APPENDIX D

AIR QUALITY IMPACT ANALYSIS

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AIR QUALITY IMPACT ANALYSIS

OTAY RANCH VILLAGE 7

CHULA VISTA, CALIFORNIA

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AIR QUALITY SETTING

Meteorology/Climate

The climate of Chula Vista, as with all of Southern California, is largely controlled by the strength and position of the semi-permanent high pressure center over the Pacific Ocean. The high pressure ridge over the West Coast creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon sunshine, clean daytime onshore breezes and little temperature change throughout the year. Limited rainfall occurs in winter when the oceanic high pressure center is weakest and farthest south as the fringes of mid-latitude storms occasionally move through the area. Summers are often completely dry with an average of 10.3 inches of rain falling each year from November to early April in the Chula Vista area.

Unfortunately, the same atmospheric conditions that create a desirable living climate, combine to limit the ability of the atmosphere to disperse the air pollution generated by the large population attracted to the San Diego County climate. The onshore winds that cross the coastline diminish quickly when they reach the foothill communities east of San Diego, and the sinking air within the offshore high pressure system forms a massive temperature inversion that traps all air pollutants near the ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunshine, causes a number of reactive pollutants to undergo photochemical reactions and form smog that degrades visibility and irritates tear ducts and nasal membranes. While emissions control programs have created a substantial improvement in regional air quality within the last several decades, clean air standards are still often exceeded in parts of the air basin.

Because coastal areas are well ventilated by fresh breezes during the daytime, they generally do not experience the same frequency of air pollution problems found in some areas east of Chula Vista. Unhealthful air quality within the San Diego Air Basin's southern coastal communities does occur at times in summer during limited localized stagnation, but occurs mainly in conjunction with the occasional intrusion of polluted air from the Los Angeles Basin into the County. Localized elevated pollution levels may also occur in winter during calm stable conditions near freeways, shopping centers or other major traffic sources, but such clean air violations are highly localized in space and time and would not normally be found near the project site. Except for the occasional interbasin transport, air quality in the project vicinity is probably quite good.

Local meteorological conditions in the project vicinity have not been routinely monitored, but they likely conform to the regional pattern of strong onshore winds by day, especially in summer, and weak offshore winds at night, especially in winter. These local wind patterns are driven by the temperature difference between the normally cool ocean and the warm interior and steered by any local topography. In summer, moderate breezes of 8-12 mph blow onshore and upvalley from the SW by day, and may continue all night as a light onshore breeze when the land remains warmer than the ocean. In winter, the onshore flow is weaker and reverses to blow from the NE in the evening as the land becomes cooler than the ocean.

Both the onshore flow of marine air and the nocturnal drainage winds are accompanied by two characteristic temperature inversion conditions that further control the rate of air pollution dispersal throughout the air basin. The daytime cool onshore flow is capped by a deep layer of warm, sinking air. Along the coastline, the marine air layer beneath the inversion cap is deep

enough to accommodate any locally generated emissions. However, as the layer moves inland, pollution sources (especially automobiles) add pollutants from below without any dilution from above through the inversion interface. When this progressively polluted layer approaches foothill communities east of coastal developments, it becomes shallower and exposes residents in those areas to the concentrated reacted by-products of coastal area sources.

A second inversion type occurs when slow drainage or stagnation of cool air at night creates localized cold "pools" while the air above the surface remains warm. Such radiation inversions occur throughout the San Diego area but are strongest within low, channelized river valleys. They may trap vehicular exhaust pollutants such as carbon monoxide (CO) near their source until these inversions are destroyed by surface warming the next morning. Any such CO "hot spots" are highly localized in space and time (if they occur at all), but occasionally stagnant dispersion conditions are certainly an important air quality concern in combination with continued intensive development of the Chula Vista area. The intensity of development near the project site is extremely low such that non-local background pollution levels during nocturnal stagnation periods are also low. The local airshed, therefore, has considerable excess dispersive capacity that limits the potential for any localized air pollution "hot spots" from project implementation.

Air Quality

Ambient Air Quality Standards (AAQS)

In order to gauge the significance of the air quality impacts of the proposed Otay Ranch Village 7 project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Recent research has shown, however, that chronic exposure to ozone at levels which just marginally meet clean air standards may nevertheless have adverse health effects. Simply meeting standards may therefore not be sufficient to protect public health unless an additional margin of safety is created.

National AAQS were established in 1971 for six pollution species. States have the option to add other pollutants, require more stringent compliance, or to include different exposure periods. Because California had established state AAQS before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1.

