APPENDIX B

AIR QUALITY

Air Quality Assessment For:

PALAZZO WESTWOOD

CITY OF LOS ANGELES

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1.0 Existing Air Quality

1.1 Project Description

The project calls for a mixed-use development in the Westwood Village Area of the City of Los Angeles. The project site is bounded by Tiverton Avenue on the east, the alley east of Westwood Boulevard on the west, Weyburn Boulevard on the north and just north of Kinross Avenue on the south. Glendon Avenue bisects the project site. A vicinity map is presented in Exhibit 1.

Currently, the site is occupied by a Cinema, an apartment building with 42 units and approximately 29,400 square feet of specialty retail. The majority of the site is currently an at grade parking lot. All of the existing buildings on the project site will be demolished as a part of this project.

The project proposes construction of a 61,000 square foot shopping center, a 54,000 square foot supermarket and 350 apartment units. The shopping center and supermarket will be constructed at ground level with the apartment units in four levels above the retail level. Additionally, three levels of below grade parking are proposed. A site plan showing the retail level is shown in Exhibit 2 and a site plan showing the first level of the residential uses is shown in Exhibit 3.

This report will analyze the potential air quality impacts associated with this project. Traffic volume and generation information used in this report to project air quality emissions and concentrations was provided by Crain & Associates and is presented in their traffic study for the project. Regional air quality impacts from construction and operation of the proposed project are analyzed as well as local air quality impacts.

1.2 Climate

The climate in and around the project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, excepting the summer months, which commonly bring substantially higher temperatures. In all portions of the basin, temperatures well above 100 degrees F. have been recorded in recent years. The annual average temperature in the basin is approximately 62 degrees F.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night the wind generally slows and reverses direction traveling towards the sea. Wind direction will be altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions which inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground based inversions,

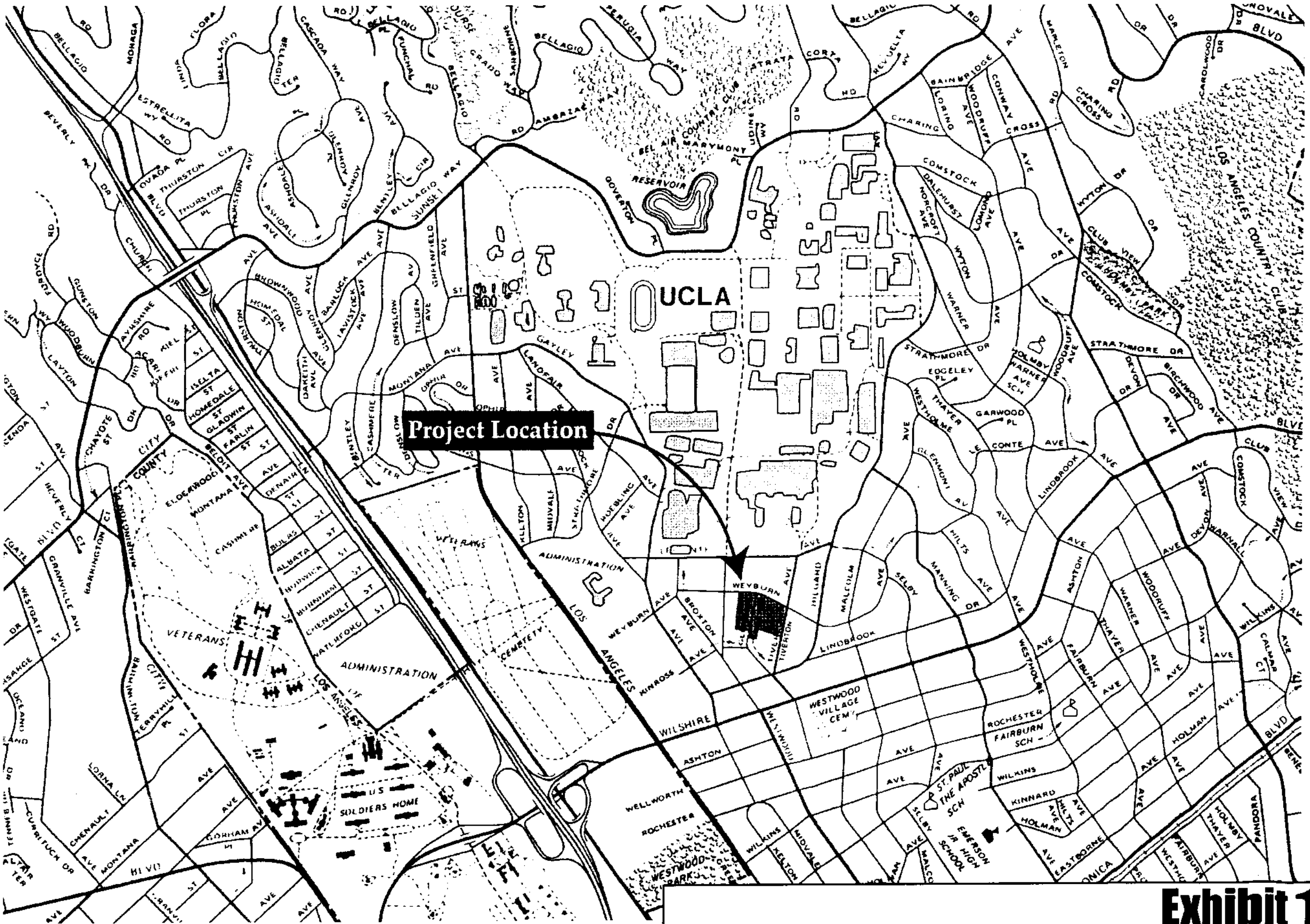

Exhibit 1
Vicinity Map

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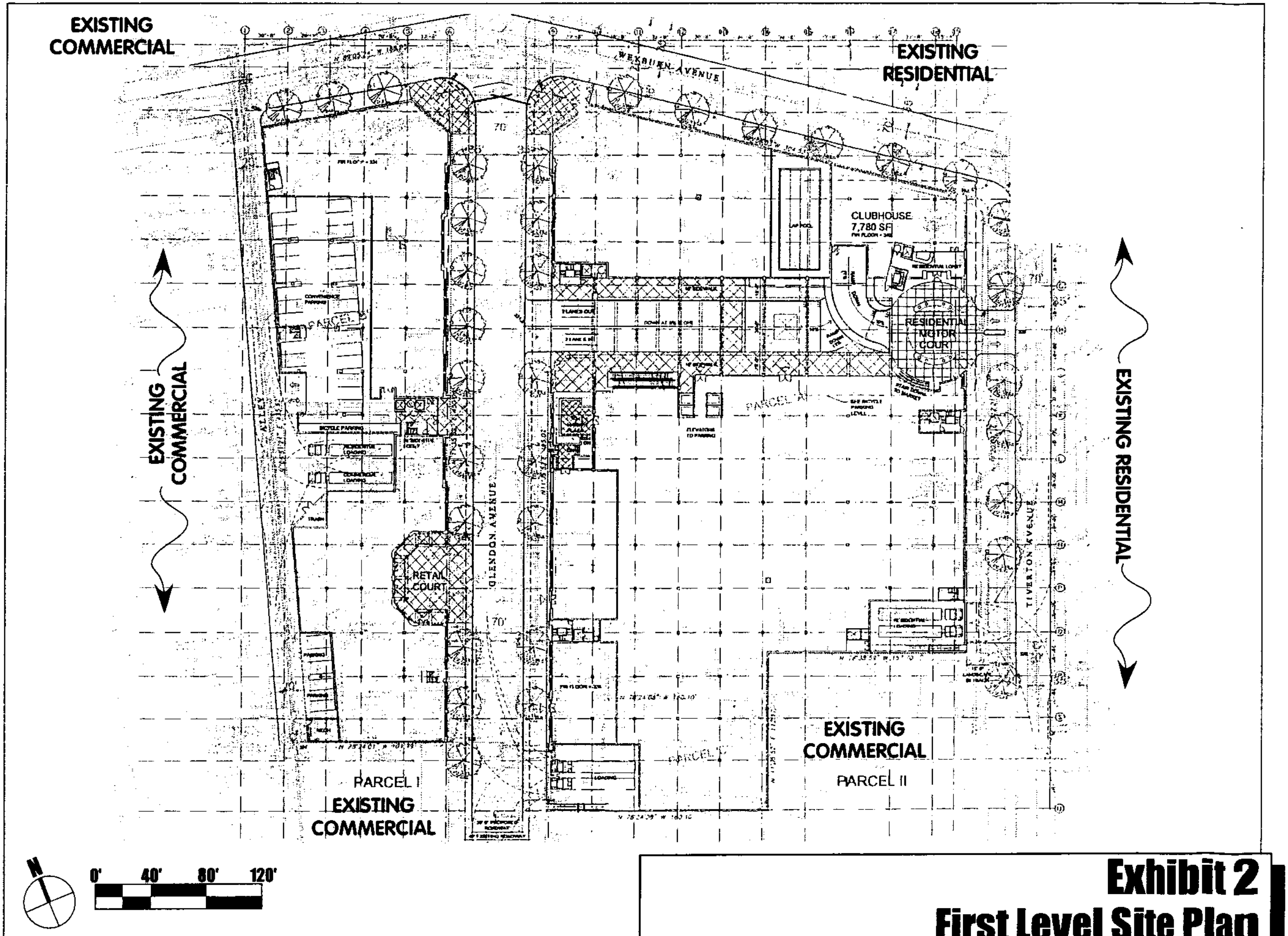

Exhibit 2

First Level Site Plan

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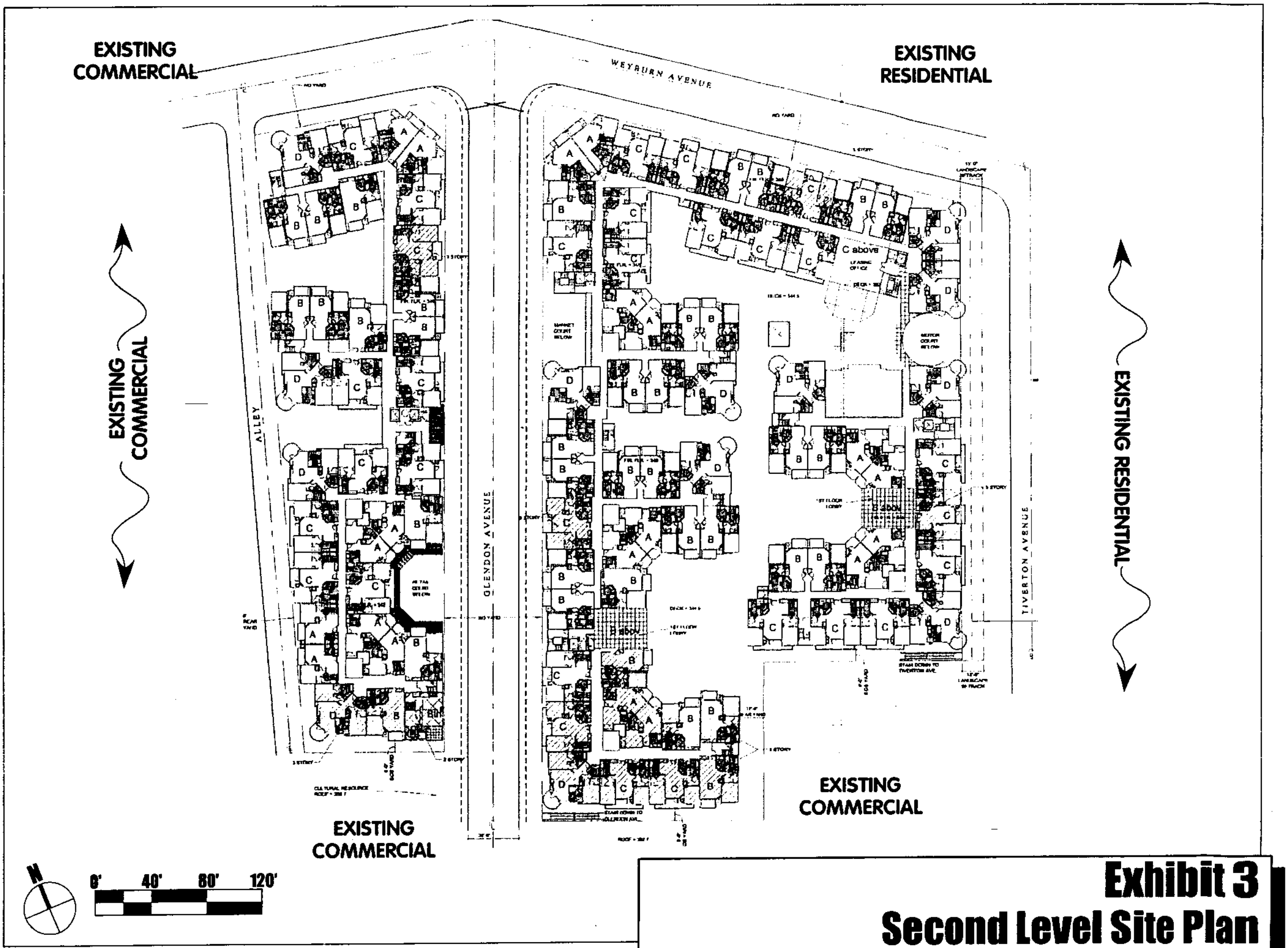
Exhibit 3

Second Level Site Plan



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sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the SCAB and is responsible for the high levels of ozone observed during summer months in the air basin.

