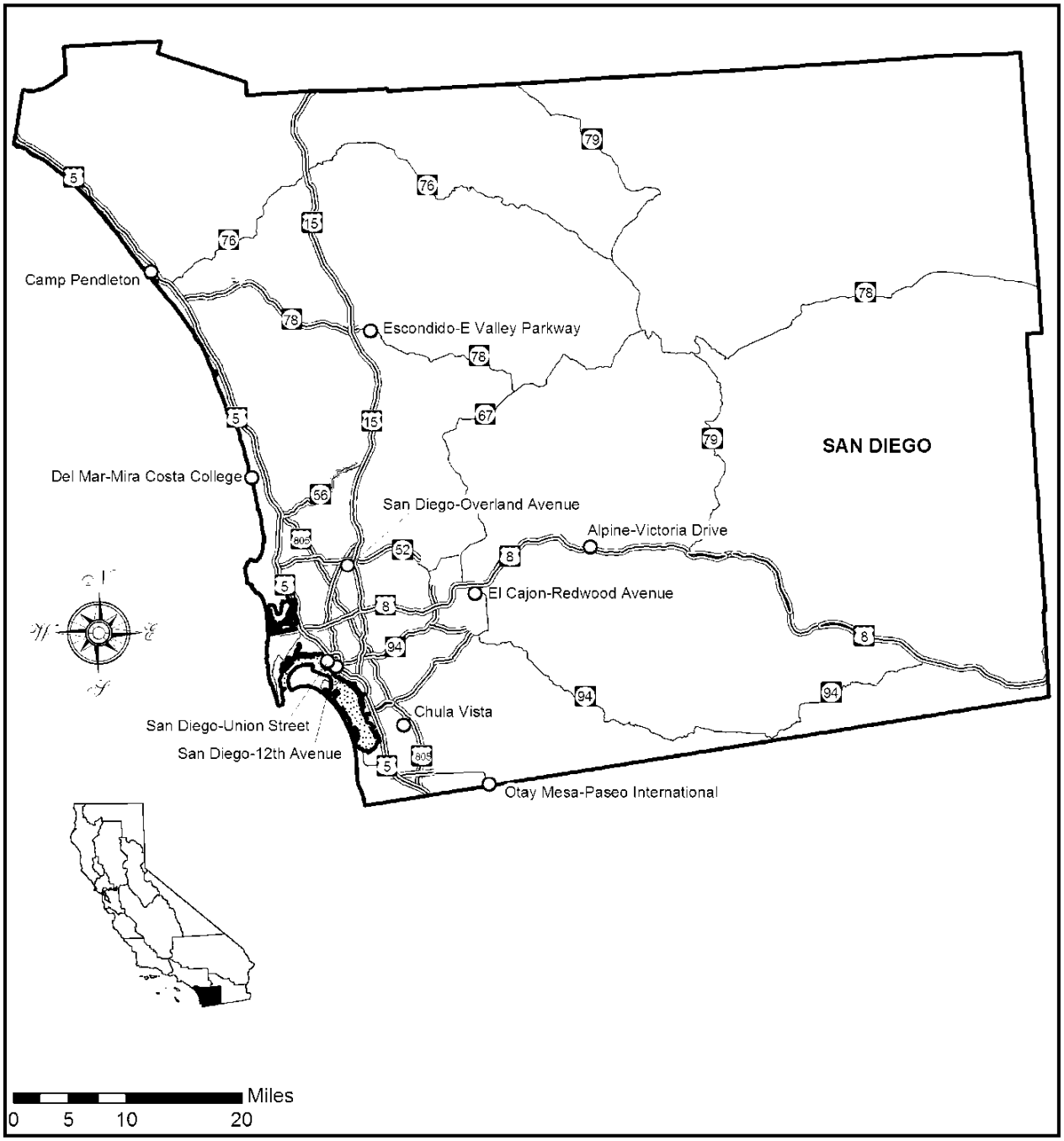
Four additional sites collect meteorological data which is used by the District to assist with pollutant forecasting, data analysis and characterization of pollutant transport. Figure 2-A on Page 15 shows the relative locations of the monitoring sites. SDAPCD published the five year air quality summary for all of the monitoring stations within the San Diego basin (Source: http://www.arb.ca.gov/adam/topfour/topfourdisplay.php).

