

**AIR QUALITY ANALYSIS  
ESCONDIDO MARRIOTT HOTEL AND MIXED-USED PROJECT  
ESCONDIDO, CALIFORNIA**

***Prepared for:***

CW Clark Inc.  
4180 La Jolla Village Drive, Suite 405  
La Jolla, California 92037

***Prepared by:***

EDAW, Inc.  
1420 Kettner Boulevard, Suite 620  
San Diego, California 92101

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## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
CHAPTER 1 – INTRODUCTION AND PROJECT DESCRIPTION.....	1
1.1 Introduction.....	1
1.2 Project Location.....	1
1.3 Project Description.....	4
1.4 Sensitive Air Quality Receptors.....	4
CHAPTER 2 – REGULATORY FRAMEWORK.....	7
2.1 Federal and State Standards.....	7
2.2 Regional Standards.....	7
2.3 Local Standards.....	9
CHAPTER 3 – ENVIRONMENTAL SETTING.....	11
3.1 Climate and Meteorology.....	11
3.2 Regional and Local Air Quality.....	12
CHAPTER 4 – THRESHOLDS OF SIGNIFICANCE.....	15
CHAPTER 5 – AIR QUALITY ASSESSMENT.....	17
5.1 Methodology.....	17
5.2 Assumptions.....	17
5.3 Project Impacts.....	19
5.4 Consistency with the San Diego Regional Air Quality Strategies.....	23
5.5 Odors.....	24
5.6 Cumulative Impacts.....	24
CHAPTER 6 – CONCLUSIONS AND RECOMMENDATIONS.....	25
6.1 Required Mitigation Measures.....	25
6.2 Recommended Measures.....	25
6.3 Conclusion.....	25
CHAPTER 7 – REFERENCES.....	27

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APPENDIX A. URBEMIS Modeling Output

**LIST OF FIGURES**

<b><u>Figure</u></b>		<b><u>Page</u></b>
1	Regional Location Map.....	2
2	Vicinity Map.....	3
3	Project Site Boundary .....	5

**LIST OF TABLES**

<b><u>Table</u></b>		<b><u>Page</u></b>
1	National and California Ambient Air Quality Standards.....	8
2	Daily Emission Thresholds.....	9
3	Escondido – East Valley Parkway Monitoring Station Ambient Air Quality .....	13
4	Anticipated Construction Equipment for the Proposed Hotel .....	18
5	Anticipated Construction Equipment for the Condominium Building .....	18
6	Estimated Construction Emissions (Unmitigated) – Proposed Hotel.....	20
7	Estimated Construction Emissions (Unmitigated) – Proposed Condominiums .....	20
8	Estimated Operational Emissions – Proposed Hotel .....	22
9	Estimated Operational Emissions – Proposed Condominiums.....	22

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# CHAPTER 1

## INTRODUCTION AND PROJECT DESCRIPTION

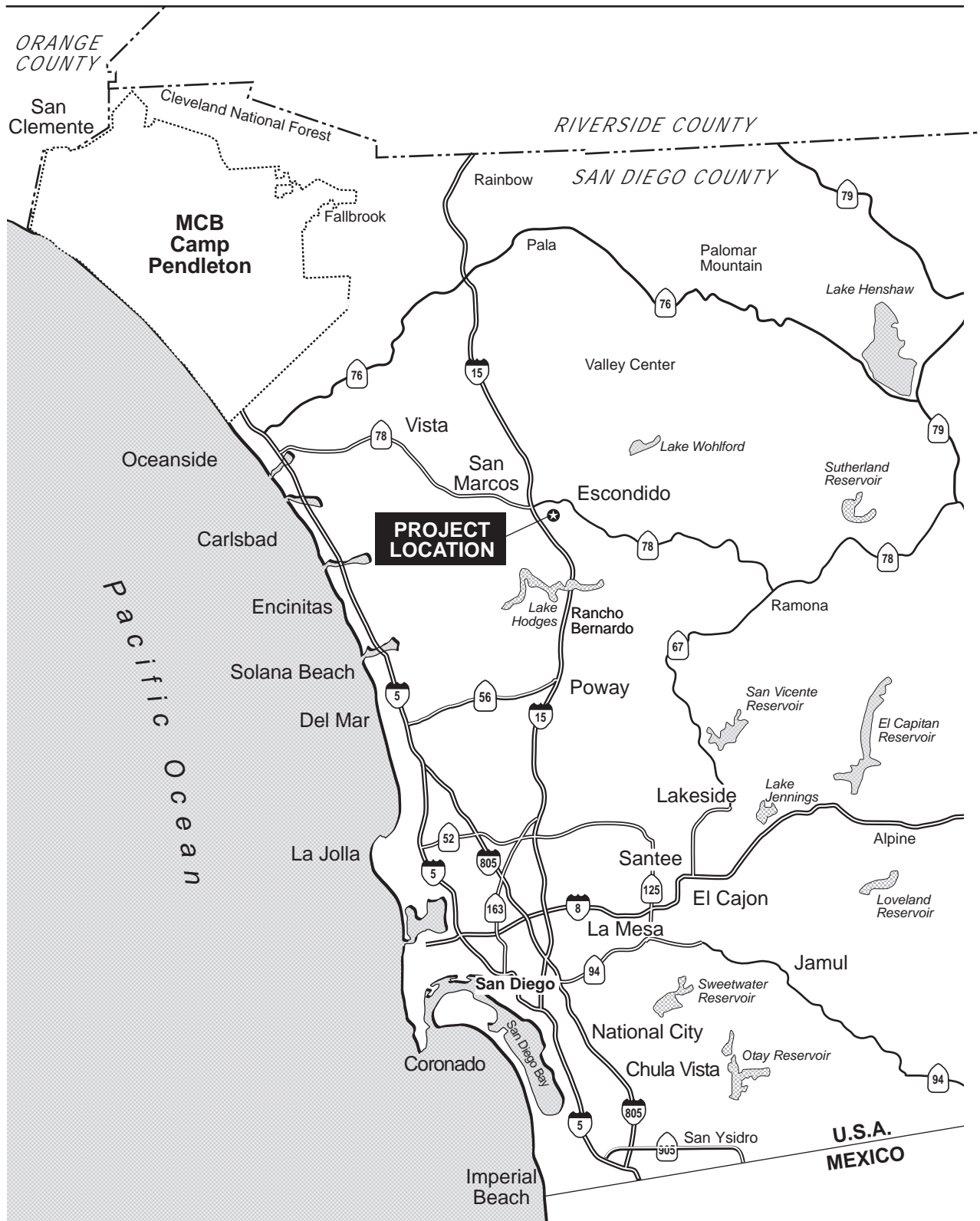
### 1.1 INTRODUCTION

The Marriott hotel and mixed use project (proposed project) includes the development of a hotel on a 1.39-acre parcel of land and a parking structure with urban residential condominium units on a separate 1.04-acre parcel. Both parcels are located on Valley Parkway, east of Interstate 15 in Escondido, California. Figure 1 depicts the project area in a regional context.

This air quality analysis has been prepared to support the City of Escondido (City) environmental review process and provide information regarding potential impacts to air quality associated with the approval of the proposed project. This air quality study describes the existing air quality, identifies applicable rules and regulations, evaluates potential air quality impacts of the proposed project, and, where applicable, includes measures to mitigate or minimize pollutant emissions associated with the proposed project.