1.3 Air Quality Management

The proposed project is located in the South Coast Air Basin (SCAB) and, jurisdictionally, is the responsibility of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The SCAQMD sets and enforces regulations for stationary sources in the basin and develops and implements Transportation Control Measures. The CARB is charged with controlling motor vehicle emissions. CARB establishes legal emission rates for new vehicles and is responsible for the vehicle inspection program. Other important agencies in the air quality management for the basin include the U.S. Environmental Protection Agency (EPA) and the Southern California Association of Governments (SCAG). The EPA implements the provisions of the federal Clean Air Act. This Act establishes ambient air quality standards that are applicable nationwide. In areas that are not achieving the standards, the Clean Air Act requires that plans be developed and implemented to meet the standards. The EPA oversees the efforts in this air basin and insures that appropriate plans are being developed and implemented. The primary agencies responsible for writing the plan are SCAG and the SCAQMD, and the plan is called the Air Quality Management Plan (AQMP). SCAG prepares the transportation component of the AQMP.

SCAQMD and SCAG, in coordination with local governments and the private sector, have developed the Air Quality Management Plan (AQMP) for the air basin. The AQMP is the most important air management document for the basin because it provides the blueprint for meeting state and federal ambient air quality standards. The 1997 AQMP was adopted locally on November 8, 1996, by the governing board of the SCAQMD. CARB amended the Ozone portion of the 1997 AQMP in 1999 as part of the California State Implementation Plan. The 1997 AQMP with the 1999 Amendments was adopted by the EPA in December of 1999. State law mandates the revision of the AQMP at least every three years, and federal law specifies dates certain for developing attainment plans for criteria pollutants. The 1997 AQMP with the 1999 Amendments supersedes the 1994 AQMP revision that was adopted locally by the SCAQMD in November 1996. The 1997 revision to the AQMP was adopted in response to the requirements set forth in the California Clean Air Act (CCAA) and the 1990 amendments to the Federal Clean Air Act (CAA). SCAQMD and SCAG are currently in the process preparing an update to the AQMP.

The SCAB has been designated by the U.S. Environmental Protection Agency (EPA) as a non-attainment area for ozone, carbon monoxide, and suspended particulates. Nitrogen dioxide in the SCAB has met the federal standards for the third year in a row, and therefore, is qualified for redesignation to attainment. A maintenance plan for nitrogen dioxide is included in the 1997 AQMP. The CCAA mandates the implementation of the program that will achieve the

California Ambient Air Quality Standards (CAAQS) and the CAA mandates the implementation of new air quality performance standards.

Attainment of all federal PM10 health standards is to be achieved by December 31, 2006, and ozone standards are to be achieved by November 15, 2010. For CO, the deadline was December 31, 2000. The basin was very close to attaining the CO standard at the end of 2000 and was granted a two-year extension to meet the federal standards. The 2001 AQMP currently being prepared will contain measures to ensure attainment of the federal CO standard by the end of 2002.

The overall control strategy for the AQMP is to meet applicable state and federal requirements and to demonstrate attainment with ambient air quality standards. The 1997 AQMP uses two tiers of emission reduction measures; (1) short- and intermediate-term measures, and (2) long-term measures.

Short- and intermediate-term measures propose the application of available technologies and management practices between 1994 and the year 2005. These measures rely on known technologies and proposed actions to be taken by several agencies that currently have statutory authority to implement such measures. Short- and intermediate-term measures in the 1997 AQMP include 35 stationary source, 7 on-road, 6 off-road, 1 transportation control and indirect source, 5 advanced transportation technology, and 1 further study measures. All of these measures are proposed to be implemented between 1995 and 2005. These measures rely on both traditional command and control and on alternative approaches to implement technological solutions and control measures.

To ultimately achieve ambient air quality standards, additional emission reductions will be necessary beyond the implementation of short- and intermediate-term measures. Long-term measures rely on the advancement of technologies and control methods that can reasonably be expected to occur between 1997 and 2010. These long-term measures rely on further development and refinement of known low- and zero-emission control technologies for both mobile and stationary sources, along with technological breakthroughs.

1.4 Monitored Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for the SCAB have been made for existing emissions ("1997 Air Quality Management Plan", October 1996). The data indicate that mobile sources are the major source of regional emissions. Motor vehicles (i.e., on-road mobile sources) account for approximately 51 percent of volatile organic compounds (VOC), 63 percent of nitrogen oxide (NO_x) emissions, and approximately 78 percent of carbon monoxide (CO) emissions.

The project site is located in SCAQMD Source Receptor Area 2 (West LA). Air quality data for this area is collected at the West LA/VA Hospital monitoring station. The data collected at this station is considered representative of the air quality experienced in the vicinity of the project. The air pollutants measured at the West LA/VA Hospital station include ozone, carbon monoxide (CO), and nitrogen dioxide (NO_2). Sulfur dioxide (SO_2), and particulates (PM10) concentrations are not measured at the West LA/VA Hospital station. The nearest station that is most representative of the project site where these pollutants are monitored is the Hawthorn Station. The air quality monitored data from 1998 to 2002 for all of these pollutants are shown in Table 1. Table 1 also presents the Federal and State air quality standards.

Table 1
Air Quality Levels Measured at the West LA/VA Hospital Monitoring Station

Pollutant	California Standard	National Standard	Year	% Msrd.[1]	Max. Level	Days State Std. Exceeded
Ozone	0.09 ppm	0.12 ppm	2001	99	0.099	1
	for 1 hr.	for 1 hr.	2000	100	0.104	2
			1999	100	0.117	4
			1998	100	0.127	7
CO	20 ppm	35 ppm	2001	100	4.5	0
	for 1 hour	for 1 hour	2000	100	6.0	0
			1999	98	6.1	0
			1998	97	6.8	0
CO	9.0 ppm	9 ppm	2001	98	4.0	0
	for 8 hour	for 8 hour	2000	98	4.3	0
			1999	98	3.6	0
			1998	97	4.5	0
Particulates	50 ug/m3	150 ug/m3	2001	96	75	8/48[4]
PM10*	for 24 hr.	for 24 hr.	2000	96	74	9/54[4]
(24 Hour)			1999	98	69	6/33[4]
			1998	95	66	7/42[4]
Particulates	30 ug/m3	50 ug/m3	2001	96	34/37	Yes[6]
PM10[5]*	AGM[3]	AAM[2]	2000	96	33/36	Yes[6]
(Annual)			1999	98	33/35	Yes[6]
			1998	95	30/33	Yes[6]*
NO_2	0.25 PPM	None	2001	100	0.109	0
(1-Hour)	for 1 hour		2000	100	0.162	0
			1999	100	0.133	0
			1998	99	0.130	0
NO_2	None	0.053 ppm	2001	100	0.024	n/a
(AAM[2])		AAM[2]	2000	100	0.026	n/a
			1999	100	0.028	n/a
			1998	99	0.026	n/a
SO_2*	0.04 ppm	0.14 ppm	2001	100	0.009	0
(24 Hour)	24 Hr.	for 24 hr.	2000	100	0.016	0
			1999	100	0.019	0
			1998	98	0.013	0
SO_2*	None	0.030 ppm	2001	100	0.004	n/a
(AAM[2])		AAM[2]	2000	100	0.003	n/a
			1999	100	0.004	n/a
			1998	98	0.004	n/a

*PM10 and SO2 were not measured at the West LA station. Data shown is for the Hawthorne Station.

1. Percent of year where high pollutant levels were expected that measurements were made
2. Annual Arithmetic Mean
3. Annual Geometric Mean
4. First number shown in Days State Standard Exceeded column are the actual number of days measured that state standard was exceeded. The second number shows the number of days the standard would be expected to be exceeded if measurements were taken every
5. Levels Shown for Annual PM10 are AGM/AAM
6. Yes if annual standard exceeded, No if annual standard not exceeded

The West LA/VA Hospital monitoring data presented in Table 1 shows that ozone and particulates are the air pollutants of primary concern in the project area. The state ozone standard was exceeded 1 day in 2001, 2 days in 2000, 4 days in 1999, and 7 days in 1998; the federal standard was only exceeded 1 day in the past four years in1998. The data from the past four years shows a downward trend in the maximum ozone concentrations and the number of days exceeding the state and federal ozone standards.

Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

The state standards for PM10 have been exceeded at the West LA/VA Hospital monitoring station between 33 and 54 days over the past four years. The measurement data does show a slight upward trend in the maximum and average concentrations along with the number of days the standard was exceeded. PM10 levels in the area are due to natural sources, grading operations and motor vehicles.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths.

Carbon monoxide (CO) is another important pollutant that is due mainly to motor vehicles. Currently, CO levels in the project region are in compliance with the state and federal 1-hour and 8-hour standards. High levels of CO commonly occur near major roadways and freeways. CO may potentially be a continual problem in the future for areas next to freeways and other major roadways.

The monitored data shown in Table 1 shows that other than ozone, and PM10 exceedences as mentioned above, no state or federal standards were exceeded for the remaining criteria pollutants.

1.5 Local Air Quality

1.5.1 Introduction & Criteria

Local air quality is a major concern along roadways. Carbon monoxide is a primary pollutant. Unlike ozone, carbon monoxide is directly emitted from a variety of sources. The most notable source of carbon monoxide is motor vehicles. For this reason, carbon monoxide concentrations are usually indicative of the local air quality generated by a roadway network and are used to assess its impacts on the local air quality. Comparisons of levels with state and federal carbon monoxide standards indicate the severity of the existing concentrations for receptors in the project area. The Federal and State standards for carbon monoxide are presented in Table 2.

Table 2
Federal and State Carbon Monoxide Standards

	Averaging Time	Standard
Federal	1 hour	35 ppm
	8 hours	9 ppm
State	1 hour	20 ppm
	8 hours	9 ppm

Carbon monoxide levels in the project vicinity due to nearby roadways were assessed with the CALINE4 computer model. CALINE4 is a fourth generation line source air quality model developed by the California Department of Transportation ("CALINE4," Report No. FHWA/CA/TL-84/15, June 1989). The precise methodology used in modeling existing air quality with the CALINE4 computer model is discussed in more detail in Section 2.3.2 (Local Air Quality Impacts.) The remainder of this section discusses the resulting existing carbon monoxide levels in comparison to the State and Federal carbon monoxide standards.

1.5.2 Local CO Modeling

The CALINE4 computer modeling results for the existing conditions are shown below in Table 3. The CALINE4 CO modeling was performed for three intersections, Veteran at Wilshire, Westwood at Lindbrook and Glendon and Tiverton at Lindbrook. These intersections were selected because Veteran at Wilshire has the greatest total peak hour traffic volume and has a Level of Service (LOS) D or worse in future years. Westwood at Lindbrook, and Glendon and Tiverton at Lindbrook are the two intersections with the greatest increase in traffic due to the project that experience a future LOS D or worse (i.e. LOS D, E or F). Generally, local pollution concentrations are only of concern around intersections with level LOS D or worse. By modeling these two intersections the highest overall concentrations at intersections around the project can be determined as well as the greatest increase due to the project. CO levels were modeled for four receptors in each corner of each intersection. The highest concentration of the four receptors at each intersection is reported in Table 3.

The existing background CO concentrations were taken from documents posted on the SCAQMD web site (http://www.aqmd.gov/ceqa/hdbk.html accessed on October 10, 2002). The existing (2000) background CO concentrations used in the modeling are for the West Los Angeles receptor area which includes the project site. The background CO concentrations from the handbook are 5.8 ppm for 1 hour, and 3.6 ppm for 8 hour. Therefore, 5.8 ppm is added to the worst case meteorological 1-hour projections, and 3.6 ppm to the 8-hour projections, to account for the existing background carbon monoxide levels.

The peak hour traffic and level-of-service data were taken from the traffic study prepared for the project. The modeling results of the existing CO levels are presented in Table 3. Printouts of the CALINE4 input and output files are presented in the appendix.

Table 3
Existing Modeled Carbon Monoxide Concentrations (ppm)

Intersection	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm)
Veteran at Wilshire	11.7	8.1
Westwood at Lindbrook	9.4	6.4
Glendon & Tiverton at Lindbrook	8.8	5.9
Standard	20	9
No. Greater Than Standard	**0**	**0**

The CO concentrations include the ambient concentrations of 5.8 ppm for 1-hour levels, and 3.6 ppm for 8-hour levels.

Table 3 presents the modeling results for the existing CO concentrations. That is, the highest CO concentrations for the four receptors modeled at each intersection are presented. The table shows that existing CO concentrations currently comply with the 1-hour and 8-hour state and federal standards at all receptors. This indicates that there are no existing exceedences of the standards at all intersections in the vicinity of the project.