Table 2.4: Three-Year Ambient Air Quality Summary near the Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2010	2011	2012
O_3 (ppm)	Alpine-Victoria Drive	1 Hour	0.09 ppm	-	0.11	0.11	0.10
	Alpine-Victoria Drive	8 Hour	0.070 ppm	0.075 ppm	0.9	0.9	0.8
PM_{10} (µg/m3)	El Cajon-Redwood Avenue	24 Hour	50 µg/m3	150 µg/m3	41	42	48
	El Cajon-Redwood Avenue	Annual Arithmetic Mean	20 µg/m3	-	21.1	23.5	23.0
$PM_{2.5}$ (µg/m3)	El Cajon-Redwood Avenue	24 Hour	-	35 µg/m3	28	30	38
	El Cajon-Redwood Avenue	Annual Arithmetic Mean	12 µg/m3	15 µg/m3	10.8	10.5	10.5
NO_2 (ppm)	Alpine-Victoria Drive	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.007	0.005	0.006
	Alpine-Victoria Drive	1 Hour	0.18 ppm	-	0.052	0.040	0.047
CO (ppm)	El Cajon-Redwood Avenue	8 Hour	9 ppm	9 ppm	-	1.3	1.9
	El Cajon-Redwood Avenue	1 Hour	35 ppm	20 ppm	-	1.8	2.3

All ambient emissions reported are assumed to be taken by the district in compliance with both the NAAQS and CAAQS. Methodologies for those measurements are discussed in Table 2.1 of this report.

Figure 2-A: Ambient Air Quality Monitoring Stations within SDAB – CARB



3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air quality impacts related to construction will be calculated using the latest URBEMIS2007 air quality model, which was developed by the California Air Resource Board (CARB). URBEMIS2007 has been approved by SDAPCD and the County of San Diego for construction emission calculations. URBEMIS incorporates emission factors from the EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. The URBEMIS input/output model is shown in ***Attachment A*** at the end of this report.

Cancer Risk will be determined for Diesel Particulate Matter (DPM) at the point of maximum exposure. The SCREEN3 dispersion model can be used to determine the concentration for air pollutants at any location near the pollutant generator. Additionally, the model will predict the maximum exposure distance and concentration. The SCREEN3 input/output files are shown in Attachment B of this report. The worst case exhaust emissions generated from the Project from construction equipment was utilized and calculated within the URBEMIS2007 model. The worst case cancer risk if exposed to a DPM dose for 70 years is defined as:

$$CR_{DPM} = C_{DPM} \times URF_{DPM}$$

Where, CR_{DPM} = Cancer risk from diesel particulate matter (probability on an individual developing Cancer

C_{DPM} = Annual average DPM concentration in µg/m3

URF_{DPM} = Unit risk factor is 0.0003 per continuous exposure of 1 µg/m^3 of DPM over 70-year period per person

(Source: Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling emissions for CEQA Air Quality Analysis (August 2003))

The available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects (Source: http://oehha.ca.gov/air/toxic_contaminants/html/Diesel%20Exhaust.htm).

3.2 Construction Assumptions

The Project would begin demolition of the existing office space to make way for the hotel. Demolition is expected to last approximately one month. Demolition debris will be exported offsite which will generate roughly 120 trips.

Once demolition is complete, the project would begin grading the site and excavating the footings for the facility. It's estimated that approximately 30,000 CY of soil will be moved and would balance over the reservation area. Once grading is complete the project would pave exposed areas and begin construction of the hotel and casino area. It's estimated that construction would be completed by November 2015. The estimated onsite construction footprint would be within a 5 acre area. Table 3.1 below shows the expected timeframes for the construction process at the Project location.

Table 3.1: Expected Construction Equipment

Equipment Identification	Activity Start Date	Activity Completion Date	Quantity
Demolition	6/1/2014	6/30/2014	
Tractors/Loaders/Backhoes			2
Concrete/Industrial Saws			1
Rubber Tired Dozers			1
Mass Site Grading	7/1/2014	8/1/2014	
Excavators			2
Rubber Tired Dozers			1
Tractors/Loaders/Backhoes			1
Water Trucks			1
Paving	8/2/2014	8/14/2014	
Cement and Mortar Mixers			4
Pavers			1
Paving Equipment			1
Rollers			1
Building Construction	8/15/2014	11/15/2015	
Welders			3
Forklifts			2
Cranes			1
Generator Sets			1
Tractors/Loaders/Backhoes			1
Architectural Coating	3/1/2015	11/15/2015	
This equipment list is based upon equipment inventory within URBEMIS 2007.			