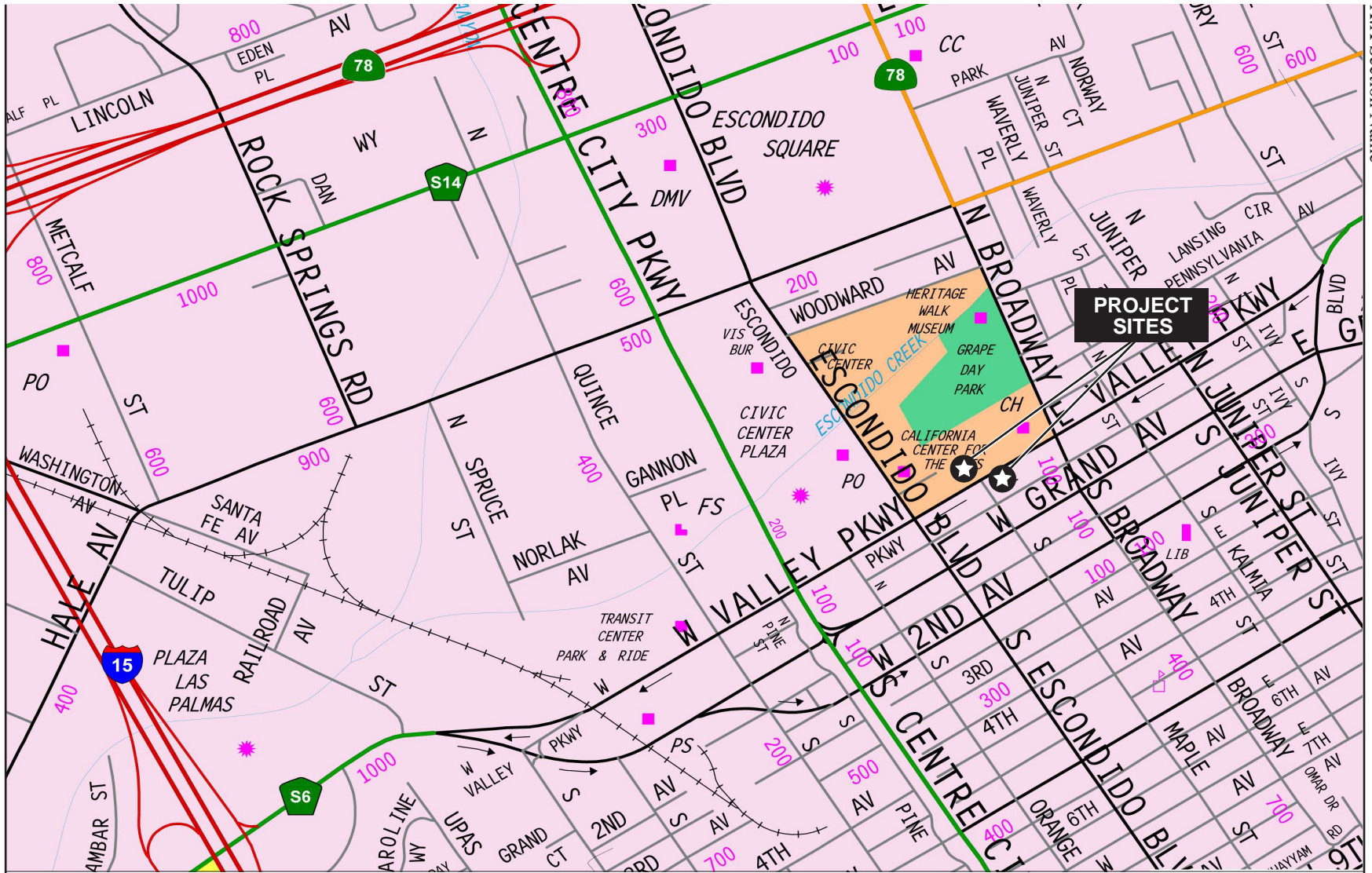
### 1.2 PROJECT LOCATION

The proposed project sites are located at the northwest and southeast corners of the “T” intersection of Valley Parkway and Maple Street (Figure 2). The proposed hotel site, located on the northwest corner of the intersection, is bounded on the southwest and west by the California Center for Arts Conference Center, on the northeast by City Hall, on the north by Grape Day Park, and on the south by Valley Parkway. The proposed condominium and parking structure site, located on the southeast corner of the intersection, is bounded on the southeast by medical and business offices, on the northeast by U.S. Bank, on the northwest by Valley Parkway, and on the southwest by commercial retail land uses. The land uses surrounding the proposed project sites include institutional/public services, open space, and commercial uses (Figure 2). Both the proposed hotel site and the proposed condominium and parking structure site are currently public parking lots.



No Scale

**Figure 1**  
**Regional Location Map**



**PROJECT SITES**

**Figure 2  
Vicinity Map**

Source: Thomas Bros. 2004



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Escondido Marriott Hotel and Condominium - Air Quality Analysis  
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### **1.3 PROJECT DESCRIPTION**

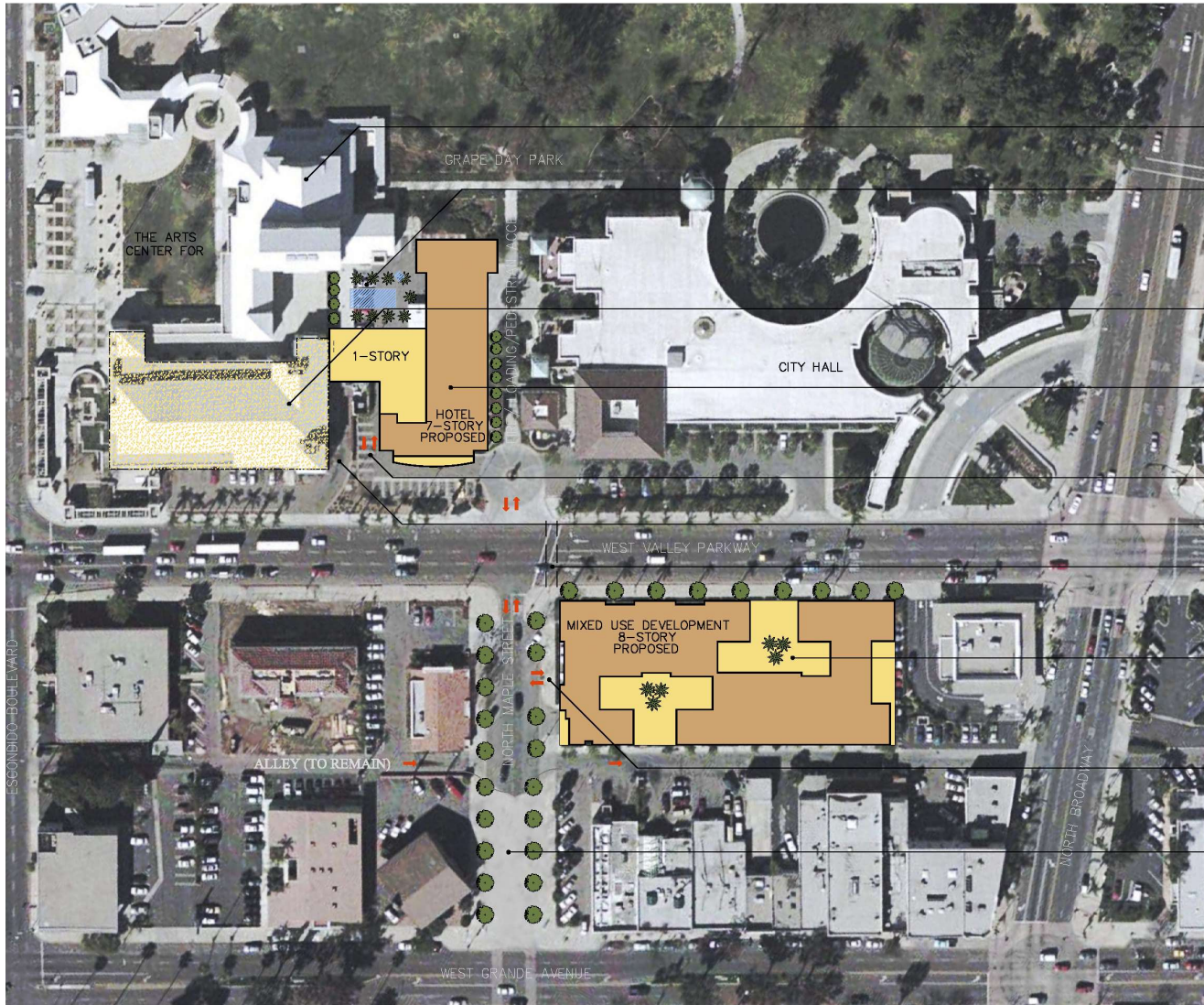
The proposed project would develop a seven-story 196-room hotel and an eight-story structure with 127 condominium units and four levels of parking. The proposed hotel site would include two underground parking levels providing 221 parking spaces. The proposed hotel would also include a restaurant, a business center, boardrooms, and meeting center. Vehicle access to the proposed hotel would be provided from Valley Parkway at the intersection of Maple Street.