Around the intersection of Veteran at Wilshire the lowest 1-hour concentration was 1.2 ppm below the maximum shown in Table 3 and the lowest 8-hour concentration was 0.9 lower. For Westwood at Lindbrook the lowest 1-hour concentration was 0.6 ppm lower than the maximum and the lowest 8-hour concentration was 0.5 ppm lower. For Glendon and Tiverton at Lindbrook the lowest 1-hour concentration was 0.6 ppm lower than the maximum and the lowest 8-hour concentration was 0.5 ppm lower. The existing CO concentrations currently comply with the 1-hour and 8-hour state and federal standards at all receptors.

2.0 Potential Air Quality Impacts

Air quality impacts are usually divided into short term and long term. Short-term impacts are usually the result of construction or grading operations. Long-term impacts are associated with the built out condition of the proposed project.

2.1 Thresholds of Significance

2.1.1 Regional Air Quality

In their "1993 CEQA Air Quality Handbook" the SCAQMD has established significance thresholds to assess the regional impact of project related air pollutant emissions. Table 4 presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds are considered to have a less than significant effect on regional air quality throughout the South Coast Air Basin.

Table 4
SCAQMD Regional Pollutant Emission Thresholds of Significance

	Pollutant Emissions (lbs/day)				
	CO	ROG	NO_x	PM10	SO_x
Construction	*550*	*75*	*100*	*150*	*150*
Operation	*550*	*55*	*55*	*150*	*150*

2.1.2 Local Air Quality

Air pollutant emissions from a project are significant if they result in local air pollutant concentrations that either create a violation of an ambient air quality standard or contribute to an existing air quality violation. The SCAQMD has established significance thresholds should the existing ambient air pollutant concentrations exceed a standard. The thresholds presented in Table 5 account for the continued degradation of the local air quality. If the ambient air quality standards are exceeded then pollutant concentrations that exceed the thresholds presented in Table 5 are considered significant.

Table 5
SCAQMD Local Pollutant Concentration Increase Thresholds of Significance

Pollutant	Averaging Time	Air Pollutant Concentration
Carbon Monoxide (CO)	8 Hours	0.45 ppm
	1 Hour	1 ppm

ppm-parts per million

2.2 Short Term Impacts

2.2.1 Construction Air Pollutant Emissions

Temporary impacts will result from project construction activities. Air pollutants will be emitted by construction equipment and fugitive dust will be generated during demolition of the existing buildings and facilities on site and the excavation of the site for the subterranean parking.

Construction activities for large development projects are estimated by the U.S. Environmental Protection Agency (according to the 1993 CEQA Handbook, emission factor for disturbed soil is 26.4 pounds of PM10 per day per acre). The CEQA Handbook also establishes an emission factor of 0.00042 pounds of PM10 per cubic foot of building space for demolition activities. If water or other soil stabilizers are used to control dust as required by SCAQMD Rule 403, the emissions can be reduced by 50 percent. The PM10 calculations include the 50% reduction from watering.

PM10 emission rates for loading of material onto trucks (i.e. dirt, sand and gravel) were obtained from the SCAQMD's 1993 CEQA Air Quality Handbook. The emission rate depends on the amount of materials being handled the moisture content of the materials and the mean wind speed. For this project it was assumed that excavated dirt had a 15% moisture content. The wind speed was assumed to be 12 mph.

Typical emission rates for construction equipment were obtained from the 1993 CEQA Air Quality Handbook. These emission factors are presented in terms of pounds of pollutant per hour of equipment operation. It should be noted that most of these emission factors were initially published in 1985 in the EPA's AP-42 Compilation of Emission Factors. These have not been updated since their original publication. Several state and federal regulations have been enacted since this time that require reduced emissions from construction equipment. The effect of these regulations is not included in the emission factors used to calculate construction equipment emissions presented below. The actual emissions from construction equipment, therefore, will likely be lower than presented below. However, the exact reduction is not known. It would be dependent on the age of the specific equipment used at the construction site. As time passes, older equipment will be replaced with newer equipment manufactured with the lower emission requirements. Therefore, construction occurring farther in the future would likely be reduced by a greater amount versus near term construction. The EPA is currently updating the section of AP-42 that presents emission factors for construction equipment but a publication date is unknown.

Emission rates for employee vehicle trips and heavy truck operations were taken from EMFAC2000 (Version 2.02). EMFAC2000 is a computer program generated by the California Air Resources Board that calculates emission rates for vehicles. The emission factors were calculated for an average speed of 25 miles per hour. For a worst-case scenario, existing (2002) vehicle emissions were utilized. In the future, vehicle emissions are projected to decrease and therefore the emissions associated with the project will decrease.

Demolition

The first phase of construction for the project will include the demolition of the remaining structures and asphalt paving on the project site. Since the time of the NOP, the 29,400 sq. ft. retail structure has been demolished. Therefore, this analysis only considers the effects of the demolition of the movie theater, Glendon Manor and parking facilities. Based on information obtained from the developer of the project demolition is expected to occur for 30 working days over a 45-day period. As a worst-case assumption, this analysis assumes that during demolition, three excavators, one-track loader, two skid steer loaders, and one crane, will be operating ten hours per day. A total of 570 truck trips will be required to haul the debris away with a maximum of 40 trips per day. Trucks will haul debris to either Lopez Canyon or Bradley dumpsites with an approximate trip length for either site of 25 miles. It was assumed that there would be 15 worker vehicles traveling to and from the site each day and the average trip length for each worker vehicle is 20 miles. As a worst-case assumption, it was assumed that the entire approximate 4.2 acre site would be disturbed by activity during the day.

Using the estimates presented above the peak construction emissions for the demolition were calculated and presented in Table 6. The data used to calculate the demolition emissions are shown in the appendix.

Table 6
Air Pollutant Emissions During Demolition

	Pollutant Emissions (lbs/day)				
	CO	ROG	NO_x	PM10	SO_x
Disturbance Activity	0.0	0.0	0.0	55.4	0.0
Demolition Debris	0.0	0.0	0.0	14.2	0.0
Construction Equipment	46.7	10.3	134.5	9.9	11.6
Debris Hauling Trucks	21.2	6.7	70.8	3.0	1.3
Employee Travel	18.8	1.3	2.2	0.1	0.1
Total Emissions	**86.7**	**18.2**	**207.4**	**82.6**	**13.0**
SCQAMD Thresholds	*550*	*75*	*100*	*150*	*150*

The data presented in Table 6 shows that NO_x (Nitrogen Oxides) pollutant emissions associated with the demolition of the project are projected to be greater than the Significance Thresholds established by the SCAQMD in the CEQA Air Quality Handbook. The primary source of the NO_x emissions is the construction equipment with the debris hauling trucks also contributing a substantial portion of the total NO_x emissions. Demolition of the proposed project will result in a significant air quality impact and mitigation is required and presented in Section 3.1.

Excavation

Excavation of the parking structures is expected to occur over a seven to eight month period according to the developer of the project. During the most active portion of the excavation, two excavators, two skip loaders and two backhoes will be operating for 10 hours per day. Up to 320 truck trips per day will be required to haul materials off site. At this time the exact location where the materials will be hauled is not known. The furthest possible site is Terminal Island which represents a 30 mile trip. The closest possible site is the Playa Vista Development which represents a 10 mile trip. The Terminal Island dump site was used as a worst case assumption.

Up to 38.7 tons of dirt per day will be hauled away from the site. It was assumed that there would be 15 worker vehicles traveling to and from the site each day and the average trip length for each worker vehicle is 20 miles. As a worst-case assumption, it was assumed that the entire approximate 4.2-acre site would be disturbed by activity during the day.

Table 7
Air Pollutant Emissions During Excavation

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NO_x**	**PM10**	**SO_x**
Disturbance Activity	0.0	0.0	0.0	55.4	0.0
Truck Loading	0.0	0.0	0.0	5.1	0.0
Construction Equipment	55.7	11.4	126.9	10.6	11.4
Dirt Export Trucks	203.6	64.3	679.2	29.1	12.7
Employee Travel	25.0	1.7	2.9	0.1	0.1
Total Emissions	**284.3**	**77.5**	**809.0**	**100.3**	**24.1**
SCQAMD Thresholds	*550*	*75*	*100*	*150*	*150*

The data presented in Table 7 shows that NO_x and ROG (Reactive Organic Gasses) pollutant emissions associated with the excavation of the project are projected to be greater than the Significance Thresholds established by the SCAQMD in the CEQA Air Quality Handbook. The primary source of the NO_x and ROG emissions are the trucks exporting the dirt with the construction equipment also contributing a substantial portion of the total NO_x and ROG emissions. Excavation of the proposed project will result in a significant air quality impact and mitigation is required and presented in Section 3.1.

Utilizing the Playa Vista dumpsite would reduce the ROG emissions to below the level of significance. In fact, any dump site with a trip length of 29 miles our less would result in the ROG emissions being below the threshold. However, NO_x emissions associated with excavation would still exceed the significance thresholds for any dirt export trip length due to the construction equipment.

2.3 Long Term Impacts

2.3.1 Regional Air Quality

The primary source of regional emissions generated by the proposed project will be from motor vehicles. Other emissions will be generated from the combustion of natural gas for space heating and the generation of electricity. Emissions will also be generated by the use of natural gas and oil for the generation of electricity off-site.

Emission rates for vehicular travel were taken from EMFAC2000 (Version 2.02). EMFAC2000 is a computer program generated by the California Air Resources Board that calculates emission rates for vehicles. The emission factors were calculated for an average speed of 25 miles per hour

The data used to estimate the on-site combustion of natural gas, and off-site electrical usage are based on the proposed land uses in terms of dwelling units and square footages, and emission factors taken from the 1993 CEQA Handbook.

The traffic study prepared for the project shows that the project will generate a maximum of 5,603 daily trips. The average trip length for the proposed project is assumed to be 9 miles. This is a composite trip length derived from data contained in the SCAQMD CEQA Handbook. The product of the project daily trips and trip length, translate to total of 50,427 vehicle miles traveled (VMT) generated by the proposed project. An average speed of 25 miles per hour was assumed.

Additional pollutant emissions associated with the project will be generated on-site by the combustion of natural gas for space heating and water heating and off-site due to electrical usage. There will be 350 apartment units, 61,000 sq. ft. of shopping center and 54,000 square feet of shopping center. The square footages and emission factors utilized in calculating the emissions with these sources are provided in the appendix. The emissions are projected for 2020. The total project emissions are presented in Table 8.

Table 8
Total Project Emissions

	Pollutant Emissions (lbs/day)				
	CO	ROG	NO_x	PM10	SO_x
Vehicular Trips	761.6	49.7	109.4	11.8	46.3
Natural Gas Consumption	1.1	0.3	4.9	0.0	0.0
Electrical Generation	3.1	0.2	17.7	0.6	1.8
Total Project Emissions	**765.8**	**50.2**	**132.0**	**12.4**	**48.1**

The existing retail uses, cinema and apartments would continue generate emissions on the project site without the project. The net increase in pollutant generation generated by the project are determined by subtracting the emissions that would be generated in the future with the existing land uses. This is shown in Table 9. The gross total project emissions are shown in the first row with the emissions from the existing uses in the second row. The difference, the net project emissions are shown in the third row of Table 9.

Table 9
Net Project Emission Increases

	Pollutant Emissions (lbs/day)				
	CO	**ROG**	**NO_x**	**PM10**	**SO_x**
Gross Total Project Emissions	766	50	132	12	48
Emissions From Existing Uses	212	14	33	3	13
Net Project Emissions	***554***	***36***	***99***	***9***	***35***
SCQAMD Thresholds	550	55	55	150	150

Table 9 shows that the net project emissions of CO and NO_x are projected to exceed the SCAQMD Thresholds. The operation of the project will result in a significant regional air quality impact. Mitigation must be provided and is discussed in Section 3.2.

For comparison, Table 10 shows the gross total project emissions are compared to the project 2010 emissions for the entire South Coast Air Basin (SCAB) projected in the AQMP. Table 10 shows that the gross total project emissions are less than thirty five thousandths of a percent of the total regional SO_x emissions and less than eleven thousandths of a percent of total regional emissions for all other pollutants. The emissions associated with the project are miniscule when compared to the emissions from the total air basin.

Table 10
Net Project Emission Increases

	Pollutant Emissions (tons/day)				
	CO	**ROG**	**NO_x**	**PM10**	**SO_x**
Gross Total Project Emissions	0.38	0.025	0.07	0.006	0.02
2010 SCAB	3341	769	697	457	70
Project Percent of Regional	0.011%	0.003%	0.009%	0.0014%	0.034%

2.3.2 Local Air Quality

Methodology

Carbon monoxide (CO) is the pollutant of major concern along roadways because the most notable source of carbon monoxide is motor vehicles. For this reason carbon monoxide concentrations are usually indicative of the local air quality generated by a roadway network, and are used as an indicator of its impacts on local air quality. Local air quality impacts can be assessed by comparing future carbon monoxide levels with State and Federal carbon monoxide standards moreover by comparing future CO concentrations with and without the project. The Federal and State standards for carbon monoxide were presented earlier in Table 2.

Future carbon monoxide concentrations with the project were forecasted with the CALINE4 computer model. CALINE4 is a fourth generation line source air quality model developed by the California Department of Transportation ("CALINE4," Report No. FHWA/CA/TL-84/15, June 1989). The purpose of the model is to forecast air quality impacts near transportation facilities in what is known as the microscale region. The microscale region encompasses the region of a few thousand feet around the pollutant source. Given source strength, meteorology, site geometry, and site characteristics, the model can reliably predict pollutant concentrations.