3.3 Operational Emissions

Operational Emissions from daily trips and area sources will be calculated utilizing the URBEMIS 2007 model. Emissions from both daily trips and area sources will be considered additive and combined to show total Project related emission outputs.

URBEMIS 2007 utilizes the EMFAC2007 model for daily trips, which calculates emission rates from all motor vehicles, such as passenger cars to heavy-duty trucks, operating on highways, freeways and local roads in California and reflects CARB's current understanding of how vehicles travel and how much they pollute. Table 3.2 below shows the Project trip breakdown.

Table 3.2: Proposed Project Trip Breakdown

Vehicle Description	Project Percentage
Light Auto	47.8
Light Truck < 3,750 lbs	10.9
Light Truck 3,751 – 5,750 lbs	22.1
Medium Truck 5,751 – 8,500 lbs	9.9
Light-Heavy Truck 8,501 – 10,000 lbs	1.8
Light-Heavy Truck 10,001 – 14,000 lbs	0.7
Medium-Heavy Truck 14,001 – 33,000 lbs	1.0
Heavy-Heavy Truck 33,001 – 60,000 lbs	0.9
Other Bus	0.1
Urban Bus	0.1
Motorcycle	3.5
School Bus	0.1
Motor Home	1.1

In the EMFAC model, the emission rates are multiplied with vehicle activity data provided by the regional transportation agencies to calculate the statewide or regional emission inventories. An emission inventory is the emission rate (e.g., grams per pollutant emitted over a mile) and vehicle activity (e.g., miles driven per day). Area sources originate from daily onsite uses, which require either burning fuel to generate energy (i.e. natural gas fireplaces, gas furnaces, gas water heaters and small engines) or the evaporation of organic gases such as paints (architectural coatings).

The Project traffic engineer estimated that there will be 384 daily trips generated from the proposed project. These traffic numbers were utilized within the URBEMIS 2007 analysis. The model also estimates emission predictions for ROG, NOx, CO, SO_2, PM_{10} and $PM_{2.5}$ for area source assumptions. Additionally, it was assumed that an average of 5% of the structural surface area will be re-painted each year.

Consumer product emissions are generated by a wide range of product categories, including air fresheners, automotive products, household cleaners, and personal care products. Emissions associated with these products primarily depend on the increased population associated with residential development. Default emission factors were utilized within the URBEMIS 2007 model.

3.4 Odor Impacts

Potential onsite odor generators would include short-term construction odors from activities such as paving and possibly painting. Given this, short-term construction odors would not be considered an impact. Given this the Project will not have a potential to create offensive odors and would therefore not be considered an impact under CEQA.

4.0 FINDINGS

4.1 Construction Findings

The Project would begin demolition of the existing office space to make way for the hotel. Demolition is expected to last approximately one month. Demolition debris will be exported offsite which will generate roughly 120 trips within a 30 mile radius.

Once demolition is complete, the project would begin grading the site and excavating the footings for the facility. It's estimated that approximately 30,000 CY of soil will be moved and would balance over the reservation area. Once grading is complete the project would pave exposed areas and begin construction of the hotel and casino area. It's estimated that construction would be completed by November 2015. The estimated onsite construction footprint would be within a 5 acre area. A summary of the construction emissions is shown in Table 4.1.