The proposed eight-story 127-unit condominium building would include a four-level parking garage, with two levels underground and two levels aboveground providing 488 parking spaces. The condominium building would include a retail space on the southwest corner of the building. Access to the condominium site would be provided from Maple Street, south of Valley Parkway. Figure 3 shows the site boundaries for the proposed hotel and condominium.

No demolition activity, other than removal of the existing parking lot surfaces, is anticipated for either site. Hotel construction is assumed to begin early in 2007 and would require approximately 12 months to complete, with 2 months for site preparation and excavation and 10 months for building construction, painting, and associated site improvements. The condominium building is assumed to begin at approximately the same time as the hotel development in early 2007 and is anticipated to require 18 months to complete, with 2 months for site preparation and excavation and 16 months for building construction, painting, and associated site improvements, including roadway improvements to Maple Street.

### **1.4 SENSITIVE AIR QUALITY RECEPTORS**

Sensitive air quality receptors are land uses occupied by persons who are especially sensitive to elevated pollutant concentrations. Generally, these persons are the young, the elderly, and the sick. Therefore, the sensitive land uses are schools, hospitals, resident health care facilities, and day care centers. As previously described, the project area is predominately commercial and recreational park. The future residents of the proposed condominiums would be considered sensitive receptors.



Source: JWDA Architecture, Planning, Interior Design 2005



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**Figure 3**  
**Project Site Boundary**

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## **CHAPTER 2**

### **REGULATORY FRAMEWORK**

#### **2.1 FEDERAL AND STATE STANDARDS**

The Federal Clean Air Act (CAA) (USC § 7401) requires the adoption of National Ambient Air Quality Standards (NAAQS) to protect the public health, safety, and welfare from known or anticipated effects of air pollution. The NAAQS have been updated occasionally. Current standards are set for sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), suspended particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and lead (Pb). These pollutants are collectively referred to as criteria pollutants. The State of California Air Resources Board (CARB) has established additional standards that are generally more restrictive than the NAAQS. Federal and state standards are shown in Table 1.

Federal standards for 8-hour O<sub>3</sub> and PM<sub>2.5</sub> became effective on September 15, 1997, and were subsequently challenged and litigated. The U.S. Supreme Court affirmed the standards, and policies and systems to implement these new standards are being developed. Attainment designations for 8-hour O<sub>3</sub> were formally published on April 15, 2004, and attainment designations for PM<sub>2.5</sub> were formally published on December 17, 2004, and revised on April 5, 2005 (USEPA 2005).

#### **2.2 REGIONAL STANDARDS**

In San Diego County, the San Diego Air Pollution Control District (SDAPCD) is the agency responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. Included in the SDAPCD's tasks are the monitoring of air pollution, the preparation of the San Diego County portion of the State Implementation Plan (SIP), and the promulgation of Rules and Regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the county; this list of strategies is called the Regional Air Quality Strategies (RAQS). The Rules and Regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

**Table 1  
National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	NAAQS <sup>1</sup>		CAAQS <sup>2</sup>	
		Primary <sup>3</sup>	Secondary <sup>4</sup>	Concentration <sup>5</sup>	
Ozone (O <sub>3</sub> ) <sup>6</sup>	1-Hour	0.12 ppm (235 µg/m <sup>3</sup> )	Same as Primary Standard	0.09 ppm (180 µg/m <sup>3</sup> )	
	8-Hour	0.08 ppm (157 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> ) <sup>9</sup>	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m <sup>3</sup> )	None	9.0 ppm (10 mg/m <sup>3</sup> )	
	1-Hour	35 ppm (40 mg/m <sup>3</sup> )		20 ppm (23 mg/m <sup>3</sup> )	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Average	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	-	
	1-Hour	-		0.25 ppm (470 µg/m <sup>3</sup> )	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Average	0.03 ppm (80 µg/m <sup>3</sup> )	-	-	
	24-Hour	0.14 ppm (365 µg/m <sup>3</sup> )	-	0.04 ppm (105 µg/m <sup>3</sup> )	
	3-Hour	-	0.5 ppm (1300 µg/m <sup>3</sup> )	-	
	1-Hour	-	-	0.25 ppm (655 µg/m <sup>3</sup> )	
Suspended Particulate Matter (PM <sub>10</sub> )	24-Hour	150 µg/m <sup>3</sup>	Same as Primary Standard	50 µg/m <sup>3</sup>	
	Annual Arithmetic Mean	50 µg/m <sup>3</sup>		20 µg/m <sup>3</sup> note 7	
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>6</sup>	24-Hour	65 µg/m <sup>3</sup>	Same as Primary Standard	-	
	Annual Arithmetic Mean	15 µg/m <sup>3</sup>		12 µg/m <sup>3</sup> note 7	
Lead (Pb) <sup>8</sup>	30-Day Average	-	-	1.5 µg/m <sup>3</sup>	
	Calendar Quarter	1.5 µg/m <sup>3</sup>	Same as Primary Standard	-	
Hydrogen Sulfide (HS)	1-Hour	No Federal Standards		0.03 ppm (42 µg/m <sup>3</sup> )	
Sulfates (SO <sub>4</sub> )	24-Hour			25 µg/m <sup>3</sup>	
Visibility Reducing Particles	8-Hour (10 am to 6 pm, Pacific Standard Time)			In sufficient amount to produce an extinction coefficient of 0.23 per km due to particles when the relative humidity is less than 70 percent.	
	Vinyl chloride <sup>8</sup>				

<sup>1</sup> NAAQS (other than O<sub>3</sub>, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the USEPA for further clarification and current federal policies.

<sup>2</sup> California Ambient Air Quality Standards for O<sub>3</sub>, CO (except Lake Tahoe), SO<sub>2</sub> (1- and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equalled or exceeded.

<sup>3</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

<sup>4</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>5</sup> Concentration expressed first in units in which it was promulgated. Ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.

<sup>6</sup> New federal 8-hour ozone and fine particulate matter standards were promulgated by USEPA on 18 July 1997. The federal 1-hour O<sub>3</sub> standard continues to apply in areas that violated the standard. On 15 April 2004 the USEPA issued attainment designations for the 8-hour standard and described plans for the phase out of the 1-hour standard (USEPA 2004).

<sup>7</sup> On 5 June 2003, the Office of Administrative Law approved the amendments to the regulations for the state ambient air quality standards for particulate matter and sulfates. Those amendments established a new annual average standard for PM<sub>2.5</sub> of 12 µg/m<sup>3</sup> and reduced the level of the annual average standard for PM<sub>10</sub> to 20 µg/m<sup>3</sup>. The approved amendments were filed with the Secretary of State on 5 June 2003. The regulations became effective on 5 July 2003.

<sup>8</sup> 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.

<sup>9</sup> The Air Resources Board approved this concentration on 28 April 2005 and it is expected to become effective in early 2006.

ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter  
Source: CARB 2005b; USEPA 2004

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SDAPCD Rule 51 states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Rule 67, Architectural Coatings, sets limits on the content of volatile organic compounds (VOC) that may be included in coatings that may be manufactured, sold, and applied in San Diego County.

### 2.3 LOCAL STANDARDS

The City of Escondido, though Section 33-924 has adopted quantitative thresholds for determining significance of impact under CEQA for individual project sites. These maximum daily thresholds are shown in Table 2.

**Table 2**  
**Daily Emission Thresholds**

	Pounds per Day			
	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
Construction or Operation	55	55	550	150

Source: City of Escondido 2005

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## **CHAPTER 3**

### **ENVIRONMENTAL SETTING**

#### **3.1 CLIMATE AND METEOROLOGY**

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

##### **Regional Climate**

The proposed development is located in the San Diego Air Basin (SDAB), which is contiguous with San Diego County. The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. One of the main determinants of the climatology is a semipermanent high-pressure area (the Pacific High) in the eastern Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. In San Diego County, the months of heaviest precipitation are November through April, averaging about 9 to 14 inches annually. The mean temperature is 62.2 degrees Fahrenheit (°F), and the mean maximum and mean minimum temperatures are 75.7°F and 48.5°F, respectively.