Worst-case meteorology was assessed. Specifically, a late afternoon winter period with a ground-based inversion was considered. For worst-case meteorological conditions, a wind speed of 0.5 meter per second (1 mph) and a stability class G was utilized for a 1 hour averaging time. Stability class G is the worst-case scenario for the most turbulent atmospheric conditions. The higher stability class promotes dispersion of pollutants. A worst-case wind direction for each site was determined by the CALINE4 Model. A sigma theta of 10 degrees was used and represents a low fluctuation of wind direction. A high sigma theta number would represent a highly varying wind direction. The temperature used for worst case was 50 degrees Fahrenheit. The temperature affects the dispersion pattern and emission rates of the motor vehicles. The temperature represents the January mean minimum temperature as reported by Caltrans. The wind speed, stability class, sigma theta, and temperature data used for the modeling are those recommended in the "Development of Worst Case Meteorology Criteria," (California Department of Transportation, June 1989). A mixing height of 1,000 meters was used as recommended in the CALINE4 Manual. A surface roughness of the ground in the area, 100 centimeters, was utilized and is based on the CALINE4 Manual. It should be noted that the results are also dependent on the speeds of the vehicles utilized in the model.

Vehicle emission factors used in the CALINE4 computer model were calculated utilizing the EMFAC2002 v2.02 program published by Air Resources Board (ARB). EMFAC2002 was used to calculate a composite vehicle emission factor based on emission factors for the fourteen vehicles reported by EMFAC2002 and the makeup of these vehicle types in terms of percentage of population and percentage of vehicle miles traveled for the County of Los Angeles also reported by the program.

The peak hour volumes and the level-of-service (LOS) data at the critical intersections are used in the CALINE4 computer modeling. The LOS data are important in the CALINE4 computer modeling in that they determine the speeds used, and the speeds determine the emission factors. The lower the speeds, the higher the emission factors, and as a result, the higher the CO results. The worst case (a.m. or p.m.) peak hour traffic was utilized for the CALINE4 computer modeling to ensure worst-case scenario is modeled.

According to the Caltrans Air Quality Technical Analysis Notes, changes in meteorology and traffic over time disperse the CO concentration levels and cause it to be less severe. Therefore, it is highly unlikely that the 1-hour CO levels would persist for a full eight hours. As a result, a 1-hour CO level is generally greater than an 8-hour CO level.

Eight hour carbon monoxide levels were projected using Caltrans methodology described in their "Transportation Project-Level Carbon Monoxide Protocol" The method essentially uses a persistence factor which is multiplied times the 1 hour emission projections. The projected 8 hour ambient concentration is then added to the product. The persistence factor is estimated using the average of the ratio of 8-hour to 1-hour concentrations from the ten highest 8-hour carbon monoxide concentrations from the most recent three years that data is available. For the project, a persistence factor of 0.77 was utilized. The data and results of the CALINE4 modeling are also provided in the appendix. (The CALINE4 CO emission results shown in the appendix do not include the ambient background CO levels.)

The future ambient (background) CO concentration levels were taken from documents posted on the SCAQMD web site (http://www.aqmd.gov/ceqa/hdbk.html accessed on October 10, 2002). The future background levels utilized are taken from the West Los Angeles Receptor Area, and they are 4.4 ppm for CO 1-hour level, and 2.8 ppm for 8-hour CO level.

Carbon Monoxide (CO) Modeling Results

The CALINE4 computer modeling results for the year 2006 are shown in Tables 11 and 12. This represents a worst-case condition because vehicle emissions are projected to be lower in future years. Except in the most extreme conditions the reduction emissions offset any increases in traffic volumes resulting in lower pollutant concentrations near intersections in future years.

CALINE4 CO modeling was performed for three intersections, Veteran at Wilshire, Westwood at Lindbrook, and Glendon and Tiverton at Lindbrook. These intersections were selected because Veteran at Wilshire has the greatest total peak hour traffic volume and has a Level of Service (LOS) D or worst in future years. Westwood at Lindbrook, and Glendon and Tiverton at Lindbrook have are the intersections with the greatest increase in traffic due to the project and experience a future LOS D or worse. Generally, local pollution concentrations are only of concern around intersections with level LOS D or worse. By modeling the intersections the highest overall concentrations at intersections around the project can be determined as well as the greatest increase due to the project. CO levels were modeled for four receptors in each corner of each intersection. The highest concentration at each intersection is reported in Tables 11 and 12.

Table 11 shows the results of the 1-hour CO concentration modeling and Table 12 shows the results of the 8-hour CO concentration modeling. The existing modeled concentrations are shown for reference in the first column of concentrations in the tables. The second column shows the modeled concentrations for the Future No Project scenario. That is, the future CO concentrations without the project. The third column shows the concentrations with the proposed project. The pollutant levels are expressed in parts per million (ppm) for each receptor. The carbon monoxide levels reported in Tables 11 and 12 are composites of the background levels of carbon monoxide coming into the area plus those generated by the local roadways.

Table 11
Worst Case Projections of 1-Hour Carbon Monoxide Concentrations-Year 2006

	1-Hour CO Concentration (ppm)		
Intersection	**Existing**	**Future No Project**	**Future With Project**
Veteran at Wilshire	11.7	8.7	8.8
Westwood at Lindbrook	9.4	7.1	7.2
Glendon & Tiverton at Lindbrook	8.8	6.6	7.6
State CO Concentration Standard	20	20	20
No. Greater Than Standard	**0**	**0**	**0**

The 1-hour CO concentrations include the ambient concentrations of 5.8 ppm for existing conditions and 4.4 ppm for future conditions.

Table 12
Worst Case Projections of 8-hour Carbon Monoxide Concentrations-Year 2006

Intersection	8-Hour CO Concentration (ppm) Existing	Future No Project	Future With Project
Veteran at Wilshire	8.1	6.1	6.2
Westwood at Lindbrook	6.4	4.9	5.0
Glendon & Tiverton at Lindbrook	5.9	4.5	5.3
State CO Concentration Standard	9	9	9
No. Greater Than Standard	**0**	**0**	**0**

The 8-hour CO concentrations include the ambient concentrations of 3.4 ppm.

Tables 11 and 12 show that none of the receptors at either intersection are projected to exceed either the 1-hour or 8-hour state CO concentration standards in the future with the project. Table 11 shows that the future 1-hour concentrations will be between 1.2 and 2.9 ppm lower than existing conditions. This is due to decreases in vehicle emissions factors in the future (as obtained from the EMFAC2000 program). The decrease at the Glendon and Tiverton at Lindbrook intersection is the lowest because this intersection goes from a LOS of C under existing conditions, to D in the future without the project, and to F with the Project. The greatest increase in future 1-hour CO concentrations due to the project is 1 ppm. This increase is at the significance threshold shown in Table 5.

Table 12 shows that in the future 8-hour concentrations will be between 0.6 and 2.0 ppm lower than existing conditions. The greatest increase in future 8-hour CO concentrations due to the project is 0.8 ppm. This increase is greater the significance threshold shown in Table 5.

Two conditions are required for a significant local air quality impact to occur. First the CO concentrations with the project must be shown to be above the 1-hour or 8-hour state standard. Second the project must significantly increase CO concentrations over future no project conditions. SCAQMD criteria considers a 1 ppm increase in the 1-hour concentration or a 0.45 ppm increase in the 8-hour standard to be significant.

Veteran at Wilshire represents the intersection with the greatest traffic volumes and lowest level of service and therefore, the greatest potential for exceedence of the CO concentrations standards. The project does not result in any receptors to exceed the state CO concentration standards and therefore the first condition is not met. Westwood at Lindbrook and Glendon and Tiverton at Lindbrook represent the intersections with the greatest addition of traffic from the project and therefore, the locations with the greatest increase in CO concentrations due to the project. At Westwood at Lindbrook increases in CO concentrations due to the project are not significant but at Glendon and Tiverton at Lindbrook the increases are at the threshold for the 1-hour averaging time and above the threshold for the 8-hour averaging time. However, the tables show that the future concentrations are projected to be well below the CO concentration standards and the first condition of significance is not satisfied. Therefore, the project does not result in a significant air quality impact.

2.4 Compliance with Air Quality Planning

The following sections deal with the major air planning requirements for this project. Specifically, consistency of the project with the AQMP is addressed. As discussed below, consistency with the AQMP is a requirement of the California Environmental Quality Act (CEQA).

2.4.1 Consistency with AQMP

An EIR must discuss any inconsistencies between the proposed project and applicable GPs and regional plans (California Environmental Quality Act (CEQA) guidelines (Section 15125)). Regional plans that apply to the proposed project include the South Coast Air Quality Management Plan (AQMP). In this regard, this section will discuss any inconsistencies between the proposed project with the AQMP.

The purpose of the consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the project would interfere with the region's ability to comply with federal and state air quality standards. If the decision-maker determine that the project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD's CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. The Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (except as provided for CO in Section 9.4 for relocating CO hot spots).

(2) Whether the project will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this report, it is expected that there will be short-term construction and long-term operational impacts for the project. While emissions will be generated in excess of SCAQMD's threshold criteria, it is unlikely that short-term construction activities will increase the frequency or severity of existing air quality violations due to required compliance with SCAQMD Rules and Regulations and the relatively small size of the project in relation to the entire Basin and Basin-wide emissions. The analysis showed that local pollutant concentrations are not projected to exceed any of the air quality standards.

The proposed project is not projected to contribute to the exceedence of any air pollutant concentration standards, thus the project is found to be consistent with the AQMP for the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the project with the assumptions in the AQMP. Thus, the emphasis of this criterion is to insure that the analyses conducted for the project are based on the same forecasts as the AQMP. The Regional Comprehensive Plan and Guide (RCP&G) consists of three sections: Core Chapters, Ancillary Chapters, and Bridge Chapters. The Growth Management, Regional Mobility, Air Quality, Water Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

Since the SCAG forecasts are not detailed, the test for consistency of this project is not specific. The AQMP assumptions are based upon projections from local general plans. Projects that are consistent with the local general plan are consistent with the AQMP assumptions. The proposed project is generally consistent with the Westwood Village Specific Plan. Therefore, the second criterion is met for consistency with the AQMP.

3.0 Mitigation Measures

3.1 Short-Term Construction Impacts

NO_x emissions associated with the demolition and excavation phases of the project were shown to exceed the threshold of significance. Further, ROG emissions associated with excavation of the project site was shown to exceed the threshold of significance.

3.1.1 Recommended Mitigation

The following are mitigation measures recommended by the SCAQMD and are intended to reduce pollutant emissions from construction activities. Note that none of these mitigation measures are strictly required but SCAQMD wants to see all relevant measures applied. The measures are presented below with a quantification of the measure, if such a quantification is possible.

AQ-1: Use low emission mobile construction equipment, where feasible. This measure is recommended, although quantification of the measure's benefits is not really possible. Emission rates are necessary to determine the emissions of any vehicle. At present, the most reliable rates that are available for construction equipment are those provided by the SCAQMD in the April 1993 CEQA Air Quality Handbook. Emissions from construction equipment can only be quantified by use of these emission rates. Because no emission rates for "low emission" mobile construction vehicles are available, the air quality benefit of the use of such equipment can not be quantified.

AQ-2: Develop a trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees. (The traffic report did not discuss AVR for construction employees). The reductions that would occur in the emissions of construction employees traveling to the construction site if the 1.5 average vehicle ridership (AVR) target were achieved will be 33% (1÷1.5=67%). The emissions reduction benefits of this measure are minimal relative to the overall construction emissions. Tables presented in Section 2.3 show that employee vehicle emissions are a very small part of the overall emissions from construction activities..

AQ-3: Water site and clean equipment morning and evening to comply with AQMP Fugitive Dust Measure BCM-03 and BCM-06. As this is not an optional mitigation measure, but a SCAQMD requirement, this reduction should be, and is, already included in the particulate emission projections in this report.

Cleaning the construction equipment is recommended despite the fact that emissions reductions from this activity can not be quantified. The CEQA Air Quality Handbook states that washing construction vehicles before they leave the site will control particulate emissions from dust blown off trucks and other equipment by 40% to 70%, but emissions from this source are not determinable to begin with.

AQ-4: Wash off trucks leaving the site to comply with AQMP Fugitive Dust Measure BCM-01. This suggested measure is already required by the SCAQMD. This measure returns to the issue of SCAQMD Rule 403 which requires the "removal of particulate matter from equipment prior to movement on paved streets" to control particulate emissions. This measure will control particulate emissions from this activity, from which the emissions are unquantifiable in the first place, by 40% to 70%.

AQ-5: Spread soil binders on site, unpaved roads and parking areas. This is not an optional mitigation measure. SCAQMD Rule 403 requires that "every reasonable precaution (is taken) to minimize fugitive dust emissions" from grading operations to control particulate emissions. The emissions reduction afforded by this measure is already included in the particulate emission projections in this report.