The entries in Table 1 include the most recently (1997) adopted federal standards for chronic (8-hour) ozone exposure or for ultra-small diameter particulate matter of 2.5 microns or less in diameter (called "PM-2.5"). Implementation of these standards had been put on hold through an order issued by the U.S. Circuit Court of Appeals. That stay was appealed to the U.S. Supreme Court. In a unanimous decision, the Supreme Court ruled in February 2001, that the U.S. Environmental Protection Agency (EPA) did indeed have the proper authority to adopt national clean air standards, and that a cost-benefit analysis need not accompany such new rules.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	0.12 ppm (235 µg/m³)	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	–		0.08 ppm (157 µg/m³)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		50 µg/m³		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		65 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	15 µg/m³		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	–
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	–	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 µg/m³)		–		
Lead	30-Day average	1.5 µg/m³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m³)	–	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	–	
	3 Hour	–		–	0.5 ppm (1,300 µg/m³)	
	1 Hour	0.25 ppm (655 µg/m³)		–	–	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

However, the Court ruled that attainment schedules for new standards were inconsistent, and that new schedules must be prepared. EPA signed a consent decree in November 2002, to revise the attainment designation for a variety of air basins that meet the 1-hour federal ozone standard, but exceed the "new" (1997) 8-hour standard. The frequency of violations of the 1-hour ozone standard is close to zero in San Diego County. The APCD has initiated a request to redesignate the SDAB as "attainment" for the 1-hour federal standard. However, the 8-hour ozone standard is still frequently violated at the APCD Alpine monitoring station. The EPA action with regard to the 8-hour standard non-attainment designation will have only a limited effect on air quality attainment planning in the region. Whereas planning for the hourly standard will now focus on maintenance, the regional non-attainment plan will shift its focus to ultimately also meeting the 8-hour standard.

After further review of the relationship between fine particulate matter and human health effects, the California Air Resources Board adopted a new State standard for PM-2.5 that is more stringent than the federal standards. This standard was adopted June 20, 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard. Widespread violations of the more stringent State PM-2.5 standard will, however, be a reminder that major progress needs to be made to protect the health of those citizens most sensitive to airborne small-diameter particulate pollution.

Baseline Air Quality

The nearest air quality measurements to the project site are made in downtown Chula Vista by the San Diego County Air Pollution Control District (APCD), the agency responsible for air quality planning, monitoring and enforcement in the SDAB. A monitoring station at the Otay Mesa Port of Entry is also reasonably close to the project site, but is more influenced by diesel trucks unlike Otay Ranch. Table 2 summarizes the last six years of published monitoring data from the Chula Vista (80 East J. St.) station. Progress toward cleaner air is seen in almost every pollution category in Table 2. No federal clean air standards were exceeded throughout the 6-year monitoring period. The more stringent State standards for ozone and for 10-micron diameter respirable particulate matter (PM-10) were exceeded on a limited frequency; but, overall air quality in Chula Vista, as representative of the project area, is nevertheless very good in comparison to other areas of the SDAB.

There are no clear-cut trends in the Chula Vista baseline air quality data in Table 2. Improvement of the few standards routinely exceeded is relatively slow. Some very encouraging trends are seen in Table 2, particularly for the most recent data. In the last six years, Chula Vista recorded the following air pollution records in its monitoring history:

- Fewest violations of the California hourly ozone standard (2000, 2003)
- Fewest violations of federal ozone standard (None since 1992)
- Lowest annual 1-hour ozone maximum (2003)
- Lowest annual 1-hour CO maximum (1998)
- Lowest annual 8-hour CO maximum (2003)
- Lowest annual 1-hour NO2 maximum (2000, 2001)
- Fewest violations of PM-10 standard (1998, 2003)
- Lowest PM-2.5 maximum (2003)

Table 2

Chula Vista Area Air Quality Monitoring Summary
(Days Standards Were Exceeded and Maxima For Periods Indicated)

Pollutant/Standard	1998	1999	2000	2001	2002	2003
Ozone						
1-Hour > 0.09 ppm	2	4	0	1	2	0
1-Hour > 0.12 ppm	0	0	0	0	0	0
8-Hour > 0.08 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.10	0.10	0.09	0.10	0.12	0.07
Carbon Monoxide						
1-Hour > 20. ppm	0	0	0	0	0	0
8-Hour > 9. ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	4	5	6	6	-	-
Max. 8-Hour Conc. (ppm)	2.7	3.0	3.1	4.6	2.6	2.4
Nitrogen Dioxide						
1-Hour > 0.25 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.10	0.10	0.07	0.07	0.09	0.08
Inhalable Particulates (PM-10)						
24-Hour > 50 $\mu g/m^3$	0/59	2/49	1/54	1/61	1/-	0/-
24-Hour > 150 $\mu g/m^3$	0/59	0/49	0/54	0/61	0/-	0/-
Max. 24-Hour Conc. ($\mu g/m^3$)	39	59	52	64	52	38
Ultra-Fine Particulates (PM-2.5)						
24-Hour > 65 $\mu g/m^3$	-	0/108	0/101	0/108	0/-	0/-
Max. 24-Hour Conc. ($\mu g/m^3$)	-	47	40	41	36	34

Note: Standards for sulfur dioxide, particulate sulfate and particulate lead have been met with a wide margin of safety in 1998-2003 and are therefore not shown.