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the layers of air represents a temperature inversion that traps pollutants below it. The inversion layer is approximately 2,000 feet above mean sea level (AMSL) during the months of May through October. During the winter months (November through April), the temperature inversion is approximately 3,000 feet AMSL. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality.

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### 3.2 REGIONAL AND LOCAL AIR QUALITY

Specific geographic areas are classified as either “attainment” or “nonattainment” areas for each pollutant based on the comparison of measured data with federal and state standards. If an area is redesignated from nonattainment to attainment, the CAA requires a revision to the SIP, called a maintenance plan, to demonstrate how the air quality standard will be maintained for at least 10 years.

The SDAB currently meets the federal standards for all criteria pollutants except O<sub>3</sub> and meets state standards for all criteria pollutants except O<sub>3</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub>. San Diego County completed 3 years within the federal 1-hour O<sub>3</sub> standard on November 15, 2001, becoming eligible for redesignation as an attainment area. Formal redesignation by the U.S. Environmental Protection Agency (USEPA) as an O<sub>3</sub> attainment area occurred on July 28, 2003, and a maintenance plan was approved. On April 15, 2004, the USEPA issued the initial designations for the 8-hour O<sub>3</sub> standard, and the SDAB is classified as “basic” nonattainment. Basic is the least severe of the six degrees of O<sub>3</sub> nonattainment. The SDAPCD must submit an air quality plan to the USEPA in 2007; the plan must demonstrate how the 8-hour O<sub>3</sub> standard will be attained by 2009 (SDAPCD 2004).

The SDAB is currently classified as a state “serious” O<sub>3</sub> nonattainment area and a state nonattainment area for PM<sub>10</sub>. For PM<sub>2.5</sub>, SDAB is currently classified as a federal attainment area and state nonattainment area. The SDAB currently falls under a federal “maintenance plan” for CO, following a 1998 redesignation as a CO attainment area.

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by the SDAPCD. The closest SDAPCD air quality monitoring station in the SDAB is the Escondido – East Valley Parkway monitoring station, located at 600 East Valley Parkway, Escondido, approximately 0.5 mile northeast of the proposed project site. The station monitors O<sub>3</sub>; CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub>. Table 3 summarizes the excesses of standards and the highest pollutant levels recorded at this station for the years 2000 to 2004.

**Table 3**  
**Escondido – East Valley Parkway Monitoring Station**  
**Ambient Air Quality**

Pollutant	Averaging Time	California Air Quality Standards	Federal Primary Standards	Maximum Concentrations <sup>(1)</sup>					Number of Days Exceeding Federal Standard <sup>(2)</sup>					Number of Days Exceeding State Standard <sup>(2)</sup>				
				2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
Ozone	1 hour	0.09 ppm	0.12 ppm	0.124	0.141	0.100	0.105	0.099	0	1	0	0	0	6	4	2	3	2
	8 hour	none	0.08 ppm	0.106	0.098	0.081	0.083	0.86	3	1	0	0	2	–	–	–	–	–
Nitrogen Dioxide	1 hour	0.25 ppm	none	0.083	0.088	0.084	0.135	0.078	–	–	–	–	–	0	0	0	0	0
	Annual	none	0.053 ppm	0.021	0.020	0.021	0.020	–	0	0	0	0	0	–	–	–	–	–
Carbon Monoxide	8 hour	20 ppm	35 ppm	4.93	5.11	3.85	10.64	3.56	0	0	0	1	0	0	0	0	1	0
PM <sub>10</sub>	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	65	74	51	179 <sup>3</sup> (58 <sup>4</sup> )	57	0	0	0	1	0	2	2	0	5	1
	Annual	20 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	29.6	31.2	27.1	31.6	27.5	–	–	–	–	–	–	–	–	–	–
PM <sub>2.5</sub>	24 Hour	–	65 µg/m <sup>3</sup>	65.9	60.0	53.6	69.2 <sup>3</sup> (38 <sup>4</sup> )	67.3	1	0	0	1	1	–	–	–	–	–
	Annual	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	15.8	17.5	16.0	14.2	14.1	–	–	–	–	–	–	–	–	–	–

“–” = data not available or applicable.

<sup>(1)</sup> Concentration units for ozone and nitrogen dioxide are in parts per million (ppm).

<sup>(2)</sup> For annual standards, a value of 1 indicates that the standard has been exceeded.

<sup>(3)</sup> In October 2003, wildfires caused unusually high levels of particulate matter.

<sup>(4)</sup> Without the fire data.

Source: CARB 2005a.

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## CHAPTER 4 THRESHOLDS OF SIGNIFICANCE

Appendix G of the State California Environmental Quality Act (CEQA) Guidelines state that a project would have a significant adverse effect on air quality if any of the following would occur as a result of a project-related component. Would the project:

- Conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP?
- Result in emissions that would violate any federal or state ambient air quality standards or contribute substantially to an existing or projected air quality violation?

Result in a cumulatively considerable net increase of emissions of any criteria pollutant for which the project region is in nonattainment under applicable federal or state ambient air quality standards? The City of Escondido has adopted average daily mass air emission thresholds for evaluating the impacts of individual projects on local and regional air quality, which are shown in Table 2.

- Result in a cumulatively considerable temporary increase of emissions of any criteria pollutant for which the project region is in nonattainment under applicable Federal or State Ambient Air Quality Standards due to construction occurring at projects located within a 0.25 mile-radius?
- Expose sensitive receptors, including, but not limited to, schools, hospitals, residential care facilities, or day care centers, to substantial pollutant concentrations?
- Create objectionable odors affecting a substantial number of people?

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## **CHAPTER 5**

### **AIR QUALITY ASSESSMENT**

#### **5.1 METHODOLOGY**

Air quality impacts associated with the proposed project is related to emissions from short-term construction and long-term operations. Construction may affect air quality as a result of (1) construction equipment emissions, (2) fugitive dust from grading and earth moving, and (3) emissions from vehicles driven to/from the sites by construction workers. Occupation-related emissions would result primarily from vehicle emissions, with minor emissions from small machinery, barbecues, and gas for water heating and/or other gas appliances.

The following assessment relies on specific numerical thresholds for individual air pollutant emissions from each proposed development site. These thresholds are defined in Table 2. Regional pollutant emissions were quantified using URBEMIS2002, a computer program used to estimate vehicle trips, emissions, and fuel use resulting from land use development projects (Jones & Stokes Associates 2005). CO concentrations at study area intersections were estimated using the methodology outlined in the Transportation Project-Level Carbon Monoxide Protocol (UCD-ITS-RR-97-21), prepared for the California Department of Transportation.

#### **5.2 ASSUMPTIONS**

##### **Construction**

This analysis is based on anticipated construction equipment emissions calculated using URBEMIS2002 and construction assumptions from similar projects. A summary of the anticipated construction equipment requirements is listed in Table 4 for the construction of the proposed hotel and in Table 5 for the condominium building. To estimate construction emissions, URBEMIS2002 analyzes the type of construction equipment used and the duration of the construction period. It was assumed that construction activities would occur for 8 hours per day, with each phase of construction on each site occurring sequentially and analyzed separately.

Construction of the hotel is anticipated to require 12 months to complete. Demolition, grading and excavation would require 2 months. Excavation of the underground parking would generate approximately 28,000 cubic yards of soil. Excavated soil would be hauled away in 20-cubic-

**Table 4**  
**Anticipated Construction Equipment**  
**for the Proposed Hotel**

Construction Phase and Equipment	Number of Equipment Pieces
<b>Site Grading</b>	
Rubber-tired Dozer	2
Tractor/Loader/Backhoes	2
<b>Building Construction</b>	
Concrete Industrial Saws	1
Crane	1
Other Equipment	2
Rough Terrain Forklifts	1
<b>Paving</b>	
Grader	1
Pavers	1
Rollers	1

Note: Equipment inventory is based on the URBEMIS2002 computer-modeling program and modified using construction assumptions from similar projects.