Table 4.1: Expected Construction Emissions Summary

Year	ROG	NO_x	CO	SO_2	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2014 (lb/day) Unmitigated	3.01	23.11	15.35	0.01	160.01	1.10	161.11	33.42	1.02	34.43
Significance Threshold (lb/day)	75	250	550	250	-	-	100	-	-	55
Exceeds Screening Threshold	No	No	No	No	-	-	**Yes**	-	-	No
2014 (lb/day) Mitigated	3.01	23.11	15.35	0.01	78.41	1.10	79.51	16.38	1.02	17.39
Exceeds Screening Threshold	No	No	No	No	-	-	No	-	-	No
2015 (lb/day) Unmitigated	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73
Exceeds Screening Threshold	No	No	No	No	-	-	No	-	-	No
2015 (lb/day) Mitigated	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73
Exceeds Screening Threshold	No	No	No	No	-	-	No	-	-	No

Given these findings PM_{10} emissions could exceed SDAPCD air quality standards between the start of the Project's grading period until the end of the grading period and would require mitigation to comply during these activities. This impact would be limited to grading only. It was found that the following mitigation measures would be required to reduce PM_{10} impacts to a level below significance:

1. *Apply water during grading/grubbing activities to all active disturbed areas at least twice daily (Assuming a 51% control efficiency).*
2. *Apply water to all onsite unpaved roadways at least two times daily (Assuming 51% control efficiency).*

4.2 Health Risk

Based upon the air quality modeling as discussed in Section 4.1 above, it was found that worst-case PM_{10} from exhaust would range between 0.49 and 1.10. Since construction emissions would be spread out over the duration of construction, the average emission rate (0.81 lb/day) and should be utilized for the total duration of 380 – 8-hour days. Given this, the expected emission rate would be 0.0127 grams per second DPM during the construction day which would be expected to be distributed over project area of 5 acres. Converting pounds (lbs) per day to grams per second is shown below.

$$\frac{0.81\frac{lb}{day} * 453\frac{grams}{lb}}{28{,}800\frac{\text{sec}\,onds}{Constructi\,onday}} = 0.0127\frac{grams}{\text{sec}\,ond}$$

The average emission rate over the grading area is 4.00×10^{-7} g/m^2/s, which was calculated as follows:

$$\frac{0.0127\frac{grams}{\text{sec}\,ond}}{5acres * 4{,}046\frac{meters^2}{acre}} = 6.29 * 10^{-7}\frac{\frac{grams}{meters^2}}{\text{sec}\,ond}$$

Utilizing the SCREEN3 dispersion model, we find that the peak maximum 1-hr concentration is 12.06 µg/m3 during the worst-case construction period. Converting the peak 1-hr concentration to an annual concentration reduces the concentration to 0.9648 µg/m^3. Therefore, utilizing the risk equation identified above and calculating the cancer risk over a 70 year continuous dose would be:

$$CR_{\text{DPM-70yr dose}} = 0.0003 \text{ x } 0.9648 = 0.000289$$

The proposed project is expected to generate maximum DPM during grading of the project, which is expected to be approximately 380 workdays. This would work out to 126.67-24 hour days out of 70 years or 126.67/25,550 or 0.0015 times the CR_{DPM}. If one million people were exposed to the maximum DPM for only the duration of grading and diesel equipment use, the estimated increased cancer risk could be:

0.00496 x .000289 x 1,000,000 = 1.43 individuals per million

The maximum DPM is projected to occur approximately 108 meters from the geometric center of the project. The numerical number of individuals exposed to DPM of this concentration from the project would be slightly more than one in one million. The numerical number of individuals exposed to DPM of this concentration from the project would be less than ten in one million. Therefore, because the project increases the risk to more than one person per million the project would be required to utilize equipment meeting requirements of T-BACT such as using diesel particulate filters or catalytic converters and utilizing Tier II certified equipment at a minimum.

There are also known acute, chronic health risks associated with diesel exhaust which are considered non-cancer risks. This risk is calculated based on methods identified in Section 3.1. From this we find that the annual concentration of 0.96 $\mu g/m^3$ divided by the REL of 5 µg/m3 yields a Health Hazard Index of 0.19 which is less than one. Therefore no non-cancer risks are expected and all health risks are considered less than significant.

4.3 Operational Findings

Based on the Project's traffic study the proposed Project could add as many as 384 daily trips once the Project is fully operational sometime in the year 2015. Additionally, for purposes of this analysis, the expected daily pollutant generation can be calculated utilizing the rural trip assumptions. The expected daily pollutant generation can be calculated utilizing the product of the average daily miles traveled and the expected emissions inventory calculated by EMFAC2007; URBEMIS2007 performs this calculation. The daily pollutants calculated are shown in Table 4.2 on the following page. Based upon these calculations, it was found that no operational impacts are expected.