- = Data not yet available.

-- = Data collection began in 1999; ppm = part-per-million; $\mu g/m^3$ = microgram per cubic meter

Source: California Air Resources Board, Summary of Air Quality Data, 1998-2003. Chula Vista APCD Monitoring Station.

Extrapolation of the pollution trendline suggests that limited violations of standards could occur into the future, but with decreasing frequency. Since observed San Diego County ozone air quality sometimes derives from the southward drift of pollution from the South Coast Air Basin (which is forecast to continue to exceed ozone standards to the year 2010), some ozone standard violations will likely occur in the County within this decade despite Countywide pollution control efforts. A further improvement in ambient air quality from County-generated emissions reductions will thus occur within the next decade, but complete attainment of all standards may not happen until closer to 2010.

Federal attainment criteria allow for one violation of national clean air standards per year averaged over three years. Inspection of Table 2 shows that the federal ozone standard of 0.12 ppm for one hour was not exceeded in the last six years. Although not recognized as such in basin-wide attainment classification, the Chula Vista area technically is an attainment sub-area within the larger San Diego Air Basin non-attainment area. Except in foothill communities most affected by air stagnation at the base of the summer inversion, attainment of the federal ozone standard is close at hand throughout the air basin. The federal 1-hour ozone standard was met throughout the entire air basin for the first time in basin-wide monitoring history in 1999, and there have been no more than three combined violations in the last four years. Redesignation of the basin as an "attainment" airshed for the federal one-hour ozone standard is anticipated. However, the federal eight-hour ozone standard is routinely exceeded at the Alpine station. The air basin is expected to be redesignated as in attainment for the one-hour federal ozone standard, but as non-attainment for the 8-hour standard.

Some air quality concern has been raised about pollutant transport from Mexico with its considerably less stringent pollution control laws. An air quality station was established on Otay Mesa in part to monitor this phenomenon. Some slight differences in ozone distribution on Otay Mesa are seen compared to Chula Vista. These differences are not so dramatic, however, as to indicate any substantial cross-border pollution transport.

Sources of Pollution

Nitrogen oxides (NOx) and reactive organic gases (ROG) are the two precursors to photochemical smog formation. Table 3 indicates that in San Diego County, 63% of the ROG emitted come from mobile (cars, ships, planes, heavy equipment, etc.) sources. For NOx, 91% comes from mobile sources. Computer modeling of smog formation has shown that all existing programs to reduce NOx and ROG would allow the San Diego Air Basin to meet the federal ozone standard by 1999 on days when there is no substantial transport of pollution from the South Coast Air Basin or other airshed. As noted above, there was not a single violation of the federal 1-hour ozone standard anywhere within the entire SDAB in 1999 or 2000.

Table 3 shows that emission levels are forecast to decline further for those pollutants where standards are currently met. However, particulate levels are forecast to increase, and the basin is a non-attainment airshed for the State PM-10 standard. Accelerated PM-10 control must be implemented in order to meet the State PM-10 standard in the future.

Table 3

San Diego Air Basin Emissions Inventory
(tons/day)

	NOx	ROG	CO	PM-10
Year 2000 Inventory				
Stationary Sources	17	47	40	9
Area Sources	3	43	67	101
On-Road Mobile Gasoline Diesel	 106 40	 114 3	 1,135 11	 4 1
Other Mobile	68	33	276	7
TOTAL	**234**[a]	**239**[a]	**1,529**[b]	**121**[c]
2005 Forecast	186	201	1,109	134
2010 Forecast	152	188	895	143

[a]Federal one-hour standard is met at this emission level.
[b]All federal and State standards are met at this emission level.
[c]State PM-10 standard is exceeded at this emission level.

Source: California ARB, 2000: "The 2001 California Almanac of Emissions & Air Quality."

Air Quality Management Planning

The historic (until 1999) violations of national AAQS in the SDAB, particularly those for ozone in inland foothill areas, required that a plan be developed outlining the pollution controls that were to be undertaken to improve air quality. In San Diego County, this attainment planning process is embodied in a regional air quality management plan developed jointly by the APCD and SANDAG. Several plans had been adopted in the late 1970s and early 1980s under the title Regional Air Quality Strategies (RAQS). More recent planning efforts have been modifications, improvements and updates of the earlier RAQS efforts.