**Table 5**  
**Anticipated Construction Equipment**  
**for the Condominium Building**

Construction Phase and Equipment	Number of Equipment Pieces
<b>Site Grading</b>	
Rubber-tired Dozer	1
Tractor/Loader/Backhoes	1
<b>Building Construction</b>	
Concrete Industrial Saws	1
Crane	1
Other Equipment	2
Rough Terrain Forklifts	1
<b>Paving</b>	
Grader	1
Pavers	1
Rollers	1

Note: Equipment inventory is based on the URBEMIS2002 computer-modeling program and modified using construction assumptions from similar projects.

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yard dump trucks, which would require an average of 49 two-way trip truck trips per day to remove and dispose of the soil from the hotel site. Construction of the proposed hotel would occur over the remaining 10 months.

Construction for the condominium building is anticipated to require 18 months. Demolition, grading and excavation would require 3 months. Excavation of the underground parking levels would generate approximately 42,300 cubic yards of soil, which would require an average of 48 two-way trip truck trips per day to remove the soil from the condominium site. Construction of the proposed condominium would occur over the remaining 16 months.

Roadway improvements, and associated paving, are anticipated to occur within the first 3 months of the proposed project and are anticipated to require approximately 0.5 month to complete. No substantial paving would occur on either site as the primary surface for the parking structures would be concrete. Architectural coating would be applied during the last month and a half of building construction for both the hotel and condominium developments.

### **Operations**

Operations emissions are generated by area sources, including natural gas for space heating and water heating; gasoline-powered landscaping and maintenance equipment; consumer products, such as household cleaners; and mobile sources, that is, vehicle operations associated with the proposed project. Based on information from the project traffic report (RBF Consulting 2005), each hotel room would generate 10 average daily trips (ADT) and each condominium unit would generate 8 ADT.

## **5.3 PROJECT IMPACTS**

### **Construction**

Construction activities for the proposed project would result in short-term impacts on ambient air quality in the area. Temporary construction emissions would result directly from site preparation activities and paving, and indirectly from construction equipment emissions and construction worker commuting patterns. The only anticipated demolition activities would involve the removal of the existing park lot surfaces and associated lighting. Pollutant emissions would vary from day to day, depending on the level of activity, the specific operations, and the prevailing weather.

Tables 6 and 7 summarize the estimated average daily emissions that would be generated from construction of the proposed hotel and condominium building, respectively. Average daily emissions are derived from the annual emissions of the proposed project divided by 302 (the number of average annual construction working days). The assumptions used in the analysis and the detailed calculation sheets are included in Appendix A (URBEMIS 2002 Modeling Input/Output).

**Table 6**  
**Estimated Construction Emissions (Unmitigated) – Proposed Hotel**

	Estimated Emissions			
	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
2007 Average Daily Emissions (Pounds/Day)	18.5	47.4	50.9	3.4
<i>Average Daily Thresholds (Pounds/Day)</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>
Exceedance of Daily Thresholds (Pounds/Day)	No	No	No	No

Notes: The URBEMIS2002 model was used to estimate annual construction emissions. Emissions were based on equipment usage estimates shown in Table 4.

Source: Jones & Stokes Associates 2005

**Table 7**  
**Estimated Construction Emissions (Unmitigated) – Proposed Condominiums**

	Estimated Emissions			
	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
2007 Average Daily Emissions (Pounds/Day)	6.4	45.1	51.0	3.7
2008 Average Daily Emissions (Pounds/Day)	21.3	21.8	28.5	0.8
<i>Average Daily Thresholds (Pounds/Day)</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>
Exceedance of Daily Thresholds (Pounds/Day)	No	No	No	No

Notes: The URBEMIS2002 model was used to estimate annual construction emissions. Emissions were based on equipment usage estimates shown in Table 5.

Source: Jones & Stokes Associates 2005

As shown in Tables 6 and 7, construction-related emissions generated by the proposed hotel or proposed condominium building would not exceed the City’s thresholds of significance. The significance thresholds identified by the City apply to individual sites and are not applicable to the combined emissions from both sites. As an example, if applications for the two sites had been submitted by different developers, the City would have evaluated the emissions separately. Additionally, the thresholds used by the City for determining impact significance are very conservative as they were originally developed for operational impact analysis in the South Coast Air Basin, which has considerably poorer air quality than the SDAB. The SDAPCD has

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operational trigger levels for stationary equipment, i.e. power plants and factories, which CEQA identifies 250 pounds per day of NO<sub>x</sub> and SO<sub>x</sub>, 100 pounds per day of PM<sub>10</sub>, and 75 pounds per day of VOC as significant in the SDAB. As shown in Tables 6 and 7, the combined emissions from the two proposed sites would not exceed the SDAPCD trigger levels. Thus, construction-related impacts on regional air quality would be less than significant.

### **Operations**

Operations emissions come from area sources and mobile sources. Area sources are typically small sources that contribute little individually but when combined may generate substantial amounts of pollutants, such as gas for residential space heating and water heating; gasoline-powered landscaping and maintenance equipment; or consumer products, such as household cleaners and chemicals. Based on the regional condominium market, it was assumed that the proposed condominiums would have natural gas water heating and space heating and that none of the units would have wood-burning fireplaces. The parking structure would not have any space heating or water heating natural gas-fueled equipment. All equipment associated with operations such as the ventilating system and lighting would be electrically powered through the existing infrastructure

Mobile source emissions are a function of the number and type of vehicles, as well as the number of trips and miles traveled by vehicles. Based on the project traffic report, the proposed hotel would generate 10 ADT per hotel room and the proposed condominiums would generate 8 ADT per condominium unit. The proposed project is forecasted to generate approximately 3,116 trips per day, 1,980 daily trips from the hotel and 1,136 daily trips from the proposed condominiums. The URBEMIS2002 default vehicle mix and average trip distances for San Diego County were unaltered for this analysis. It was assumed that occupancy of the hotel would begin in the beginning of 2008. It was assumed that occupancy of the condominium units would begin in mid 2009. The estimated operational emissions are shown in Table 8 for the proposed hotel and in Table 9 for the proposed condominium building. Project-related emissions would not exceed the City's thresholds for project operations of reactive organic gases, NO<sub>x</sub>, CO, and PM<sub>10</sub>. This impact is considered less than significant. URBEMIS2002 model data sheets are provided in Appendix A to this report.

**Table 8**  
**Estimated Operational Emissions – Proposed Hotel**

	<b>Pollutant emissions</b>			
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>
Average Daily Area Source Emissions (Pounds/Day)	1.7	2.5	2.9	0.0
Average Daily Mobile Source Emissions (Pounds/Day)	14.5	153.3	146.8	15.3
Total Emissions (Pounds/Day)	16.1	17.9	149.7	15.3
<i>Daily Threshold for Operations Emissions (Pounds/Day)</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>
Exceed Threshold?	No	No	No	No

Source: Jones & Stokes Associates 2005

**Table 9**  
**Estimated Operational Emissions – Proposed Condominiums**

	<b>Pollutant emissions</b>			
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>
Average Daily Area Source Emissions (Pounds/Day)	8.5	1.0	1.2	0.0
Average Daily Mobile Source Emissions (Pounds/Day)	6.4	6.5	65.4	6.8
Total Emissions (Pounds/Day)	14.8	7.5	66.6	6.8
<i>Daily Threshold for Operations Emissions (Pounds/Day)</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>
Exceed Threshold?	No	No	No	No

Source: Jones & Stokes Associates 2005

### **Toxic Air Contaminants**

In 1999, the CARB identified particulate emissions from diesel-fueled engines as a Toxic Air Contaminant (TAC). Once a substance is identified as a TAC, the CARB is required by law to determine if there is a need for further control. This is referred to as risk management. The process of further studies is ongoing at the CARB, with committees meeting to analyze both stationary and mobile diesel engine sources, as well as many other aspects of the problem. No guidance has been issued on impact analysis or control measures. Therefore, other than recognition of CARB actions, no analysis can be made at this time for TAC impact from diesel engine exhaust. The status of impact analysis of diesel engine exhaust is not unlike the consideration of PM<sub>2.5</sub>, which was defined as a federal criteria pollutant in 1997.