AQ-6: Apply chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas, which remain inactive for 96 hours). Chemical soil stabilizers will result in a 40% to 85% reduction in particulate emissions from wind erosion. The quantity of fugitive dust emissions from inactive portions of the construction site, however, is not quantifiable. Therefore, the specific quantities of emissions reductions can not be quantified.

AQ-7: Sweep streets if silt is carried over to adjacent public thoroughfares. This measure prevents emissions rather than reduces emissions. The amount of emission is unquantifiable.

AQ-8: Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less. Data to estimate emissions from vehicles traveling upon unpaved roads is unavailable, so there is no way to specifically quantify the amount of emissions reductions from this measure. A reduction in travel speeds to 15 miles per hour on unpaved road surfaces normally reduces particulate emissions from this activity by approximately 40% to 70%. This site is so small, however, that it is unlikely that travel on-site would exceed 15 mph.

AQ-9: Suspend grading operations during first and second stage smog alerts. This measure would, of course, almost entirely eliminate emissions from the heavy equipment used in grading activities. This measure would result in a complete elimination of construction emissions during these days. If the water truck continued to operate on the site approximately 21.6 lbs. of CO, 2.28 lbs. of ROG, 50.0 lbs. of NO_x, 5.4 lbs. of PM10 and 3.12 lbs. of SO_x would be emitted per day at the site.

AQ-10: Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour. This measure is very similar to the previous measure. This measure, however, is specifically intended to minimize particulate emissions rather than reduce the broad range of pollutant emissions. Note that while the particulate emissions from grading activities would be reduced by a large factor due to the suspension of grading operations, the high winds would act to increase the amount of PM10 emissions. There is no data for particulate emissions when the wind is blowing at speeds greater than 25 miles per hour.

AQ-11: Maintain construction equipment engines by keeping them tuned. This measure does not really mitigate an impact. Its purpose is to ensure that the air quality impacts that are generated by construction activities associated with the project are consistent with the impacts that are projected in the air quality report. The emissions data in the air quality report are based upon emission rates for equipment that has been properly maintained. If the actual equipment used during the project's construction is not properly maintained, the emissions produced by that equipment would exceed the projected emissions. This measure, when it is complied with, merely helps to ensure that emissions during the project's construction will not exceed the projected emissions.

AQ-12: Use low sulfur fuel for stationary construction equipment. This is already required by SCAQMD Rules 431.1 and 431.2. Unfortunately, no means of calculating the benefits of such a measure currently exist. The use of low sulfur fuel would reduce emissions of pollutants (particularly sulfur oxides) in the vicinity of the project, but by an unquantifiable amount.

AQ-13: Provide on-site power sources during the early stages of the project. This measure is recommended although its benefits are not quantifiable without specific information as to how it would be implemented. The intent of this measure is to minimize or eliminate the use of portable generators.

AQ-14: Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators. This measure overlaps with the immediately preceding and following measures. In order to quantify these measures, specific information is required, including, but not limited to, how much power would be needed, how it would be supplied in the absence of this measure, and how it would be supplied with the implementation of this measure. Without such information, quantification of the air quality benefits of these measures is not possible.

AQ-15: Use low emission on-site stationary equipment (e.g., clean fuels). As stated above, this measure overlaps with the previous measure. Information that is required to quantify the air quality benefit of this measure is not available.

AQ-16: Configure construction parking to minimize traffic interference. This measure is recommended as it appears to have been borne out of good common sense. If completely effective, this practice would entirely avoid the disruption of traffic flow. The measure seems to have been designed to avoid creating an impact rather than mitigating an impact and is, therefore, unquantifiable.

(It should be noted that Mitigation Measures 17 through 21 could be grouped together as a Traffic Management Plan).

AQ-17: Minimize obstruction of through-traffic lanes. As with the above measure, the measure seems to have been designed to avoid creating an impact rather than mitigating an impact. It is recommended to follow such a guideline, where feasible, but the quantification of the air quality benefits is not possible.

AQ-18: Provide a flagperson to properly guide traffic and ensure safety at construction sites. This measure is recommended, but is related to air quality in only a very indirect way. Its air quality benefits are indeterminable.

AQ-19: Schedule operations affecting traffic for off-peak hours, where feasible. The air quality benefits are unquantifiable for the reason that quantification would require a determination of emissions increases from traffic congestion that might occur in the absence of such a measure over conditions where there is no traffic congestion (i.e., the successful implementation of this measure). There is no method by which this task can be accomplished.

AQ-20: Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service). This is another measure aimed at avoiding the creation of an impact in the first place and is, therefore, recommended. The air quality benefits are, of course, unquantifiable.

AQ-21: Provide rideshare and transit incentives for construction personnel. The existence of incentives does not guarantee any degree of acceptance of rideshare or transit programs. There is no way to determine how successful such programs would be and it is, therefore, impossible to determine the air quality benefits of such incentives. This measure is already covered under Mitigation 2.

3.1.2 Rejected Mitigation

The following measures are recommended for consideration by the SCAQMD, but have been rejected because of inapplicability to this project or because they will have an improbable or negative impact upon construction emissions. The measures are underlined in the following paragraphs and the reasons for rejection follow each measure.

Implement or contribute to an urban tree-planting program to offset the loss of existing trees at the construction site. The idea that such a measure would have significant air quality benefits is of dubious origin. Quantification of this suggested mitigation is clearly impossible. It is, of course, not feasible to determine the air quality benefit of any trees that might exist in a particular location. The quantification of the air quality impacts of the removal of trees is similarly infeasible. Determining the air quality benefit of planting "replacement" trees is, as one would expect, infeasible also.

Schedule goods movements for off-peak hours. As with a number of the previous measures, this measure is recommended, but the air quality benefits are unquantifiable because it seeks to avoid the creation of an impact, rather than mitigate an impact.

Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between the emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak hours. If this measure is implemented, the timetable for the project's construction period would be lengthened. This would probably reduce the amount of emissions per day generated by the construction activities, but by an unquantifiable (and probably minimal) amount. The total emissions generated by the construction of the project, however, would not be reduced (and could, in fact, be increased). There is no ultimate benefit to the implementation of this measure. This measure could, in fact, have a detrimental impact upon regional air quality because lengthening construction periods will increase the likelihood that a greater number of construction projects will occur simultaneously in the basin. If this is the case, emissions per day from construction projects could be greater than under conditions where this measure is not implemented.

Require a phased schedule for construction activities to minimize emissions. This measure would, presumably, extend the construction period, which would, in turn, lessen the average daily emissions from grading activities. It is impossible to determine the air quality benefit of such a plan without specific details. Note that it is very possible that this measure could have no air quality benefit or even a negative impact on air quality. A longer construction period could cause a graded area to be left exposed to the effects of wind erosion for a longer period of time. As a result, particulate emissions generated by the project could increase overall. Also, additional fossil fuel combustion emissions would probably occur from the implementation of this measure because construction personnel would have to make more trips to the site and watering trucks would have to operate on the site for a lengthened period.

Reestablish ground cover on construction site through seeding and watering on portions of the site that will not be disturbed for lengthy periods (such as two months or more). There are no areas of the site that are not expected to be disturbed for lengthy periods. Almost the complete project area will be excavated for the subterranean parking.

3.2 Long Term Impacts

3.2.1 Regional Emissions

Recommended Measures

The most significant reductions in regional and local air pollutant emissions are attainable through programs which reduce the vehicular travel associated with the project. Support and compliance with the AQMP for the basin is the most important measure to achieve this goal. The AQMP includes improvement of mass transit facilities and implementation of vehicular usage reduction programs. Additionally, energy conservation measures are included. None of these recommended measures are strictly required by SCAQMD. However, SCAQMD wants to see all relevant measures applied.

TDM Measures

AQ-22: Schedule truck deliveries and pickups during off-peak hour. This will alleviate traffic congestion, and therefore, emissions during the peak hour. However, the quantity of the reduction is unkown. Provide adequate ingress

AQ-23: and egress at all entrances to public facilities to minimize vehicle idling at curbsides. Presumably, this measure would improve traffic flow into and out of the parking lot. The air quality benefits are incalculable because more specific data is required.

AQ-24: Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways. Again, the areas where this measure would be applicable are the intersections in and near the project area. Presumably, these measures would improve traffic flow. Emissions would drop as a result of the higher traffic speeds, but to an unknown extent.

AQ-25: Provide on-site services. Provide incentives such as on-site ATMs and other similar measures that address lifestyle needs. These measures reduce the VMT, but the air quality benefit can not be quantified because more specific data is required

Energy Efficient Measures

AQ-26: Improve thermal integrity of the buildings and reduce thermal load with automated time clocks or occupant sensors. Reducing the need to heat or cool structures by improving thermal integrity will result in a reduced expenditure of energy and a reduction in pollutant emissions. The air quality benefit depends upon the extent of the reduction of energy expenditure which is unknown in this case. The air quality benefit is also unknown, therefore.

AQ-27: Install energy efficient street lighting. Implementation of this measure is not feasible because of varying definitions of the phrase "energy efficient."

AQ-28: Capture waste heat and reemploy it in nonresidential buildings. This measure is applicable to the commercial buildings in the project.

AQ-29: Provide lighter color roofing and road materials and tree planning programs to comply with the AQMP Miscellaneous Sources MSC-01 measure. This measure reduces the need for cooling energy in the summer.

AQ-30: Comply with the AQMP Miscellaneous Sources PRC-03, and Stationary Sources Operations Enhanced Inspection and Maintenance and ADV-MISC to reduce emissions of restaurant operations. Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units. Also, incorporate appropriate passive solar design, and solar heaters. This measure is intended to reduce VOC and PM10 emissions.

AQ-31: Provide local shuttle and transit shelters, and ridematching services. This measure is recommended, but no information is available regarding its effectiveness in improving air quality. Such a program might reduce the VMT associated with the project. No evidence is available that VMT will be reduced by any significant amount, however.

AQ-32: Provide bicycle lanes, storage areas, and amenities, and ensure efficient parking management. This measure includes implementing the formation of bike clubs and providing additional bike racks, lockers, showers, bike repair areas, and loaner bikes. Also, provide lockers, showers, safe walk path maps, walk clubs and free walking shoes. These measures are necessary, but no data is available regarding the effectiveness of this package of measures. Quantification of air quality benefits is not possible because of this fact.

AQ-33: Provide preferential parking to high occupancy vehicles and shuttle services. Also, designate additional car pool or vanpool parking. The air quality benefit cannot be quantified.

AQ-34: Employers should provide variable work hours and telecommuting to employees to comply with the AQMP Advanced Transportation Technology ATT-01 and ATT-02 measures. These measures allow employees to have compressed workweeks, flextime, staggered work hours, or work out of their homes. The air quality benefit cannot be quantified.

AQ-35: Provide dedicated parking spaces with electrical outlets for electrical vehicles. This measure would accommodate electric car charging if any electric cars are driven by employees or customers. The air quality benefit depends upon the number of employees driving electric cars which is unknown in this case. The air quality benefit is also unknown.

AQ-36: Develop a trip reduction plan to comply with SCAQMD Rule 2202. SCAQMD Rule 2202 has revamped the requirements for carpooling. In general, mandatory carpooling is no longer required. Compliance with Rule 2202 will be mandatory.

AQ-37: Employers should provide ridematching, guaranteed ride home, or car pool or vanpool to employees as a part of the TDM program and to comply with the AQMP Transportation Improvements TCM-01 measure. These services reduce the VMT, however, the air quality benefit cannot be quantified because more specific data is required.

AQ-38: Employers should provide compensation, prizes or awards to ridesharers. These measures include subsidizing costs or provide compensation to employees who carpool and vanpool.

AQ-39: Synchronize traffic signals. The areas where this measure would be applicable are roadway intersections within the project area. This measure would be more effective if the roadways beyond the project limits are synchronized as well. The air quality benefits are incalculable because more specific data is required.

AQ-40: Encourage the use of alternative fuel or low emission vehicles to comply with the AQMP On-Road Mobile M2 measure, and Off-Road Mobile Sources M9 and M10 measures. The technology required for this measure is slow in progress, and may not be practically applied to the project at this time. The air quality benefits are incalculable because more specific data is required.

AQ-41: Introduce window glazing, wall insulation, and efficient ventilation methods. The construction of buildings with features that minimize energy use is already required by the Uniform Building Code.

Measures Considered but Rejected

The following non-construction measures are recommended for consideration by the SCAQMD, but have been rejected because of inapplicability to this project or because they will have an improbable or negative impact upon non-construction emissions. The measures are underlined in the following paragraphs and the reason or reasons for rejection follow each measure.

Provide incentives for solid waste recycling. The connection between solid waste recycling and air quality is a tenuous one at best. There will be no air quality benefit resulting from the encouragement or coercion to recycle solid waste. Provisions of AB 939 are still relative as a required waste reduction measure.

Implement energy conservation measures beyond state and local requirements. This measure is simply too vague to be implemented.

Use devices that minimize the combustion of fossil fuels. This is another measure that is lacking specifics, such as a definition for the terms "devices" and "minimize."

Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits. The connection between reducing water consumption and improving air quality is non-existent in the context of this analysis. A measure designed to reduce water consumption has no place in an air quality mitigation package. The assertion that such vegetation would provide "passive solar benefits" is false because drought resistant vegetation lacks both the height and the fullness to shade the building structures. No air quality benefit will occur as a result of the implementation of this measure.