The California Clean Air Act (AB-2595) required that state clean air plans be developed to address meeting state standards as well as the often less stringent federal criteria. A basin plan was therefore developed and adopted in 1991 that predicted attainment of all national standards by the end of 1997 from pollution sources within the air basin, but little could be done about the problem of interbasin transport. Violations of State ozone and PM-10 standards were anticipated to occur for much of the current decade.

A revised plan to meet the federal standard for ozone was developed in 1994 during the process of updating the 1991 state plan. This local plan was combined with those from all other California non-attainment areas with serious ozone problems to create the California State Implementation Plan (SIP). The SIP was adopted by the Air Resources Board (ARB) after public hearings on November 9-10, 1994, and forwarded to the U. S. EPA for their approval. After considerable analysis and debate, particularly regarding airsheds with the worst smog problems, EPA finally approved the SIP in mid-1996.

In the current plan, all progress towards attainment, including offsetting the effects of growth, is expected to derive from existing local, state and federal rules and regulations. Controversial rules that were previously evaluated were judged by some people as overly intrusive into personal lifestyles (mandatory trip reduction programs or minimum average vehicle occupancy goals) are not needed to predict attainment. Any violations of federal 1-hour ozone standard in the year 2000 or beyond are forecast to occur only on days when transport from the Los Angeles Basin creates substantially elevated baseline levels upon which any local basin impacts would be superimposed.

The last RAQS update was completed in 2001. It identified all feasible control measures that could be implemented from 2001-2004 when the next update is due. Because the APCD has placed very stringent emissions restrictions on most major sources throughout the last 20 to 30 years, the available number of additional control measures is limited. Continued slow emissions reductions are anticipated from evolving industrial technology and from mobile source reduction programs that offset any forecast rate of population and transportation growth.

Federal attainment planning will shift from the one-hour to eight-hour ozone standard. The basin meets the one-hour standard, but exceeds the eight-hour standard at the Alpine air monitoring station. No major change in planning direction is anticipated because the violations of the eight-hour standard are not severe in magnitude or number. The primary concern is that the rate of area-wide growth could eventually overwhelm the slow rate of emission improvement before all standards are ultimately met.

General developments such as the proposed Village 7 are not of themselves major emitters of air pollutants. They generate air pollution almost exclusively through motor vehicle travel. The regional air quality plan predicts continued maintenance of the federal one-hour ozone standard as long as the rate and location of continued growth is consistent with growth projections. Otay Ranch development, including Village 7, has been included in SANDAG's growth projections for over a decade. These projections were used to develop the transportation plan and associated growth projections that were incorporated into the air quality plan. The regional air quality plan accommodates Village 7 without any significant regional air quality impact.

AIR QUALITY IMPACTS

Sources of Impact

The proposed project will impact air quality almost exclusively through the vehicular traffic generated by project residents. Mobile source impacts occur basically on two scales of motion. Regionally, site-related travel will add to regional trip generation and increase the vehicle miles traveled (VMT) within the local area. Locally, project traffic, will be added to the Chula Vista roadway system near the project site. If such traffic occurs during periods of poor atmospheric ventilation, is comprised of a large number of vehicles "cold-started" and operating at pollution inefficient speeds, and is driving on roadways already crowded with non-project traffic, there is a potential for the formation of micro-scale air pollution "hot spots" in the area immediately around points of congested traffic. With continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, air pollution "hot spot" potential is continually decreasing. Standards for carbon monoxide (CO), the most typical indicator of any "hot spot" potential, have not been exceeded at any air basin monitoring station since 1990.

Secondary project-related atmospheric impacts derive from a number of other small, growth-connected emissions sources such as temporary emissions of dusts and fumes during project construction, increased fossil-fuel combustion in power plants from project electricity requirements, evaporative emissions at gas stations or from paints, thinners or solvents used in construction and maintenance, increased air travel from area visitors, dust from tire wear and re-suspended roadway dust, etc. All these emission points are either temporary, or they are so small in comparison to project-related automotive sources such that their impact is less important. They do point out, however, that growth engenders increased air pollution emissions from a wide variety of sources, and thus further inhibits the near-term attainment of all clean air standards in the San Diego Air Basin (SDAB).

Standards of Significance

CEQA guidelines define a potentially significant air quality impact as one that:

a. Creates violations of clean air standards.

b. Contributes substantially to an existing violation.

c. Exposes people to contaminants for which there are no presumed safe exposures.