Specific mitigation measures have been included in projects that would create or be located near facilities that have high concentrations of diesel engine vehicles, such as distribution warehouses or bus yards. There are no similar facilities as part of the proposed project or near the project site.

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## **Local Air Quality**

Procedures and guidelines for use in evaluating the potential local level CO impacts of a project are contained in Transportation Project-Level Carbon Monoxide Protocol (the Protocol) (UCD ITS 1997). The Protocol provides a methodology for determining the level of analysis, if any, required on a project. The guidelines comply with the CAA, federal and state conformity rules, the National Environmental Policy Act, and CEQA, without increasing the requirements of those regulations.

The SDAB was designated as a CO attainment area subsequent to the passage of the 1990 CAA amendments. Continued attainment has been verified with the SDAPCD. In areas meeting those conditions, in accordance with the Protocol, only projects that are likely to worsen air quality necessitate further analysis. According to the Protocol, projects may worsen air quality if they significantly increase the percentage of vehicles in cold start modes, defined as an increase in the number of vehicles operating in a cold start mode of 2 percent or more; those that significantly increase traffic volumes, defined as an increase of 5 percent over existing volumes; and those that worsen traffic flow, defined for intersections, as increasing average delay at signalized intersections operating at level of service (LOS) E or F. Based on a review of the project traffic study, no signalized intersections would operate at LOS E or F under existing and all future conditions with or without the project (RBF Consulting 2005).

The proposed project would generate 210 AM peak trips and 272 PM peak trips, which would increase traffic less than 2 percent of traffic volumes on local roadways. Thus, the proposed project would not result in a substantial increase in the number of vehicles operating in cold start mode or substantially increase the number of vehicles on local roadways. Where projects could worsen air quality, signalized intersections that would operate at LOS E or F should be analyzed for potential local high concentrations of CO. However, no signalized intersection would operate at LOS E or F. Therefore, no further CO hotspot analysis is required.

### **5.4 CONSISTENCY WITH THE SAN DIEGO REGIONAL AIR QUALITY STRATEGIES**

The regional air quality plan is the SDAPCD's RAQS. Consistency with the RAQS is typically determined by two standards. The first standard is if the project would increase the frequency or severity of violation of existing air quality violations, contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as specified in the RAQS. The second standard is whether the project would exceed assumptions contained in the RAQS.

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Based on the air quality emissions modeling contained in this report, with the implementation of identified mitigation measures, the air emissions associated with the proposed project would be below the applicable thresholds of significance. Thus, it is expected that there would be neither short-term construction impacts nor long-term operational impacts on air quality due to the proposed project, and implementation of the project would not contribute to the severity of existing air quality violations or create new ones.

Regional growth forecasts used in the RAQS are developed by the San Diego Association of Governments (SANDAG). The SANDAG forecasts are based on local general plans and other related documents, such as housing elements, that are used to develop population projections and traffic projections. The proposed project site is located within Specific Plan Area 9, which allows for and encourages the development of mixed use commercial and residential uses, thus, the proposed project would not exceed the assumptions used to develop the RAQS and would not obstruct or conflict with the SDAPCD's RAQS.

## **5.5 ODORS**

Odors are one of the most obvious forms of air pollution to the general public. Odors can present a significant problem for both the source and the surrounding community. Offensive odors seldom cause any physical harm. Sometimes offensive odors cause agitation, anger, and concern to the public about the possibility of health effects, especially in residential neighborhoods located near industrial sources. Public concerns are that offensive odors may cause adverse health effects, but that is not necessarily the case. For example, hydrogen sulfide (H<sub>2</sub>S) gas, which has a very unpleasant rotten egg odor, is not toxic at low concentrations.

The proposed project would not have any significant odor sources and any odors generated would be similar in nature to odors from typical hotel and residential land uses. The surrounding land uses are commercial in nature; the surrounding properties are not considered sensitive to odors but may be considered odor producers. During a site visit, no unusual or objectionable odors were detected from on-site or off-site land uses. Thus, the proposed project is not anticipated to be exposed to, or generate, significant odors.

## **5.6 CUMULATIVE IMPACTS**

The operational impact analysis is based on cumulative traffic conditions in the project area. As shown in that analysis, the proposed project would not result in violations of the state or federal ambient air quality standards. The proposed project would be consistent with the SDAPCD RAQS, which is a long-range air quality planning document. Thus, the proposed project would have a less than significant impact on cumulative regional and local air quality.

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## **CHAPTER 6**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 REQUIRED MITIGATION MEASURES**

Based on the analysis of the anticipated construction and operational activities associated with the proposed project, no significant air quality impacts have been identified and thus no mitigation measures are required.

#### **6.2 RECOMMENDED MEASURES**

Although there would be no significant impact from fugitive dust and particulate emissions, it is recommended that the following measures be incorporated into the project to minimize the emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, and comply with SDAPCD Rule 51:

- Minimize land disturbance.
- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas.
- Suspend grading and earth moving when wind gusts exceed 25 mph unless the soil is wet enough to prevent dust plumes.
- Cover trucks when hauling dirt.
- Stabilize the surface of dirt piles if not removed immediately.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried onto the roadway.
- Revegetate disturbed land as soon as feasible; revegetation should include vehicular paths created during construction to avoid future off-road vehicular activities.
- Remove unused material.

#### **6.3 CONCLUSION**

As shown in the preceding analysis, neither construction or operation of the proposed project would result in a violation of local, state or federal ambient air quality standards or an

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exceedance of the identified thresholds of significance. The proposed project would not create or increase in severity or frequency, violations of applicable air quality standards. The proposed project represents a hotel and residential development, which is consistent with the City's long range land use plans. Thus, the proposed project would not conflict with or obstruct the implementation of the SDACPD RAQS. The proposed project would not expose people to objectionable odors. Therefore, the proposed project would result in less than significant impacts on regional and local air quality.

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## CHAPTER 7 REFERENCES

### California Air Resources Board (CARB)

2005a *California Air Quality Data*. Available at <http://www.arb.ca.gov/aqd/aqd.htm>.  
December 8.

2005b *Ambient Air Quality Standards*. Available at <http://www.arb.ca.gov/>.

### City of Escondido

2005 Municipal Code, Chapter 33 Zoning, Article 47 Environmental Quality Regulations, Section 33-924, Coordination of CEQA, quality of life standards, and growth management provisions, Subsection G(i). Available at: [http://ordlink.com/codes/escondid/\\_DATA/TITLE33/ARTICLE\\_47\\_\\_\\_ENVIRONMENTAL\\_QUALITY/Sec\\_\\_33\\_924\\_\\_\\_Coordination\\_of\\_.html](http://ordlink.com/codes/escondid/_DATA/TITLE33/ARTICLE_47___ENVIRONMENTAL_QUALITY/Sec__33_924___Coordination_of_.html).

### Jones & Stokes Associates

2005 *URBEMIS2002 for Windows, Version 8.7*, Available at <http://www.arb.ca.gov/planning/urbemis/urbemis2002/urbemis2002.htm>.

### RBF Consulting

2005 *Escondido Marriott Hotel and Condominium Project, Traffic Impact Analysis Report*. (JN) 55-100241.001. June 3.

### San Diego County Air Pollution Control District (SDAPCD)

2004 *San Diego County Air Pollution Control District 8-Hour Ozone Nonattainment Designation*. April 14. Available at [http://www.sdapcd.co.san-diego.ca.us/info/notices/8\\_hour\\_ozone.pdf](http://www.sdapcd.co.san-diego.ca.us/info/notices/8_hour_ozone.pdf).

### UC Davis Institute of Transportation Studies (UCD ITS)

1997 *Transportation Project-level Carbon Monoxide Protocol*. December. Davis, CA.

### U.S. Environmental Protection Agency (USEPA)

2004 *8-Hour Ground-level Ozone Designations. Fact Sheet, Clean Air Ozone Rules of 2004*. Available at <http://www.epa.gov/ozonedesignations/>.