3.2.2 Local Air Quality

Local pollutant concentrations are not projected to exceed any of the air quality standards. Therefore, the project does not result in a significant local air quality impact. No mitigation is required.

4.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The analysis indicates that project emissions from demolition and excavation activities will exceed the SCAQMD's Thresholds of Significance for NO_x and ROG. Mitigation will reduce emissions, but not to the point that they will fall under the SCAQMD's thresholds. Therefore, demolition and excavation emissions of NO_x and ROG will exceed the SCAQMD thresholds even after mitigation, and construction impacts will remain significant.

The analysis also indicates that emissions associated with the project during operation will exceed the SCAQMD's Thresholds of Significance for CO and NO_x. Mitigation will reduce emissions, but not to the point that they will fall under the SCAQMD's thresholds. Therefore, operation of the project will generate emissions of NO_x that will exceed the SCAQMD thresholds even after mitigation, and operational impacts will remain significant.

APPENDICES

Construction Emissions Calculation Worksheets

Operational Emissions Calculation Worksheets

CALINE4 Modeling Input and Output Files

CONSTRUCTION EMISSIONS

Includes 1993 CEQA AQ Handbook Data

Project: Palazo Westwood
Case Existing Building Demoliton

Construction Employee Travel Emissions

Number of Employees on Construction Site:	*15*
Average Trip Length for Employee Travel to Site:	*20*
Year:	*2002*

	CO	ROG	NOx	PM10	SOx
Employee Travel Emissions (lbs./dy	18.76	1.27	2.19	0.10	0.07
Emission Factorsfrom EMFAC2000					
gm/mi	12.10	0.81	1.58	0.07	0.05
gm/trip	41.63	3.04	1.37	0.02	0

Truck Emissions

Number Daily Truck Trips:	*40*
Average One Way Trip Length:	*25*
Year:	*2002*

	CO	ROG	NOx	PM10	SOx
Truck Emissions (lbs./dy)	21.20	6.70	70.75	3.03	1.32
Heavy Truck Emission Factors From EMFAC2000					
gm/mile	4.81	1.52	16.05	0.69	0.30

Particulate Emissions from Grading Activities

Input Data	
Project Size (in acres):	*4.2*
Assumptions	
PM10 Emissions (in lbs/day/acre):	26.40
Watering Reduction:	50%
Results	
Emissions (tons/day):	0.03
Emissions (pounds/day):	55

Source: Page 9-3 of 1993 CEQA Handbook

Particulate Emissions from Demolition

Input Data	
Building Volume (ft³)	*1,013,280*
Duration of Demolition (Days)	*30*
Assumptions	
PM10 Emissions (in lbs/ft³):	0.00042
Results	
Total Emissions (in tons):	0.21
Total Emissions (in lbs):	426
Emissions (in tons/day):	0.01
Emissions (in lbs/day):	14

PM10 Emission Source: Page A9-104 (Table A9-10) of 199

Emissions from Grading Equipment

Hours/Day of Activity: *10*

Enter number of pieces for each type of equipment:			Daily Emissions (lbs./day)				
			3	4	5	6	7
3	Tracklaying Tractor	*3*	10.50	3.60	37.80	3.36	4.20
2	Loader	*2*	11.44	4.60	38.00	0.60	3.40
7	Miscellaneous	*1*	6.75	0.15	17.00	1.40	1.43
6	Water Truck	*1*	18.00	1.90	41.70	4.50	2.60
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
			CO	ROG	NOx	PM10	SOx
Grading Equipment Emissions (lbs./			46.69	10.25	134.50	9.86	11.63

TOTAL CONSTRUCTION EMISSIONS

	CO	ROG	NOx	PM10	SOx
Total Emissions (lbs./day)	**86.65**	**18.22**	**207.44**	**68.43**	**13.02**

CONSTRUCTION EMISSIONS
Includes 1993 CEQA AQ Handbook Data

Project: Palazzo westwood
Case Excavation

Construction Employee Travel Emissions

Number of Employees on Construction Site:	***20***
Average Trip Length for Employee Travel to Site:	***20***
Year:	***2002***

	CO	ROG	NOx	PM10	SOx
Employee Travel Emissions (lbs./dy)	25.01	1.70	2.91	0.13	0.09
Emission Factorsfrom EMFAC2000					
gm/mi	12.10	0.81	1.58	0.07	0.05
gm/trip	41.63	3.04	1.37	0.02	0

Truck Emissions

Number Daily Truck Trips:	***320***	
Average One Way Trip Length:	***30***	Terminal Island
Year:	***2002***	

	CO	ROG	NOx	PM10	SOx
Truck Emissions (lbs./dy)	203.56	64.34	679.24	29.08	12.70
Heavy Truck Emission Factors From EMFAC2000					
gm/mile	4.81	1.52	16.05	0.69	0.30

Particulate Emissions from Grading Activities

Input Data	
Project Size (in acres):	***4.2***
Assumptions	
PM10 Emissions (in lbs/day/acre):	26.40
Watering Reduction:	50%
Results	
Emissions (tons/day):	0.03
Emissions (pounds/day):	55

Source: Page 9-3 of 1993 CEQA Handbook

Particulate Emissions from Material Handling

Input Data	**Dirt**
Materials (tons/day):	***38.7***
Moisture Content (%):	15.0%
Mean Wind Speed (mph):	12
Assumptions	
PM10 Emissions (in lbs/ton):	0.13
Results	
Emissions (tons/day):	0.00
Emissions (pounds/day):	5

Source: Table 9-9-G (page A9-101) of 1993 CEQA Handbo

Emissions from Grading Equipment

Hours/Day of Activity: ***10***

Enter number of pieces for each type of equipment: Daily Emissions (lbs./day)

ID	Type	No.	CO	ROG	NOx	PM10	SOx
3	Tracklaying Tractor	***4***	14.00	4.80	50.40	4.48	5.60
9	Backhoe	***2***	23.70	4.74	34.76	1.58	3.16
6	Water Truck	***1***	18.00	1.90	41.70	4.50	2.60
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00

	CO	ROG	NOx	PM10	SOx
Grading Equipment Emissions (lbs./	55.700	11.440	126.860	10.560	11.360

TOTAL CONSTRUCTION EMISSIONS

	CO	ROG	NOx	PM10	SOx
Total Emissions (lbs./day)	**284.27**	**77.48**	**809.02**	**100.29**	**24.15**

CONSTRUCTION EMISSIONS
Includes 1993 CEQA AQ Handbook Data

Project: Palazzo westwood
Case Excavation

Construction Employee Travel Emissions

Number of Employees on Construction Site:	*20*
Average Trip Length for Employee Travel to Site:	*20*
Year:	*2006*

	CO	ROG	NOx	PM10	SOx
Employee Travel Emissions (lbs./dy	25.01	1.70	2.91	0.13	0.09
Emission Factorsfrom EMFAC2000					
gm/mi	12.10	0.81	1.58	0.07	0.05
gm/trip	41.63	3.04	1.37	0.02	0

Truck Emissions

Number Daily Truck Trips:	*320*	
Average One Way Trip Length:	*10*	Playa Vista
Year:	*2006*	

	CO	ROG	NOx	PM10	SOx
Truck Emissions (lbs./dy)	67.85	21.45	226.41	9.69	4.23
Heavy Truck Emission Factors From EMFAC2000					
gm/mile	4.81	1.52	16.05	0.69	0.30

Particulate Emissions from Grading Activities

Input Data	
Project Size (in acres):	*4.2*
Assumptions	
PM10 Emissions (in lbs/day/acre):	26.40
Watering Reduction:	50%
Results	
Emissions (tons/day):	0.03
Emissions (pounds/day):	55

Source: Page 9-3 of 1993 CEQA Handbook

Particulate Emissions from Material Handling

Input Data	**Dirt**
Materials (tons/day):	*38.7*
Moisture Content (%):	6.0%
Mean Wind Speed (mph):	12
Assumptions	
PM10 Emissions (in lbs/ton):	0.47
Results	
Emissions (tons/day):	0.01
Emissions (pounds/day):	18

Source: Table 9-9-G (page A9-101) of 1993 CEQA Handbc

Emissions from Grading Equipment

Hours/Day of Activity: *10*

Enter number of pieces for each type of equipment:					Daily Emissions (lbs./day)		
ID	Type	No.	CO	ROG	NOx	PM10	SOx
3	Tracklaying Tractor	*4*	14.00	4.80	50.40	4.48	5.60
9	Backhoe	*2*	23.70	4.74	34.76	1.58	3.16
6	Water Truck	*1*	18.00	1.90	41.70	4.50	2.60
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00
		0	0.00	0.00	0.00	0.00	0.00

	CO	ROG	NOx	PM10	SOx
Grading Equipment Emissions (lbs./	55.700	11.440	126.860	10.560	11.360

TOTAL CONSTRUCTION EMISSIONS

	CO	ROG	NOx	PM10	SOx
Total Emissions (lbs./day)	**148.56**	**34.58**	**356.19**	**94.15**	**15.68**

*********** AIR EMISSIONS ************

Revision 7/95 (includes 1993 CEQA Air Quality Handbook Update)

Project: Palazzo Westwood-Existing Uses
Study Year: *2020*
Area: *1*

(enter in italics only)
(Enter 1 for Orange County, 2 for Los Angeles County,
3 for Riverside County, or 4 for San Bernardino County)

************ Vehicular Emissions***

Emission Factor Source: EMFAC2000 v2.02

Speed (mph)= 25
Number of Trips= *2,229*
Average Trip Length= *9.0*
Vehicle Miles Traveled= *20,061*

Pollutant	CO	ROG	NOx	PM10	SOx
Factor (gm/mi)	*3.39*	*0.22*	*0.64*	*0.07*	0.29
Emis. (Lb/Dy)	149.92	9.91	28.24	3.16	12.83
Emis. (Tn/Dy)	0.07	0.00	0.01	0.00	0.01
Factor (gm/trip)	*12.46*	*0.79*	*0.43*	*0.02*	0.00
Emis. (Lb/Dy)	61.21	3.88	2.09	0.11	0.00
Emis. (Tn/Dy)	0.03	0.00	0.00	0.00	0.00
Total Vehicular Emissions (Lb/Dy)	211.13	13.79	30.34	3.27	12.83
Total Vehicular Emissions(Tn/Dy)	0.11	0.01	0.02	0.00	0.01

************ ON SITE EMISSIONS DUE TO NATURAL GAS COMBUSTION***

Source: April 1993 CEQA Hand Handbook

Unit Type	Ft3/DU/Mo.	DU or Ft2*	Gas Use (Ft3/Day)	
Single Fam.	6665	*0*	0	
Mult. Fam. <=4	4105	*0*	0	
Mult. Fam. >=5	3918	*42*	5,395	
	Ft3/Ft2/Mo.		5,395	Subtotal for Residential
Office	2	*0*	0	
Retail	2.9	*36,400*	3,461	
Hotel/Motel	4.8	*0*	0	
	Ft3/Customer/Mo.	Custumers/Mo.	3,461	Subtotal for Retail/Commercial
Industrial	2936.6	*0*	0	
			0	Subtotal for Industrial
	Total (Ft2)	36,400	8,856	Total

Pollutant	CO	ROG	NOx	PM10	SOx
Factor (lbs/10^6 ft3)	20	5.3	0.7	0.2	0
Emis. (Lb/Dy)	0.18	0.05	0.85	0.00	0.00
Emis. (Tn/Dy)	0.00	0.00	0.00	0.00	0.00

************ OFF SITE EMISSIONS DUE ELECTRICAL GENERATION***

Source: April 1993 CEQA Hand Handbook

Unit Type	SCE KWH/Unit/Yr	LADWP KWH/Unit/Yr	Number of Units or Ft2	Electrical Use (KWH/Day)	
Residential	6081	5172	*42*	700	
	KWH/Ft2/Yr.	KWH/Ft2/Yr.			
Office	8.8	17.1	*0*	0	
Restaurant	47.3	47.6	*0*	0	
Retail	11.8	15.3	*36,400*	1,177	429520
Food Store	51.4	55.2	*0*	0	
Warehouse	3.4	5.3	*0*	0	
Elementary School	6.3	5.5	*0*	0	
College	11.6	11.5	*0*	0	
Hospital	17.9	25.5	*0*	0	
Hotel/Motel	6.8	13.1	*0*	0	
Miscellaneous	8.8	12.2	*0*	0	
	KVA	Hours			
Direct Usage	0	0		0	
		Total (Ft2)	36,400	1,876	Total

Contaminant	CO	ROG	NOx	PM10	SOx
Factor (lbs/MWH)	0.2	0.01	1.15	0.04	0.12
Emis. (Lb/Dy)	0.38	0.02	2.16	0.08	0.23
Emis. (Tn/Dy)	0.00	0.00	0.00	0.00	0.00

************** TOTAL EMISSIONS *************

Contaminant	CO	ROG	NOx	PM10	SOx
Emis. (Lb/Dy)	211.68	13.85	33.34	3.35	13.05
Emis. (Tn/Dy)	0.11	0.01	0.02	0.00	0.01
2010 SCAB (Tn/Dy)	3341.00	769.00	697.00	457.00	70.00
Percent Regional	0.003%	0.001%	0.002%	0.0004%	0.009%