For projects that create mainly automobile traffic whose emissions require complex photochemical reactions to reach their most harmful stag e, there is no way to measure the impact to establish a "substantial contribution." The emissions from project development have previously been evaluated as part of the original Otay Ranch development program EIR. The EIR concluded that air pollutant emissions associated with Otay Ranch development would have a significant air quality impact because the development plan exceeded all 1991 RAQS growth projections. The air quality plan updates since 1991 have incorporated Otay Ranch essentially in its currently proposed form. Minor land use revisions within each new village continue to "fine-tune" the development plan, but the current RAQS/SIP predict maintenance or attainment of standards with Otay Ranch built out as proposed. Impact significance for each village would

relate to the development magnitude of each village and not to any inconsistency with regional air quality plans as in the original program EIR.

No thresholds of significance for regional air pollution emissions have been adopted by the City of Chula Vista or by any responsible or commenting agency such as the SDAPCD. The City of San Diego has recently updated its CEQA Assessment guidelines for air quality, and has included emissions levels that should be considered "substantial" even if there is no means to directly correlate these emissions to ambient air quality. In the absence of any other guidelines, use of the City of San Diego thresholds (similarly used by San Diego County DPLU staff) is recommended as follows for Village 7:

	Potentially Significant Emissions (lb/day)				
	CO	**ROG**	**NOx**	**SOx**	**PM-10**
Recommended Screening Guidelines	550	55	250	250	100

Impact significance in these guidelines focuses on project operational activity impacts. However, PM-10 emissions from construction activities are specifically referenced as a source of potential impact that should have appropriate mitigation identified. Temporary construction equipment diesel exhaust emissions are difficult to quantify because they vary markedly from one day to another, and from one contractor's fleet to another. With new emissions limits on new off-road equipment, the emission factor will change from year to year as equipment fleets are upgraded. Temporary exhaust emissions were not quantified because of the high degree of uncertainty in emissions estimates. However, because such activities may contribute ozone-forming pollutants in an ozone non-attainment air basin, emission controls are recommended from off-road construction equipment as well.

If the above emissions-based significance guidelines are exceeded, it may be possible to apply a more rigorous significance test that translates these emissions into ambient air quality. However, because most emissions require additional chemical transformation to achieve their most unhealthful form, it is generally impossible to isolate the small incremental impact from any single project within the entire basin-wide air quality pattern. Except for CO which is emitted in its already unhealthful form, exceeding the surrogate screening thresholds above is likely a basis for a finding of a significant impact because of the inherent limitations in quantifying the actual ambient air quality effect.

Construction Activity Impacts

Construction activities, including soil disturbance dust emissions and combustion pollutants from on-site construction equipment and from off-site trucks hauling dirt, cement or building materials, will create a temporary addition of pollutants to the local airshed. These emissions are variable in time and space and differ considerably among various construction projects. Such emission levels can, therefore, only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. Because of their temporary nature, construction activity impacts have often been considered as having a less-than-significant air quality impact. However, the cumulative impact from all simultaneous construction in the basin is a major

contributor to the overall pollution burden, especially for particulate matter (PM-10). A number of current APCD strategies thus focus on dust control and on using cleaner off-road equipment to reduce the role of construction in the poor air quality of the region.

Three types of dust emissions may be associated with construction. Large particulates are generated that settle out again rapidly in close proximity to the source. The deposition distance for the largest particles is typically less than 100 feet from the source for a major fraction of the material. Off-site propagation can occur under strong wind conditions, but such events are the exception rather than the rule.

A fraction of the soil material is small enough to remain suspended in the air semi-indefinitely. The size cut-off for these total suspended particulates (TSP) is around 30 microns in diameter. An even lesser fraction of TSP is small enough to enter deep lung tissue. The size cut-off for particulate matter that is deeply respirable is 10 microns or less and is called PM-10. The ambient air quality standard is for PM-10. The PM-10 fraction of TSP is assumed to be around 50 percent. The PM-10 emission factor for project-related soil disturbance is around 55 pounds per day per acre disturbed in the absence of any dust control. Minimum dust control that complies with APCD nuisance abatement regulations can reduce the PM-10 emissions rate to an average of 26.4 pound per acre per day. Multiple daily watering and implementation of other aggressive dust control techniques can reduce PM-10 emissions to about 10 pounds per graded acre. San Diego is non-attainment for PM-10, therefore, best available control methods (BACMs) are recommended and are detailed in the mitigation discussion.