Table 4.2: Expected Daily Pollutant Generation

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source Emission Estimates (Lb/Day)	0.52	0.92	2.31	0.00	0.01	0.01
Operational Vehicle Emissions (Lb/Day)	2.55	2.42	22.02	0.03	4.92	0.95
Total (Lb/Day)	3.07	3.34	24.33	0.03	4.93	0.96
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Winter Scenario						
Area Source Emission Estimates (Lb/Day)	0.40	0.90	0.76	0.00	0.00	0.00
Operational Vehicle Emissions (Lb/Day)	2.04	3.53	23.84	0.02	4.92	0.95
Total (Lb/Day)	2.44	4.43	24.60	0.02	4.92	0.95
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within URBEMIS 2007						

4.4 Odor Impact Findings

Odor impacts from construction operations would be considered short term events and would not be considered an impact. The Project will utilize the existing Viejas wastewater treatment plant. This increased waste would be minimal and Viejas would be able to maintain control of the odors at the existing wastewater treatment plant. Long term operations will not create offensive odors and would not create any operational odor impacts.

4.5 Conclusion of Findings

Based upon our analysis of significant construction impacts, direct PM_{10} impacts are expected during grading. These impacts can be mitigated to less than significant by watering the site as needed to maintain at least 51% control efficiency. It can be assumed that twice daily would be sufficient. Also, given the project cancer risk will be greater than one and less than ten; the grading contractors would be required to utilize equipment meeting T-BACT requirements. Equipment should be retrofitted with diesel particulate filters or be labeled as Tier II or better per California Air Resource Board definitions. A list of required mitigation measures is provided below.

1. *Apply water during grading/grubbing activities to all active disturbed areas at least twice daily (Assuming a 51% control efficiency).*
2. *Apply water to all onsite unpaved roadways at least two times daily (Assuming 51% control efficiency).*
3. *Ensure that all heavy diesel construction equipment is either classified as Tier II at a minimum and has diesel particulate filters installed on the exhaust systems to limit diesel particulates. This will be considered appropriate under T-BACT guidelines.*

Finally, the proposed Project would not be expected to generate any short term construction impacts with regards to offensive odors. Therefore, no additional impacts would be expected.

ATTACHMENT A

URBEMIS 2007

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Users\RST\Google Drive\Viejas\Viejas\Viejas South HotelCasino.urb924

Project Name: Viejas Hotel Construction

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014 TOTALS (lbs/day unmitigated)	3.01	23.11	15.35	0.01	160.01	1.10	161.11	33.42	1.02	34.43	2,982.66
2014 TOTALS (lbs/day mitigated)	3.01	23.11	15.35	0.01	78.41	1.10	79.51	16.38	1.02	17.39	2,982.66
2015 TOTALS (lbs/day unmitigated)	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20
2015 TOTALS (lbs/day mitigated)	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.52	0.92	2.31	0.00	0.01	0.01	1,087.61

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.55	2.42	22.02	0.03	4.92	0.95	2,859.55

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	3.07	3.34	24.33	0.03	4.93	0.96	3,947.16

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 6/2/2014-6/30/2014 Active Days: 21	1.05	8.52	6.05	**0.01**	4.24	0.49	4.72	0.88	0.45	1.33	1,363.50
Demolition 06/01/2014-06/30/2014	1.05	8.52	6.05	0.01	4.24	0.49	4.72	0.88	0.45	1.33	1,363.50
Fugitive Dust	0.00	0.00	0.00	0.00	4.21	0.00	4.21	0.88	0.00	0.88	0.00
Demo Off Road Diesel	0.84	5.95	4.33	0.00	0.00	0.39	0.39	0.00	0.36	0.36	700.30
Demo On Road Diesel	0.19	2.53	0.91	0.01	0.02	0.09	0.11	0.01	0.09	0.09	560.90
Demo Worker Trips	0.02	0.04	0.81	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.29
Time Slice 7/1/2014-8/1/2014 Active Days: 24	3.01	**23.11**	**15.35**	0.00	**160.01**	**1.10**	**161.11**	**33.42**	**1.02**	**34.43**	**2,982.66**
Mass Grading 07/01/2014-08/01/2014	3.01	23.11	15.35	0.00	160.01	1.10	161.11	33.42	1.02	34.43	2,982.66
Mass Grading Dust	0.00	0.00	0.00	0.00	160.00	0.00	160.00	33.41	0.00	33.41	0.00
Mass Grading Off Road Diesel	2.98	23.05	14.34	0.00	0.00	1.10	1.10	0.00	1.01	1.01	2,854.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.87
Time Slice 8/4/2014-8/14/2014 Active Days: 9	2.49	13.65	10.71	0.00	0.02	1.09	1.11	0.01	1.00	1.01	1,625.81
Asphalt 08/02/2014-08/14/2014	2.49	13.65	10.71	0.00	0.02	1.09	1.11	0.01	1.00	1.01	1,625.81
Paving Off-Gas	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.05	0.67	0.24	0.00	0.01	0.02	0.03	0.00	0.02	0.02	149.19
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58