	CO	ROG	NOx	PM10	SOx
Vehicular Emissions (lbs/da	211.1	13.8	30.3	3.3	12.8
Natural Gas Consumption (l	0.2	0.0	0.8	0.0	0.0
Electrical Generation (lbs/da	0.4	0.0	2.2	0.1	0.2
Total Project Emissions (lbs.	211.7	13.9	33.3	3.3	13.1
SCQAMD Thresholds	550.0	55.0	55.0	150.0	150.0
Total Project Emissions (ton	0.11	0.007	0.02	0.002	0.01
2010 SCAB (Tn/Dy)	3341.00	769.00	697.00	457.00	70.00
Percent Regional	0.003%	0.001%	0.002%	0.0004%	0.009%

********* **AIR EMISSIONS** **********

Revision 7/95 (includes 1993 CEQA Air Quality Handbook Update)

Project: Palazzo Westwood Supermarket
Study Year: ***2020***
Area: ***1***

(enter in italics only)
(Enter 1 for Orange County, 2 for Los Angeles County,
3 for Riverside County, or 4 for San Bernardino County)

********* ***Vehicular Emissions***

Emission Factor Source: EMFAC2000 v2.02

Speed (mph)= 25
Number of Trips= ***8,040***
Average Trip Length= *9.0*
Vehicle Miles Traveled= ***72,360***

Pollutant	CO	ROG	NOx	PM10	SOx
Factor (gm/mi)	***3.39***	***0.22***	***0.64***	***0.07***	0.29
Emis. (Lb/Dy)	540.76	35.73	101.87	11.40	46.26
Emis. (Tn/Dy)	0.27	0.02	0.05	0.01	0.02
Factor (gm/trip)	***12.46***	***0.79***	***0.43***	***0.02***	0.00
Emis. (Lb/Dy)	220.79	13.99	7.55	0.40	0.00
Emis. (Tn/Dy)	0.11	0.01	0.00	0.00	0.00
Total Vehicular Emissions (Lb/Dy)	761.55	49.73	109.42	11.80	46.26
Total Vehicular Emissions(Tn/Dy)	0.38	0.02	0.05	0.01	0.02

********* ***ON SITE EMISSIONS DUE TO NATURAL GAS COMBUSTION***

Source: April 1993 CEQA Hand Handbook

Unit Type	Ft3/DU/Mo.	DU or Ft2*	Gas Use (Ft3/Day)	
Single Fam.	6665	***0***	0	
Mult. Fam. <=4	4105	***0***	0	
Mult. Fam. >=5	3918	***350***	44,961	
	Ft3/Ft2/Mo.		44,961	Subtotal for Residential
Office	2	***0***	0	
Retail	2.9	***115,000***	10,934	
Hotel/Motel	4.8	***0***	0	
	Ft3/Customer/Mo.	Custumers/Mo.	10,934	Subtotal for Retail/Commercial
Industrial	2936.6	***0***	0	
			0	Subtotal for Industrial
	Total (Ft2)	115,000	55,895	Total

Pollutant	CO	ROG	NOx	PM10	SOx
Factor (lbs/10^6 ft3)	20	5.3	0.7	0.2	0
Emis. (Lb/Dy)	1.12	0.30	4.91	0.01	0.00
Emis. (Tn/Dy)	0.00	0.00	0.00	0.00	0.00

********** ***OFF SITE EMISSIONS DUE ELECTRICAL GENERATION***

Source: April 1993 CEQA Hand Handbook

Unit Type	SCE KWH/Unit/Yr	LADWP KWH/Unit/Yr	Number of Units or Ft2	Electrical Use (KWH/Day)		
Residential	6081	5172	***350***	5,831		
	KWH/Ft2/Yr.	KWH/Ft2/Yr.				
Office	8.8	17.1	***0***	0		
Restaurant	47.3	47.6	***0***	0		
Retail	11.8	15.3	***61,000***	1,972		719800
Food Store	51.4	55.2	***54,000***	7,604		
Warehouse	3.4	5.3	***0***	0		
Elementary School	6.3	5.5	***0***	0		
College	11.6	11.5	***0***	0		
Hospital	17.9	25.5	***0***	0		
Hotel/Motel	6.8	13.1	***0***	0		
Miscellaneous	8.8	12.2	***0***	0		
	KVA	Hours				
Direct Usage	0	0		0		
		Total (Ft2)	115,000	15,408	Total	

Contaminant	CO	ROG	NOx	PM10	SOx
Factor (lbs/MWH)	0.2	0.01	1.15	0.04	0.12
Emis. (Lb/Dy)	3.08	0.15	17.72	0.62	1.85
Emis. (Tn/Dy)	0.00	0.00	0.01	0.00	0.00

*********** ***TOTAL EMISSIONS*** **********

Contaminant	CO	ROG	NOx	PM10	SOx
Emis. (Lb/Dy)	765.75	50.18	132.05	12.43	48.11
Emis. (Tn/Dy)	0.38	0.03	0.07	0.01	0.02
2010 SCAB (Tn/Dy)	3341.00	769.00	697.00	457.00	70.00
Percent Regional	0.011%	0.003%	0.009%	0.0014%	0.034%

	CO	ROG	NOx	PM10	SOx
Vehicular Emissions (lbs/da	761.6	49.7	109.4	11.8	46.3
Natural Gas Consumption (l	1.1	0.3	4.9	0.0	0.0
Electrical Generation (lbs/da	3.1	0.2	17.7	0.6	1.8
Total Project Emissions (lbs/	765.8	50.2	132.0	12.4	48.1

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB: Existing Conditions (2001)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


   I.  SITE VARIABLES

        U=    .5 M/S             Z0= 100. CM            ALT=      0. (M)
      BRG= WORST CASE            VD=    .0 CM/S
     CLAS=      6 (F)            VS=    .0 CM/S
     MIXH= 1000. M              AMB=    .0 PPM
    SIGTH=   10. DEGREES       TEMP= 10.0 DEGREE (C)


  II.  LINK VARIABLES

      LINK       *  LINK COORDINATES (M)     *               EF      H      W
   DESCRIPTION   *   X1     Y1     X2     Y2 * TYPE  VPH  (G/MI)   (M)    (M)
 ----------------*---------------------------*-------------------------------
 A. LindE        *  1792   1262   1902   1298 *  AG    885  12.0      .0  25.0
 B. LindW        *  1902   1298   2682   1561 *  AG    671  12.0      .0  25.0
 C. WestN2       *  1841   1756   1841   1396 *  AG   2183  12.0      .0  25.0
 D. WestN1       *  1841   1396   1902   1298 *  AG   2183  12.0      .0  25.0
 E. WestS1       *  1902   1298   1975   1195 *  AG   2469  12.0      .0  25.0
 F. WestS2       *  1975   1195   2195    899 *  AG   2469  12.0      .0  25.0
 G. WestS3       *  2195    899   2633    232 *  AG   2469  12.0      .0  25.0
 H. WilshE2      *  1097    744   1463   1024 *  AG   5944  17.8      .0  32.0
 I. WilshE1      *  1463   1024   1622   1067 *  AG   5944  17.8      .0  32.0
 J. WilshW1      *  1622   1067   1975   1195 *  AG   7220  17.8      .0  32.0
 K. WilshW2      *  1975   1195   2902   1506 *  AG   7220  17.8      .0  32.0
 L. VetrN        *  1000   1951   1622   1067 *  AG   2256  17.8      .0  21.0
 M. VetrS        *  1622   1067   2340    122 *  AG   1620  17.8      .0  21.0


 III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
   RECEPTOR   *    X        Y       Z
 -------------*---------------------
 1. Rec1      *   1887     1254    1.5
 2. Rec2      *   1918     1343    1.5
 3. Rec3      *   1845     1319    1.5
 4. Rec4      *   1962     1279    1.5
 5. Rec5      *   1612     1022    1.5
 6. Rec6      *   1632     1114    1.5
 7. Rec7      *   1560     1093    1.5
 8. Rec8      *   1683     1045    1.5
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB: Existing Conditions (2001)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

               *        * PRED  *                 CONC/LINK
               *  BRG   * CONC  *                   (PPM)
  RECEPTOR     * (DEG)  * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*---------------------------------------
  1. Rec1      *   88. *   3.5 *  .0   .0   .0   .0   .8   .0   .0   .0
  2. Rec2      *  228. *   3.0 *  .4   .0   .0   .7   .0   .0   .0   .3
  3. Rec3      *  135. *   3.2 *  .3   .0   .0   .0   .6   .8   .2   .0
  4. Rec4      *  233. *   3.6 *  .0   .0   .0   .0   .8   .0   .0   .3
  5. Rec5      *   60. *   5.8 *  .0   .1   .0   .0   .2   .0   .0   .0
  6. Rec6      *  237. *   5.9 *  .0   .0   .0   .0   .0   .0   .0  2.2
  7. Rec7      *   82. *   5.6 *  .0   .0   .0   .0   .0   .2   .0   .0
  8. Rec8      *   59. *   4.7 *  .0   .1   .0   .0   .2   .0   .0   .0


               *        CONC/LINK
               *          (PPM)
  RECEPTOR     *   I    J    K    L    M
 -------------*-------------------------
  1. Rec1      *   .0   .0  2.6   .0   .0
  2. Rec2      *   .6   .6   .0   .2   .0
  3. Rec3      *   .0   .8   .5   .0   .0
  4. Rec4      *   .3  2.1   .0   .0   .2
  5. Rec5      *   .0  3.7   .9   .0   .8
  6. Rec6      *  2.6   .0   .0  1.1   .0
  7. Rec7      *   .0  3.5   .7  1.1   .0
  8. Rec8      *   .0  3.3  1.1   .0   .0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB: Future No Project (2006)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


  I.  SITE VARIABLES

        U=    .5 M/S            Z0= 100. CM            ALT=     0. (M)
      BRG= WORST CASE           VD=    .0 CM/S
     CLAS=     6 (F)            VS=    .0 CM/S
     MIXH= 1000. M             AMB=    .0 PPM
    SIGTH=   10. DEGREES      TEMP= 10.0 DEGREE (C)


 II.  LINK VARIABLES

     LINK        *  LINK COORDINATES (M)   *                EF     H     W
  DESCRIPTION    *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
-----------------*-------------------------*-----------------------------
A. LindE         *  1792  1262  1902  1298 *  AG   1064    8.4     .0  25.0
B. LindW         *  1902  1298  2682  1561 *  AG    726    8.4     .0  25.0
C. WestN2        *  1841  1756  1841  1396 *  AG   2638    8.4     .0  25.0
D. WestN1        *  1841  1396  1902  1298 *  AG   2638    8.4     .0  25.0
E. WestS1        *  1902  1298  1975  1195 *  AG   3062    8.4     .0  25.0
F. WestS2        *  1975  1195  2195   899 *  AG   3062    8.4     .0  25.0
G. WestS3        *  2195   899  2633   232 *  AG   3062    8.4     .0  25.0
H. WilshE2       *  1097   744  1463  1024 *  AG   6823   11.8     .0  32.0
I. WilshE1       *  1463  1024  1622  1067 *  AG   6823   11.8     .0  32.0
J. WilshW1       *  1622  1067  1975  1195 *  AG   8359   11.8     .0  32.0
K. WilshW2       *  1975  1195  2902  1506 *  AG   8359   11.8     .0  32.0
L. VetrN         *  1000  1951  1622  1067 *  AG   2695   11.8     .0  21.0
M. VetrS         *  1622  1067  2340   122 *  AG   1775   11.8     .0  21.0


III.  RECEPTOR LOCATIONS

               *    COORDINATES (M)
  RECEPTOR     *    X       Y      Z
---------------*--------------------
1. Rec1        *  1887    1254    1.5
2. Rec2        *  1918    1343    1.5
3. Rec3        *  1845    1319    1.5
4. Rec4        *  1962    1279    1.5
5. Rec5        *  1612    1022    1.5
6. Rec6        *  1632    1114    1.5
7. Rec7        *  1560    1093    1.5
8. Rec8        *  1683    1045    1.5
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   2

               JOB: Future No Project (2006)
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *        * PRED  *                CONC/LINK
             *  BRG   * CONC  *                  (PPM)
  RECEPTOR   * (DEG)  * (PPM) *   A    B    C    D    E    F    G    H
-------------*--------*-------*----------------------------------------
 1. Rec1     *   88.  *   2.6 *   .0   .0   .0   .0   .7   .0   .0   .0
 2. Rec2     *  228.  *   2.3 *   .3   .0   .0   .6   .0   .0   .0   .2
 3. Rec3     *  135.  *   2.5 *   .3   .0   .0   .0   .5   .7   .2   .0
 4. Rec4     *  233.  *   2.7 *   .0   .0   .0   .0   .7   .0   .0   .2
 5. Rec5     *   60.  *   4.3 *   .0   .1   .0   .0   .2   .0   .0   .0
 6. Rec6     *  237.  *   4.3 *   .0   .0   .0   .0   .0   .0   .0  1.6
 7. Rec7     *   82.  *   4.2 *   .0   .0   .0   .0   .0   .2   .0   .0
 8. Rec8     *   59.  *   3.5 *   .0   .1   .0   .0   .2   .0   .0   .0