2005 *PM<sub>2.5</sub> Designations*. Available at <http://www.epa.gov/pmdesignations>.

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**APPENDIX A**  
**URBEMIS 2002 MODELING OUTPUT**



URBEMIS 2002 For Windows 8.7.0

File Name: P:\2005\05080207 Escondido Marriott\2Work Folder\Environmental\Air Quality\Marriott Hotel unmiti  
Project Name: Escondido Marriott Hotel Unmitigated  
Project Location: San Diego County  
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT  
(Tons/Year)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007 ***							
TOTALS (tpy, unmitigated)	2.80	7.15	7.69	0.00	0.51	0.29	0.22
TOTALS (tpy, mitigated)	1.48	4.97	7.33	0.00	0.26	0.11	0.15

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	0.23	0.46	0.46	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	2.73	3.27	28.28	0.02	2.79

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	2.96	3.72	28.73	0.02	2.79

URBEMIS 2002 For Windows 8.7.0

File Name: P:\2005\05080207 Escondido Marriott\2Work Folder\Environmental\Air Quality\Marriott Hotel unmiti  
 Project Name: Escondido Marriott Hotel Unmitigated  
 Project Location: San Diego County  
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
(Tons/Year)

Construction Start Month and Year: January, 2007  
 Construction Duration: 12  
 Total Land Use Area to be Developed: 4.5 acres  
 Maximum Acreage Disturbed Per Day: 1.1 acres  
 Single Family Units: 0 Multi-Family Units: 0  
 Retail/Office/Institutional/Industrial Square Footage: 98000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.01	0.08	0.08	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.01	0.09	0.08	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.22	-	0.22
Off-Road Diesel	0.11	0.76	0.85	-	0.03	0.03	0.00
On-Road Diesel	0.02	0.36	0.07	0.00	0.01	0.01	0.00
Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Total tons/year	0.13	1.12	0.93	0.00	0.26	0.04	0.22
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.82	5.86	6.34	-	0.25	0.25	0.00
Bldg Const Worker Trips	0.02	0.01	0.24	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	1.81	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.01	0.06	0.06	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	2.66	5.94	6.68	0.00	0.25	0.25	0.00
Total all phases tons/yr	2.80	7.15	7.69	0.00	0.51	0.29	0.22

Phase 1 - Demolition Assumptions  
 Start Month/Year for Phase 1: Jan '07  
 Phase 1 Duration: 0.2 months  
 Building Volume Total (cubic feet): 10000  
 Building Volume Daily (cubic feet): 2250  
 On-Road Truck Travel (VMT): 126  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions  
 Start Month/Year for Phase 2: Jan '07  
 Phase 2 Duration: 1.8 months  
 On-Road Truck Travel (VMT): 708  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Excavators	180	0.580	8.0
1	Rubber Tired Dozers	352	0.590	8.0

Phase 3 - Building Construction Assumptions  
 Start Month/Year for Phase 3: Mar '07  
 Phase 3 Duration: 10 months  
 Start Month/Year for SubPhase Building: Mar '07  
 SubPhase Building Duration: 10 months  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Cranes	190	0.430	8.0

2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '07  
 SubPhase Architectural Coatings Duration: 1.5 months  
 Start Month/Year for SubPhase Asphalt: Mar '07  
 SubPhase Asphalt Duration: 0.5 months  
 Acres to be Paved: 1.1  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	4.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.01	0.08	0.08	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.01	0.09	0.08	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.15	-	0.15
Off-Road Diesel	0.10	0.62	0.81	-	0.01	0.01	0.00
On-Road Diesel	0.02	0.36	0.07	0.00	0.01	0.01	0.00
Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Total tons/year	0.12	0.98	0.89	0.00	0.17	0.02	0.15
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.78	3.83	6.02	-	0.09	0.09	0.00
Bldg Const Worker Trips	0.02	0.01	0.24	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.54	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.01	0.05	0.06	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	1.35	3.90	6.36	0.00	0.09	0.09	0.00
Total all phases tons/yr	1.48	4.97	7.33	0.00	0.26	0.11	0.15

Construction-Related Mitigation Measures

Phase 1: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
 Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)  
 Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily  
 Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)  
 Phase 2: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
 Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)  
 Phase 2: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
 Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)  
 Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
 Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)  
 Phase 3: Off-Road Diesel Exhaust: Use lean-NOx catalyst  
 Percent Reduction(ROG 0.0% NOx 20.0% CO 0.0% SO2 0.0% PM10 0.0%)  
 Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
 Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)  
 Phase 3: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
 Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)  
 Phase 3: Offgassing: Compliance with SDAPCD Rule 67 and use of prefinished surfaces  
 Percent Reduction(ROG 70.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)  
 Phase 3: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
 Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)  
 Phase 1 - Demolition Assumptions  
 Start Month/Year for Phase 1: Jan '07  
 Phase 1 Duration: 0.2 months  
 Building Volume Total (cubic feet): 10000  
 Building Volume Daily (cubic feet): 2250  
 On-Road Truck Travel (VMT): 126  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: Jan '07

Phase 2 Duration: 1.8 months

On-Road Truck Travel (VMT): 708

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Excavators	180	0.580	8.0
1	Rubber Tired Dozers	352	0.590	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Mar '07

Phase 3 Duration: 10 months

Start Month/Year for SubPhase Building: Mar '07

SubPhase Building Duration: 10 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Cranes	190	0.430	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '07

SubPhase Architectural Coatings Duration: 1.5 months

Start Month/Year for SubPhase Asphalt: Mar '07

SubPhase Asphalt Duration: 0.5 months

Acres to be Paved: 1.1

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	4.0

AREA SOURCE EMISSION ESTIMATES (Tons per Year, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.03	0.46	0.39	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00
Landscaping	0.01	0.00	0.07	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
Architectural Coatings	0.18	-	-	-	-
TOTALS (tpy, unmitigated)	0.23	0.46	0.46	0.00	0.00



Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

Phase 1 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily  
has been changed from off to on.

Phase 2 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 2 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 3 mitigation measure Offgassing: Compliance with SDAPCD Rule 67 and use of prefinished surfaces  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Changes made to the default values for Area

The hearth option switch changed from on to off.

Changes made to the default values for Operations

The pass by trips option switch changed from off to on.  
The operational emission year changed from 2005 to 2008.



URBEMIS 2002 For Windows 8.7.0

File Name: P:\2005\05080207 Escondido Marriott\2Work Folder\Environmental\Air Quality\Multi-story condo unmitigated  
 Project Name: Escondido Mult-Story Condo Unmitigated  
 Project Location: San Diego County  
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT  
 (Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007 ***							
TOTALS (lbs/day, unmitigated)	7.74	56.50	61.22	0.03	12.30	2.23	10.07
TOTALS (lbs/day, mitigated)	7.36	49.44	58.33	0.03	7.59	0.92	6.67
*** 2008 ***							
TOTALS (lbs/day, unmitigated)	132.09	61.72	76.36	0.00	2.52	2.42	0.10
TOTALS (lbs/day, mitigated)	45.86	50.53	72.83	0.00	0.96	0.86	0.10

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	8.33	0.96	0.41	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	6.10	9.86	71.86	0.04	6.77

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	14.43	10.82	72.26	0.04	6.78

URBEMIS 2002 For Windows 8.7.0

File Name: P:\2005\05080207 Escondido Marriott\2Work Folder\Environmental\Air Quality\Multi-story condo unmitigated  
 Project Name: Escondido Mult-Story Condo Unmitigated  
 Project Location: San Diego County  
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
(Pounds/Day - Winter)