Time Slice 8/15/2014-12/31/2014 Active Days: 99	2.75	13.42	13.11	0.00	0.02	0.85	0.87	0.01	0.78	0.78	2,082.32
Building 08/15/2014-11/15/2015	2.75	13.42	13.11	0.00	0.02	0.85	0.87	0.01	0.78	0.78	2,082.32
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.03	0.30	0.30	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.24
Building Worker Trips	0.09	0.15	2.92	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.89
Time Slice 1/1/2015-2/27/2015 Active Days: 42	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building 08/15/2014-11/15/2015	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.02	0.26	0.27	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.25
Building Worker Trips	0.08	0.14	2.70	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.98
Time Slice 3/2/2015-11/13/2015 Active Days: 185	**9.01**	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20
Building 08/15/2014-11/15/2015	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.02	0.26	0.27	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.25
Building Worker Trips	0.08	0.14	2.70	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.98
Coating 03/01/2015-11/15/2015	6.51	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.77
Architectural Coating	6.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.77

Phase Assumptions

Phase: Demolition 6/1/2014 - 6/30/2014 - Demolition Existing Office Area

Building Volume Total (cubic feet): 210000

Building Volume Daily (cubic feet): 10031.04

On Road Truck Travel (VMT): 139.32

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Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2014 - 8/1/2014 - Grading and excavation of footings

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 1250 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

Phase: Paving 8/2/2014 - 8/14/2014 - Paving around the site

Acres to be Paved: 1.25

Off-Road Equipment:

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

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

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

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

Phase: Building Construction 8/15/2014 - 11/15/2015 - Construction of the Hotel and Gaming Area

Off-Road Equipment:

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

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

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

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

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

Phase: Architectural Coating 3/1/2015 - 11/15/2015 - Architectural Coatings

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

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

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

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

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.90	0.76	0.00	0.00	0.00	1,084.80
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.33						
TOTALS (lbs/day, unmitigated)	0.52	0.92	2.31	0.00	0.01	0.01	1,087.61

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

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

Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	2.55	2.42	22.02	0.03	4.92	0.95	2,859.55
TOTALS (lbs/day, unmitigated)	2.55	2.42	22.02	0.03	4.92	0.95	2,859.55

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hotel		3.39	rooms	113.00	383.07	2,856.74
					383.07	2,856.74

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.8	0.9	95.4	3.7
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	48.6	51.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Users\RST\Google Drive\Viejas\Viejas\Viejas South HotelCasino.urb924

Project Name: Viejas Hotel Construction

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2014 TOTALS (lbs/day unmitigated)	3.01	23.11	15.35	0.01	160.01	1.10	161.11	33.42	1.02	34.43	2,982.66
2014 TOTALS (lbs/day mitigated)	3.01	23.11	15.35	0.01	78.41	1.10	79.51	16.38	1.02	17.39	2,982.66
2015 TOTALS (lbs/day unmitigated)	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20
2015 TOTALS (lbs/day mitigated)	9.01	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.40	0.90	0.76	0.00	0.00	0.00	1,084.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.04	3.53	23.84	0.02	4.92	0.95	2,478.87

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.44	4.43	24.60	0.02	4.92	0.95	3,563.67