             *        CONC/LINK
             *          (PPM)
  RECEPTOR   *   I    J    K    L    M
-------------*------------------------
 1. Rec1     *   .0   .0  1.9   .0   .0
 2. Rec2     *   .5   .5   .0   .1   .0
 3. Rec3     *   .0   .6   .4   .0   .0
 4. Rec4     *   .2  1.5   .0   .0   .1
 5. Rec5     *   .0  2.7   .6   .0   .6
 6. Rec6     *  1.9   .0   .0   .9   .0
 7. Rec7     *   .0  2.5   .5   .9   .0
 8. Rec8     *   .0  2.4   .8   .0   .0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                     JUNE 1989 VERSION
                     PAGE   1

              JOB: Future w/ Supermarket Proj (2006)
              RUN:                  (WORST CASE ANGLE)
         POLLUTANT:  Carbon Monoxide


   I.  SITE VARIABLES

         U=    .5 M/S              Z0= 100. CM            ALT=      0. (M)
       BRG= WORST CASE             VD=   .0 CM/S
      CLAS=     6 (F)              VS=   .0 CM/S
      MIXH= 1000. M               AMB=   .0 PPM
     SIGTH=   10. DEGREES        TEMP= 10.0 DEGREE (C)


  II.  LINK VARIABLES

      LINK       *  LINK COORDINATES (M)   *                 EF     H     W
   DESCRIPTION   *  X1     Y1     X2     Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*-----------------------------
 A. LindE        *  1792   1262   1902   1298 *  AG   1139    8.4     .0  25.0
 B. LindW        *  1902   1298   2682   1561 *  AG    739    8.4     .0  25.0
 C. WestN2       *  1841   1756   1841   1396 *  AG   2713    8.4     .0  25.0
 D. WestN1       *  1841   1396   1902   1298 *  AG   2713    8.4     .0  25.0
 E. WestS1       *  1902   1298   1975   1195 *  AG   3191    8.4     .0  25.0
 F. WestS2       *  1975   1195   2195    899 *  AG   3191    8.4     .0  25.0
 G. WestS3       *  2195    899   2633    232 *  AG   3191    8.4     .0  25.0
 H. WilshE2      *  1097    744   1463   1024 *  AG   6944   11.8     .0  32.0
 I. WilshE1      *  1463   1024   1622   1067 *  AG   6944   11.8     .0  32.0
 J. WilshW1      *  1622   1067   1975   1195 *  AG   8494   11.8     .0  32.0
 K. WilshW2      *  1975   1195   2902   1506 *  AG   8494   11.8     .0  32.0
 L. VetrN        *  1000   1951   1622   1067 *  AG   2728   11.8     .0  21.0
 M. VetrS        *  1622   1067   2340    122 *  AG   1794   11.8     .0  21.0


 III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
  RECEPTOR   *    X        Y       Z
 ------------*---------------------
 1. Rec1     *   1887    1254    1.5
 2. Rec2     *   1918    1343    1.5
 3. Rec3     *   1845    1319    1.5
 4. Rec4     *   1962    1279    1.5
 5. Rec5     *   1612    1022    1.5
 6. Rec6     *   1632    1114    1.5
 7. Rec7     *   1560    1093    1.5
 8. Rec8     *   1683    1045    1.5
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   2

               JOB: Future w/ Supermarket Proj (2006)
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

                *       * PRED  *                CONC/LINK
                *  BRG  * CONC  *                  (PPM)
  RECEPTOR      * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. Rec1       *   88. *   2.7 *   .0   .0   .0   .0   .7   .0   .0   .0
  2. Rec2       *  228. *   2.3 *   .3   .0   .0   .6   .0   .0   .0   .2
  3. Rec3       *  135. *   2.6 *   .3   .0   .0   .0   .5   .7   .2   .0
  4. Rec4       *  233. *   2.8 *   .0   .0   .0   .0   .7   .0   .0   .2
  5. Rec5       *   60. *   4.3 *   .0   .1   .0   .0   .2   .0   .0   .0
  6. Rec6       *  237. *   4.4 *   .0   .0   .0   .0   .0   .0   .0  1.6
  7. Rec7       *   82. *   4.2 *   .0   .0   .0   .0   .0   .2   .0   .0
  8. Rec8       *   59. *   3.5 *   .0   .1   .0   .0   .2   .0   .0   .0


                *        CONC/LINK
                *          (PPM)
  RECEPTOR      *   I    J    K    L    M
 -------------*-------------------------
  1. Rec1       *   .0   .0  1.9   .0   .0
  2. Rec2       *   .5   .5   .0   .1   .0
  3. Rec3       *   .0   .6   .4   .0   .0
  4. Rec4       *   .2  1.5   .0   .0   .1
  5. Rec5       *   .0  2.8   .6   .0   .6
  6. Rec6       *  1.9   .0   .0   .9   .0
  7. Rec7       *   .0  2.6   .5   .9   .0
  8. Rec8       *   .0  2.4   .8   .0   .0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB: Existing Conditions (2001)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


  I.  SITE VARIABLES

         U=    .5 M/S             Z0= 100. CM           ALT=     0. (FT)
       BRG= WORST CASE            VD=   .0 CM/S
      CLAS=     6 (F)             VS=   .0 CM/S
      MIXH= 1000. M              AMB=   .0 PPM
     SIGTH=   10. DEGREES       TEMP= 10.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (FT)  *             EF      H     W
   DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (FT)  (FT)
----------------*-------------------------*------------------------------
A. LindW        *  -944  -297     0     0 *  AG   1177  13.3     .0  80.0
B. LindE1       *     0     0  1210   420 *  AG   1678  13.3     .0  80.0
C. LindE2       *  1210   420  3489  1078 *  AG   1678  13.3     .0  80.0
D. NGlen2       *  -303  1299  -475   497 *  AG    625  13.3     .0  80.0
E. NGlen1       *  -475   497     0     0 *  AG    625  13.3     .0  80.0
F. Sglen        *     0     0   356  -466 *  AG   1129  13.3     .0  80.0
G. NTiv2        *   491  2200   275  1261 *  AG    257  13.3     .0  40.0
H. NTiv1        *   275  1261    73    25 *  AG    257  13.3     .0  40.0


III.  RECEPTOR LOCATIONS

            *    COORDINATES (FT)
  RECEPTOR  *    X      Y      Z
------------*---------------------
1. Rec1     *    -93     24   5.0
2. Rec2     *     14     58   5.0
3. Rec3     *     49     70   5.0
4. Rec4     *    115     93   5.0
5. Rec5     *     83    -25   5.0
6. Rec6     *    -19    -59   5.0
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   2

               JOB: Existing Conditions (2001)
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

               *        * PRED   *                CONC/LINK
               *  BRG   * CONC   *                  (PPM)
  RECEPTOR     * (DEG)  * (PPM)  *   A    B    C    D    E    F    G    H
 -------------*--------*--------*----------------------------------------
 1. Rec1       *   78.  *    2.7 *   .1  1.8   .3   .0   .4   .0   .0   .0
 2. Rec2       *   78.  *    2.5 *   .0  2.1   .3   .0   .0   .0   .0   .1
 3. Rec3       *   78.  *    2.6 *   .0  2.1   .3   .0   .0   .0   .0   .2
 4. Rec4       *   78.  *    2.4 *   .0  2.1   .3   .0   .0   .0   .0   .0
 5. Rec5       *  262.  *    2.3 *  1.3   .3   .0   .0   .0   .7   .0   .0
 6. Rec6       *   65.  *    3.0 *   .0  2.0   .3   .0   .0   .7   .0   .0
```

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           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: Future No Project (2006)
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT:  Carbon Monoxide


   I.  SITE VARIABLES

        U=     .5 M/S              Z0= 100. CM              ALT=      0. (FT)
      BRG= WORST CASE              VD=    .0 CM/S
     CLAS=      6 (F)              VS=    .0 CM/S
     MIXH= 1000. M                AMB=    .0 PPM
    SIGTH=    10. DEGREES        TEMP= 10.0 DEGREE (C)


  II.  LINK VARIABLES

      LINK       *  LINK COORDINATES (FT)  *                EF      H     W
   DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (FT)  (FT)
  ---------------*-------------------------*------------------------------
  A. LindW       *  -944  -297     0     0 *  AG   1389   8.4     .0  80.0
  B. LindE1      *     0     0  1210   420 *  AG   1960   8.4     .0  80.0
  C. LindE2      *  1210   420  3489  1078 *  AG   1960   8.4     .0  80.0
  D. NGlen2      *  -303  1299  -475   497 *  AG    756   8.4     .0  80.0
  E. NGlen1      *  -475   497     0     0 *  AG    756   8.4     .0  80.0
  F. Sglen       *     0     0   356  -466 *  AG   1291   8.4     .0  80.0
  G. NTiv2       *   491  2200   275  1261 *  AG    270   8.4     .0  40.0
  H. NTiv1       *   275  1261    73    25 *  AG    270   8.4     .0  40.0


  III.  RECEPTOR LOCATIONS

               *    COORDINATES (FT)
   RECEPTOR    *    X       Y      Z
  -------------*---------------------
  1. Rec1      *   -93      24    5.0
  2. Rec2      *    14      58    5.0
  3. Rec3      *    49      70    5.0
  4. Rec4      *   115      93    5.0
  5. Rec5      *    83     -25    5.0
  6. Rec6      *   -19     -59    5.0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB: Future No Project (2006)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

               *        * PRED   *                  CONC/LINK
               *  BRG   * CONC   *                    (PPM)
  RECEPTOR     * (DEG)  * (PPM)  *   A    B    C    D    E    F    G    H
 -------------*--------*--------*-------------------------------------------
  1. Rec1      *   78. *    1.9 *   .0  1.3   .2   .0   .3   .0   .0   .0
  2. Rec2      *   78. *    1.8 *   .0  1.5   .2   .0   .0   .0   .0   .0
  3. Rec3      *   78. *    1.9 *   .0  1.5   .2   .0   .0   .0   .0   .1
  4. Rec4      *   78. *    1.7 *   .0  1.5   .2   .0   .0   .0   .0   .0
  5. Rec5      *  263. *    1.7 *   .9   .2   .0   .0   .0   .5   .0   .0
  6. Rec6      *   65. *    2.2 *   .0  1.5   .2   .0   .0   .5   .0   .0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB: Future w/ Supermarket Proj (2006)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


   I.  SITE VARIABLES

         U=     .5 M/S               Z0= 100. CM            ALT=      0. (FT)
       BRG= WORST CASE               VD=    .0 CM/S
      CLAS=      6 (F)               VS=    .0 CM/S
      MIXH= 1000. M                 AMB=    .0 PPM
     SIGTH=    10. DEGREES         TEMP= 10.0 DEGREE (C)


  II.  LINK VARIABLES

      LINK       *  LINK COORDINATES (FT)  *                 EF     H     W
   DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (FT)  (FT)
 ----------------*-------------------------*------------------------------
 A. LindW        *  -944  -297     0     0 *  AG   1504  11.8     .0  80.0
 B. LindE1       *     0     0  1210   420 *  AG   2016  11.8     .0  80.0
 C. LindE2       *  1210   420  3489  1078 *  AG   2016  11.8     .0  80.0
 D. NGlen2       *  -303  1299  -475   497 *  AG    981  11.8     .0  80.0
 E. NGlen1       *  -475   497     0     0 *  AG    981  11.8     .0  80.0
 F. Sglen        *     0     0   356  -466 *  AG   1485  11.8     .0  80.0
 G. NTiv2        *   491  2200   275  1261 *  AG    358  11.8     .0  40.0
 H. NTiv1        *   275  1261    73    25 *  AG    358  11.8     .0  40.0


 III.  RECEPTOR LOCATIONS

              *    COORDINATES (FT)
   RECEPTOR   *    X       Y      Z
 -------------*---------------------
 1. Rec1      *   -93     24    5.0
 2. Rec2      *    14     58    5.0
 3. Rec3      *    49     70    5.0
 4. Rec4      *   115     93    5.0
 5. Rec5      *    83    -25    5.0
 6. Rec6      *   -19    -59    5.0
```

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB: Future w/ Supermarket Proj (2006)
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT:  Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *               CONC/LINK
             *  BRG  * CONC  *                 (PPM)
  RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
-------------*-------*-------*-----------------------------------------
 1. Rec1     *   78. *   2.9 *   .1  1.9   .3   .0   .6   .0   .0   .1
 2. Rec2     *  152. *   2.6 *   .0  1.1   .0   .0   .0  1.5   .0   .0
 3. Rec3     *   78. *   2.7 *   .0  2.2   .3   .0   .0   .0   .0   .3
 4. Rec4     *   78. *   2.5 *   .0  2.1   .3   .0   .0   .0   .0   .0
 5. Rec5     *  262. *   2.6 *  1.4   .3   .0   .0   .0   .9   .0   .0
 6. Rec6     *   64. *   3.2 *   .0  2.1   .2   .0   .0   .8   .0   .0
```