Village 7 has 374.1 overall net developable acres. Only a limited portion will undergo simultaneous grading on any given day as part of the proposed project. The California Air Resources Board computer model URBEMIS2002 estimates a simultaneous daily disturbance area of 49.2 acres for purposes of daily PM-10 calculations for a project of this magnitude. The maximum PM-10 emissions for this scenario compared to the 100-pound per day significance threshold are as follows:

Minimum dust control	1,299 lb/day
With use of BACMs	492 lb/day

Significance thresholds for PM-10 emissions will be exceeded by a very large margin. The only effective emissions reduction beyond the maximum achievable with use of BACMs is to reduce the daily disturbance footprint. A limit of 10 acres per day is the maximum allowable disturbance area if PM-10 emissions are to be maintained at less than 100 pounds per day. Because regulation of the grading area is difficult to control, and because spreading the grading over a longer period increases the timeframe over which off-site residents may be exposed to grading activity impacts, it might be prudent to designate PM-10 impacts from grading as temporarily significant even after the application of all available control measures.

The cumulative project comprising all of Village 7 is estimated to create a maximum daily disturbance footprint of 70.8 acres. The cumulative daily PM-10 emissions are calculated as follows:

Minimum dust control	1,869 lb/day
With use of BACMs	708 lb/day

Because of the magnitude of overall Village 7 development, possibly in conjunction with other simultaneous Otay Ranch development, short-term fugitive dust (PM-10) impacts are considered individually and cumulatively significant for limited periods of time.

In addition to small dust particles that remain suspended in the air semi-indefinitely, construction also generates many large particles that are easily filtered by human breathing passages, but settle out rapidly on parked cars and other nearby horizontal surfaces. Large particle emissions thus comprises more of a soiling nuisance rather than any potentially unhealthful air quality impact. With prevailing daytime west to east winds, dust soiling potential is likely greatest directly east of the project site. Good control of fine particulates also results in substantial reduction in nuisance potential from larger particulate matter. While dust deposition can be minimized, it often cannot be completely eliminated. While temporary soiling nuisance is considered adverse, it does not constitute a significant air quality impact because it is mainly confined to the disturbance area itself.

It should be noted that current regulatory philosophy relative to airborne particulates is that PM-10 is not an adequate predictor of potential health impacts. It has been clearly demonstrated that the health risk lies in much smaller particulate matter with diameters of 2.5 microns or less, called "PM-2.5." New national AAQS were adopted on July 17, 1997, and California adopted its own standard on June 20, 2002. Research has shown that mechanical abrasion processes such as clearing or grading of soil contribute little to the area PM-2.5 burden. Although grading is a potential major PM-10 contributor, PM-2.5 impact potential is considered negligible.

Equipment exhaust emission levels vary from day-to-day and from one contractor to another. They will also depend upon the project build-out year because equipment exhaust characteristics from off-road equipment will change substantially in response to current standards for new equipment introduction into the vehicle fleet. Because of uncertainty in probable equipment usage factors and fleet characteristics, daily emission have not been quantified. However, because of the non-attainment status of the air basin for ozone, all reasonably available mitigation measures for ozone precursors should be implemented even if thresholds are not demonstrated to be exceeded.

Application of paintings and coatings may create substantial VOC (ROG) emissions that may exceed the adopted 55-pound per day threshold, if one presumes "default" factors of paint volatility and application rates. Achieving a less-than-significant ROG emissions impact requires:

- Use pre-coated building materials.
- Use high pressure-low volume (HPLV) paint applicators with 50% efficiency.

- Use lower volatility paint not exceeding 100 grams of ROG per liter as required by APCD Rule 67.
- Spreading the painting over a longer period of time.

Construction activities are most noticeable in the immediate vicinity of the construction site. There is, however, some potential for "spill-over" into the surrounding community. Spillage may be physical, such as dirt tracked onto public streets or dropped from trucks. Spill-over may also be through congestion effects where detours, lane closures, or construction vehicle competition with non-project peak hour traffic slows traffic beyond the immediate construction site to less pollution-efficient travel speeds. Such off-site effects are controllable through good housekeeping and proper construction management/scheduling. Management techniques are suggested in the mitigation discussion to reduce potential spill-over impacts.

Project Operational Impacts

The main project-related direct air quality concern stems from the additional automotive trips that the project will generate. The project traffic study estimates that the project will generate a net external trip rate of 14,991 average daily traffic (ADT). Project-related regional emissions are anticipated in the regional air quality plan, and will not delay the ultimate attainment of clean air standards. Project growth will, however, represent a "substantial contribution" to the air pollution burden in a non-attainment air basin that would be considered individually and cumulatively significant under CEQA implementation guidelines.

Mobile source emissions from project-related traffic were calculated using the URBEMIS2002 computer model. Exact dates of Village 7 build-out are unknown at this time. Emissions have been calculated for Years 2005, 2010, 2015 and 2020. The emissions are broken out into "area source" emissions (natural gas for space hearing and hot water, landscape maintenance, cleaning products, etc.) and "mobile source" emissions (vehicular emissions) and then combined and compared to the recommended significance thresholds as shown in Table 4. Cumulative Village 7 impacts are summarized in Table 5

Thresholds will be exceeded in all of the years analyzed for ROG, CO and PM-10. NOx will already be at subthreshold levels by 2005, and SO_2 never remotely approaches its threshold. The proposed project, individually and cumulatively with all Otay Ranch development, represents a "substantial contribution" to emissions in an existing non-attainment area for ozone and PM-10. Air quality impacts will be slightly reduced by compliance with City of Chula Vista requirements, but not to less-than-significant.