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 6/2/2014-6/30/2014 Active Days: 21	1.05	8.52	6.05	**0.01**	4.24	0.49	4.72	0.88	0.45	1.33	1,363.50
Demolition 06/01/2014-06/30/2014	1.05	8.52	6.05	0.01	4.24	0.49	4.72	0.88	0.45	1.33	1,363.50
Fugitive Dust	0.00	0.00	0.00	0.00	4.21	0.00	4.21	0.88	0.00	0.88	0.00
Demo Off Road Diesel	0.84	5.95	4.33	0.00	0.00	0.39	0.39	0.00	0.36	0.36	700.30
Demo On Road Diesel	0.19	2.53	0.91	0.01	0.02	0.09	0.11	0.01	0.09	0.09	560.90
Demo Worker Trips	0.02	0.04	0.81	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.29
Time Slice 7/1/2014-8/1/2014 Active Days: 24	3.01	**23.11**	**15.35**	0.00	**160.01**	**1.10**	**161.11**	**33.42**	**1.02**	**34.43**	**2,982.66**
Mass Grading 07/01/2014-08/01/2014	3.01	23.11	15.35	0.00	160.01	1.10	161.11	33.42	1.02	34.43	2,982.66
Mass Grading Dust	0.00	0.00	0.00	0.00	160.00	0.00	160.00	33.41	0.00	33.41	0.00
Mass Grading Off Road Diesel	2.98	23.05	14.34	0.00	0.00	1.10	1.10	0.00	1.01	1.01	2,854.79
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.87
Time Slice 8/4/2014-8/14/2014 Active Days: 9	2.49	13.65	10.71	0.00	0.02	1.09	1.11	0.01	1.00	1.01	1,625.81
Asphalt 08/02/2014-08/14/2014	2.49	13.65	10.71	0.00	0.02	1.09	1.11	0.01	1.00	1.01	1,625.81
Paving Off-Gas	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.05	0.67	0.24	0.00	0.01	0.02	0.03	0.00	0.02	0.02	149.19
Paving Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01	204.58

Time Slice 8/15/2014-12/31/2014 Active Days: 99	2.75	13.42	13.11	0.00	0.02	0.85	0.87	0.01	0.78	0.78	2,082.32
Building 08/15/2014-11/15/2015	2.75	13.42	13.11	0.00	0.02	0.85	0.87	0.01	0.78	0.78	2,082.32
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.03	0.30	0.30	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.24
Building Worker Trips	0.09	0.15	2.92	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.89
Time Slice 1/1/2015-2/27/2015 Active Days: 42	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building 08/15/2014-11/15/2015	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.02	0.26	0.27	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.25
Building Worker Trips	0.08	0.14	2.70	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.98
Time Slice 3/2/2015-11/13/2015 Active Days: 185	**9.01**	12.44	12.65	0.00	0.02	0.78	0.81	0.01	0.72	0.73	2,090.20
Building 08/15/2014-11/15/2015	2.51	12.44	12.60	0.00	0.02	0.78	0.80	0.01	0.72	0.73	2,082.43
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.02	0.26	0.27	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.25
Building Worker Trips	0.08	0.14	2.70	0.00	0.02	0.01	0.03	0.01	0.01	0.01	369.98
Coating 03/01/2015-11/15/2015	6.51	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.77
Architectural Coating	6.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.77

Phase Assumptions

Phase: Demolition 6/1/2014 - 6/30/2014 - Demolition Existing Office Area

Building Volume Total (cubic feet): 210000

Building Volume Daily (cubic feet): 10031.04

On Road Truck Travel (VMT): 139.32

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Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2014 - 8/1/2014 - Grading and excavation of footings

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 1250 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

Phase: Paving 8/2/2014 - 8/14/2014 - Paving around the site

Acres to be Paved: 1.25

Off-Road Equipment:

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

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

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

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

Phase: Building Construction 8/15/2014 - 11/15/2015 - Construction of the Hotel and Gaming Area

Off-Road Equipment:

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

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

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

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

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

Phase: Architectural Coating 3/1/2015 - 11/15/2015 - Architectural Coatings

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

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

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

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

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.90	0.76	0.00	0.00	0.00	1,084.80
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.33						
TOTALS (lbs/day, unmitigated)	0.40	0.90	0.76	0.00	0.00	0.00	1,084.80