Construction Start Month and Year: January, 2007  
 Construction Duration: 18  
 Total Land Use Area to be Developed: 1.04 acres  
 Maximum Acreage Disturbed Per Day: 1 acres  
 Single Family Units: 0 Multi-Family Units: 127  
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.94	-	0.94
Off-Road Diesel	5.01	35.95	38.57	-	1.50	1.50	0.00
On-Road Diesel	0.17	3.25	0.61	0.01	0.08	0.07	0.01
Worker Trips	0.02	0.06	0.55	0.00	0.00	0.00	0.00
Maximum lbs/day	5.20	39.26	39.73	0.01	2.52	1.57	0.95
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	10.00	-	10.00
Off-Road Diesel	5.50	38.59	42.72	-	1.54	1.54	0.00
On-Road Diesel	0.91	17.84	3.34	0.03	0.45	0.38	0.07
Worker Trips	0.03	0.07	0.71	0.00	0.00	0.00	0.00
Maximum lbs/day	6.44	56.50	46.77	0.03	11.99	1.92	10.07
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	7.46	53.29	57.64	-	2.23	2.23	0.00
Bldg Const Worker Trips	0.28	0.17	3.57	0.00	0.05	0.00	0.05
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	7.74	53.46	61.22	0.00	2.28	2.23	0.05
Max lbs/day all phases	7.74	56.50	61.22	0.03	12.30	2.23	10.07
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	7.46	51.07	59.05	-	2.02	2.02	0.00
Bldg Const Worker Trips	0.26	0.16	3.33	0.00	0.05	0.00	0.05
Arch Coatings Off-Gas	122.55	-	-	-	-	-	-
Arch Coatings Worker Trips	0.23	0.11	2.74	0.00	0.05	0.00	0.05
Asphalt Off-Gas	0.12	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.47	10.03	11.62	-	0.39	0.39	0.00
Asphalt On-Road Diesel	0.02	0.39	0.09	0.00	0.01	0.01	0.00
Asphalt Worker Trips	0.01	0.00	0.12	0.00	0.00	0.00	0.00
Maximum lbs/day	132.09	61.72	76.36	0.00	2.52	2.42	0.10
Max lbs/day all phases	132.09	61.72	76.36	0.00	2.52	2.42	0.10

Phase 1 - Demolition Assumptions  
 Start Month/Year for Phase 1: Jan '07  
 Phase 1 Duration: 0.2 months  
 Building Volume Total (cubic feet): 10000  
 Building Volume Daily (cubic feet): 2250  
 On-Road Truck Travel (VMT): 126

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions  
 Start Month/Year for Phase 2: Jan '07  
 Phase 2 Duration: 2.8 months  
 On-Road Truck Travel (VMT): 686

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Excavators	180	0.580	8.0
1	Rubber Tired Dozers	352	0.590	8.0

Phase 3 - Building Construction Assumptions  
 Start Month/Year for Phase 3: Apr '07  
 Phase 3 Duration: 15 months  
 Start Month/Year for SubPhase Building: Apr '07  
 SubPhase Building Duration: 15 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Cranes	190	0.430	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: May '08  
 SubPhase Architectural Coatings Duration: 2 months  
 Start Month/Year for SubPhase Asphalt: Jun '08  
 SubPhase Asphalt Duration: 0.5 months

Acres to be Paved: .5  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	4.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.94	-	0.94
Off-Road Diesel	4.76	29.37	36.64	-	0.53	0.53	0.00
On-Road Diesel	0.17	3.25	0.61	0.01	0.08	0.07	0.01
Worker Trips	0.02	0.06	0.55	0.00	0.00	0.00	0.00
Maximum lbs/day	4.95	32.68	37.80	0.01	1.55	0.60	0.95
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	6.60	-	6.60
Off-Road Diesel	5.22	31.53	40.58	-	0.54	0.54	0.00
On-Road Diesel	0.91	17.84	3.34	0.03	0.45	0.38	0.07
Worker Trips	0.03	0.07	0.71	0.00	0.00	0.00	0.00
Maximum lbs/day	6.17	49.44	44.63	0.03	7.59	0.92	6.67
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	7.09	43.54	54.76	-	0.78	0.78	0.00
Bldg Const Worker Trips	0.28	0.17	3.57	0.00	0.05	0.00	0.05
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	7.36	43.71	58.33	0.00	0.84	0.79	0.05
Max lbs/day all phases	7.36	49.44	58.33	0.03	7.59	0.92	6.67

\*\*\* 2008\*\*\*

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00

On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	7.09	41.72	56.10	-	0.71	0.71	0.00
Bldg Const Worker Trips	0.26	0.16	3.33	0.00	0.05	0.00	0.05
Arch Coatings Off-Gas	36.77	-	-	-	-	-	-
Arch Coatings Worker Trips	0.23	0.11	2.74	0.00	0.05	0.00	0.05
Asphalt Off-Gas	0.12	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.40	8.19	11.04	-	0.14	0.14	0.00
Asphalt On-Road Diesel	0.02	0.39	0.09	0.00	0.01	0.01	0.00
Asphalt Worker Trips	0.01	0.00	0.12	0.00	0.00	0.00	0.00
Maximum lbs/day	45.86	50.53	72.83	0.00	0.96	0.86	0.10

Max lbs/day all phases 45.86 50.53 72.83 0.00 0.96 0.86 0.10

Construction-Related Mitigation Measures

- Phase 1: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
- Phase 1: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)
- Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily  
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
- Phase 2: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
- Phase 2: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)
- Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
- Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel  
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
- Phase 3: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)
- Phase 3: Offgassing: Compliance with SDAPCD Rule 67 and use of pre-finished materials  
Percent Reduction(ROG 70.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
- Phase 3: Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
Percent Reduction(ROG 5.0% NOx 5.0% CO 5.0% SO2 5.0% PM10 5.0%)

Phase 1 - Demolition Assumptions

Start Month/Year for Phase 1: Jan '07  
Phase 1 Duration: 0.2 months  
Building Volume Total (cubic feet): 10000  
Building Volume Daily (cubic feet): 2250  
On-Road Truck Travel (VMT): 126

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: Jan '07  
Phase 2 Duration: 2.8 months  
On-Road Truck Travel (VMT): 686

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Excavators	180	0.580	8.0
1	Rubber Tired Dozers	352	0.590	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Apr '07  
Phase 3 Duration: 15 months  
Start Month/Year for SubPhase Building: Apr '07

SubPhase Building Duration: 15 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Cranes	190	0.430	8.0
2	Other Equipment	190	0.620	8.0

1 Rough Terrain Forklifts 94 0.475 8.0  
Start Month/Year for SubPhase Architectural Coatings: May '08  
SubPhase Architectural Coatings Duration: 2 months  
Start Month/Year for SubPhase Asphalt: Jun '08  
SubPhase Asphalt Duration: 0.5 months  
Acres to be Paved: .5

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	4.0

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.07	0.96	0.41	0	0.00
Hearth	0.00	0.00	0.00	0.00	0.00
Landscaping - No winter emissions					
Consumer Prdcts	6.21	-	-	-	-
Architectural Coatings	2.04	-	-	-	-
TOTALS (lbs/day, unmitigated)	8.33	0.96	0.41	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Condo/townhouse high rise	6.10	9.86	71.86	0.04	6.77
TOTAL EMISSIONS (lbs/day)	6.10	9.86	71.86	0.04	6.77

Includes correction for passby trips.  
 Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreeage	Trip Rate	No. Units	Total Trips
Condo/townhouse high rise	1.04	4.80 trips/dwelling unit	127.00	609.60
Sum of Total Trips				609.60
Total Vehicle Miles Traveled				4,460.97

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00		1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00		2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20		1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20		1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10		0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40		0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00		0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90		0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00		0.00	0.00	100.00
Urban Bus	0.20		0.00	50.00	50.00
Motorcycle	1.70		76.50	23.50	0.00
School Bus	0.10		0.00	0.00	100.00
Motor Home	1.20		8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

Changes made to the default values for Land Use Trip Percentages

The Trip Rate and/or Acreage values for Condominium/townhouse high rise  
have changed from the defaults 5.26/1.98 to 4.8/1.04

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

Phase 1 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 1 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily  
has been changed from off to on.

Phase 2 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 2 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Phase 3 mitigation measure Offgassing: Compliance with SDAPCD Rule 67 and use of pre-finished materials  
has been changed from off to on.

Phase 3 mitigation measure Off-Road Diesel Exhaust: Vehicle idling and maintenance plan  
has been changed from off to on.

Changes made to the default values for Area

The hearth option switch changed from on to off.

Changes made to the default values for Operations

The pass by trips option switch changed from off to on.  
The operational emission year changed from 2005 to 2008.