An Air Quality Improvement Plan (AQIP) is required to be submitted with all SPA Plans per the City's Growth Management Ordinance. The AQIP is intended to minimize air quality impacts during and after construction of projects within Village 7 and to demonstrate compliance with the air quality policies of the San Diego County Air Pollution Control District (APCD). Developers can either participate in the Chula Vista GreenStar Building Efficiency Program or evaluate the project using the Chula Vista CO_2 INDEX model, including any necessary site plan modifications.

Due to the divided ownership within Village 7, the Village 7 SPA AQIP will only cover that portion of land owned by McMillin Otay Ranch LLC. McMillin has chosen to participate in the Chula Vista GreenStar Efficiency Program, which is reflected in the *Village 7 SPA Plan* AQIP. The primary goal of the GreenStar Program is to shift residential building practices toward approaches that conserve energy and resources while improving the environment and strengthening the economy. Because the greatest energy conservation benefit is to reduce NOx emissions which already do not exceed significance thresholds, implementation of the AQIP will not measurably affect the project air quality significance finding.

Micro-scale Impact Analysis

Local air quality in the Otay Ranch area is generally good, particularly for non-regional pollutants such as carbon monoxide (CO). One-hour maximum CO levels at the nearest SDAPCD air monitoring station were at 30 percent or less of the allowable standard.

Table 4

Project-Related Mobile and Area Source Emissions (2,950 students)
(pounds/day)

Scenario/Year 2005	ROG	NOx	CO	PM-10	SO_2
Area Sources	61.6	18.0	19.0	0.1	0.3
Mobile Sources	210.4	216.7	2,165.8	184.7	1.9
TOTAL	**272.0**	**234.7**	**2,184.8**	**184.8**	**2.2**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	495	94	397	185	1

Scenario/Year 2010	ROG	NOx	CO	PM-10	SO_2
Area Sources	61.6	18.0	19.0	0.1	0.3
Mobile Sources	147.1	146.6	1,455.7	184.3	1.1
TOTAL	**208.7**	**164.6**	**1,474.7**	**184.4**	**1.4**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	379	66	268	184	1

Scenario/Year 2015	ROG	NOx	CO	PM-10	SO_2
Area Sources	61.6	18.0	19.0	0.1	0.3
Mobile Sources	99.3	88.8	903.2	184.0	1.1
TOTAL	**160.9**	**106.8**	**922.2**	**184.1**	**1.4**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	No	No
Percent of Threshold	293	43	168	184	1

Table 4
(continued)

Scenario/Year 2020	ROG	NOx	CO	PM-10	SO_2
Area Sources	61.6	18.0	19.0	0.1	0.3
Mobile Sources	75.2	60.9	658.7	183.9	1.0
TOTAL	**136.9**	**78.8**	**677.7**	**184.0**	**1.3**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	249	32	123	184	1

Source: URBEMIS2002 Computer Model; Output in Appendix.

Table 5

Cumulative Mobile and Area Source Emissions
(pounds/day)

Scenario/Year 2005	ROG	NOx	CO	PM-10	SO_2
Area Sources	77.4	27.3	27.6	0.1	0.4
Mobile Sources	276.4	305.2	3,040.0	260.1	2.7
TOTAL	**353.8**	**332.5**	**3,067.6**	**260.2**	**3.1**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	Yes	Yes	Yes	No
Percent of Threshold	643	133	558	260	1

Scenario/Year 2010	ROG	NOx	CO	PM-10	SO_2
Area Sources	77.4	27.3	27.6	0.1	0.4
Mobile Sources	191.5	206.4	2,042.7	259.5	1.5
TOTAL	**268.9**	**233.7**	**2,070.3**	**259.6**	**1.9**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	489	93	376	260	1.

Scenario/Year 2015	ROG	NOx	CO	PM-10	SO_2
Area Sources	77.4	27.3	27.6	0.1	0.4
Mobile Sources	127.8	125.1	1,267.0	259.0	1.5
TOTAL	**205.3**	**152.4**	**1,294.6**	**259.1**	**1.9**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	No	No
Percent of Threshold	373	61	235	259	1.