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

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

Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	2.04	3.53	23.84	0.02	4.92	0.95	2,478.87
TOTALS (lbs/day, unmitigated)	2.04	3.53	23.84	0.02	4.92	0.95	2,478.87

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hotel		3.39	rooms	113.00	383.07	2,856.74
					383.07	2,856.74

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.8	0.9	95.4	3.7
Light Truck 3751-5750 lbs	21.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	48.6	51.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5

Operational Changes to Defaults

ATTACHMENT B

SCREEN 3

03/01/14
14:50:34

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Viejas South Hotel Casino

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2))  =      .629000E-06
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)   =     142.2500
   LENGTH OF SMALLER SIDE (M)  =     142.2500
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
10.	7.914	5	1.0	1.0	10000.0	3.00	45.
100.	11.93	5	1.0	1.0	10000.0	3.00	43.
200.	6.353	5	1.0	1.0	10000.0	3.00	45.
300.	3.914	5	1.0	1.0	10000.0	3.00	45.
400.	2.743	5	1.0	1.0	10000.0	3.00	45.
500.	2.054	5	1.0	1.0	10000.0	3.00	45.
600.	1.607	5	1.0	1.0	10000.0	3.00	45.
700.	1.299	5	1.0	1.0	10000.0	3.00	44.
800.	1.078	5	1.0	1.0	10000.0	3.00	43.
900.	.9130	5	1.0	1.0	10000.0	3.00	43.
1000.	.7866	5	1.0	1.0	10000.0	3.00	45.
1100.	.6874	5	1.0	1.0	10000.0	3.00	45.
1200.	.6079	5	1.0	1.0	10000.0	3.00	42.
1300.	.5431	5	1.0	1.0	10000.0	3.00	38.

				SCREEN			
1400.	.4896	5	1.0	1.0	10000.0	3.00	45.
1500.	.4446	5	1.0	1.0	10000.0	3.00	45.
1600.	.4065	5	1.0	1.0	10000.0	3.00	36.
1700.	.3739	5	1.0	1.0	10000.0	3.00	38.
1800.	.3456	5	1.0	1.0	10000.0	3.00	40.
1900.	.3209	5	1.0	1.0	10000.0	3.00	43.
2000.	.2993	5	1.0	1.0	10000.0	3.00	32.
2100.	.2802	5	1.0	1.0	10000.0	3.00	31.
2200.	.2633	5	1.0	1.0	10000.0	3.00	1.
2300.	.2481	5	1.0	1.0	10000.0	3.00	1.
2400.	.2343	5	1.0	1.0	10000.0	3.00	4.
2500.	.2219	5	1.0	1.0	10000.0	3.00	27.
2600.	.2107	5	1.0	1.0	10000.0	3.00	27.
2700.	.2005	5	1.0	1.0	10000.0	3.00	43.
2800.	.1912	5	1.0	1.0	10000.0	3.00	45.
2900.	.1827	5	1.0	1.0	10000.0	3.00	40.
3000.	.1749	5	1.0	1.0	10000.0	3.00	39.
3500.	.1435	5	1.0	1.0	10000.0	3.00	2.
4000.	.1213	5	1.0	1.0	10000.0	3.00	15.
4500.	.1048	5	1.0	1.0	10000.0	3.00	40.
5000.	.9216E-01	5	1.0	1.0	10000.0	3.00	8.
5500.	.8218E-01	5	1.0	1.0	10000.0	3.00	3.
6000.	.7410E-01	5	1.0	1.0	10000.0	3.00	1.
6500.	.6738E-01	5	1.0	1.0	10000.0	3.00	3.
7000.	.6175E-01	5	1.0	1.0	10000.0	3.00	6.
7500.	.5697E-01	5	1.0	1.0	10000.0	3.00	15.
8000.	.5288E-01	5	1.0	1.0	10000.0	3.00	22.
8500.	.4932E-01	5	1.0	1.0	10000.0	3.00	24.
9000.	.4620E-01	5	1.0	1.0	10000.0	3.00	24.
9500.	.4344E-01	5	1.0	1.0	10000.0	3.00	26.
10000.	.4100E-01	5	1.0	1.0	10000.0	3.00	33.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

108.	12.06	5	1.0	1.0	10000.0	3.00	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	12.06	108.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****