Table 5
(continued)

Scenario/Year 2020	ROG	NOx	CO	PM-10	SO_2
Area Sources	77.4	27.3	27.6	0.1	0.4
Mobile Sources	96.3	85.7	924.1	258.8	1.5
TOTAL	**173.7**	**113.0**	**951.7**	**258.9**	**1.9**
Suggested Significance Thresholds	55	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	316	45	173	259	1.

Source: URBEMIS2002 Computer Model; Output in Appendix.

In order to determine whether any possible traffic congestion may contribute to localized air pollution standard violations, a screening procedure based upon the California roadway dispersion model CALINE4 was run at a representative intersections near the project area. Carbon monoxide (CO) was used as an indicator pollutant to determine "hot spot" potential. Morning rush-hour traffic was combined with minimum dispersion conditions at the Birch/La Media intersection in order to create a theoretical worst-case impact estimate. Calculations were made for a one-hour CO exposure relative to the 20 ppm hourly California standard. The results of these calculations are as follows:

One-Hour CO Concentrations (ppm[1])

Intersection	Existing	2010	
		No Project	With Project[2]
Birch/La Media	-	7.4	7.9

[1]Includes 6.0 ppm non-local background, California standard=20 ppm, Federal standard=35 ppm.
[2]Including cumulative Village 7 development.

The combination of worst-case local CO concentrations, plus the maximum regional backgroumd, will produce combined theoretical CO levels that are less than 50 percent of the most stringent one-hour standard. CO "hot spot" potential is negligible.

The maximum cumulative project contribution to local CO exposures is +0.5 ppm. CO levels are reported to the nearest whole ppm. The individual project traffic CO impact is less than a reportable amount.

IMPACT MITIGATION

Air quality impact mitigation is a standard requirement for all new major development in Chula Vista. A menu of mitigation measures has been developed and recommended for inclusion in development projects. The development standards and project-specific mitigation measures are contained in the Village 7 AQIP. The suggested components of the AQIP include:

Recommended Air Quality Improvement Plan (AQIP):

Land Use

- Neighborhood shopping and personal services adjacent to residential areas to minimize auto trips and reduce mileage traveled to service areas.
- Open space and recreational facilities within or adjacent to the residential areas.
- Employee services within walking distance (i.e., banking, child care, restaurants, etc.).
- A balanced mix of housing and employment possibilities to reduce trips and vehicle miles traveled.

Siting/Design

- The avoidance of potentially incompatible projects (for example, a residential development without any setback from SR-125).
- Dedicated bike lanes to encourage use of bicycles.
- Bicycle storage facilities at employment and retail centers.
- Shower and locker facilities at offices to encourage bicycle use.
- Sidewalks and curbs to ensure safe pedestrian travel within residential areas and to commercial centers.
- Street designs that promote pedestrian safety (i.e., safe islands in center of major arterials, "walk" signals, night lighting, etc.).
- Shopping centers oriented to promote use of mass transit (i.e., provide bust turnouts, pedestrians, and bicyclists).
- Provide lots designed to promote use of mass transit and carpools.
- Shopping center oriented to promote use of mass transit and carpools.
- Parking lots designed to promote use of mass transit and carpools.
- The installation of heat transfer modules on gas-fired furnaces to control emissions of NOx.
- Use solar heating energy systems, as appropriate.
- Low-NOx residential and commercial water heaters (GreenStar).
- Enhanced energy efficiency in building designs and landscaping plans.

- Identify an environmental coordinator to be responsible for education and disseminating information on ridesharing and/or mass transit opportunities, recycling, energy conservation programs, etc.

Transportation-Related Management Actions

- Land for transit support facilities such as bus stops, park-and-ride lots, etc. shall be provided. A determination to dedicate land shall be made in consultation with the Metropolitan Transportation Development Board (MTDB).
- Amenities to increase convenience and attractiveness of transit stops (i.e., passenger staging areas, waiting shelters, etc.) shall be provided.
- Demand-responsive traffic signals shall be negotiated.
- An agreement with the transit agency to institute new routes or express bus service, or to expand existing service, related to the demand caused by the Project shall be negotiated.
- Fair share participation for transit facilities and operations shall be required.
- Major employers shall provide ridesharing or mass transit incentives.

Construction Mitigation

Construction measures recommended for new projects in Chula Vista applicable to this project include:

- Limit simultaneous disturbance area to 10 acres or less.
- Use low pollutant-emitting construction equipment.
- Use electrical construction equipment as practical.
- Use catalytic reduction for gasoline-powered equipment.
- Use injection timing retard for diesel-powered equipment.
- Water the construction area at least twice daily to minimize fugitive dust, and preferably four times.
- Stabilize (for example, hydroseed) graded areas as quickly as possible to minimize fugitive dust.
- Pave permanent roads as quickly as possible.
- Use electricity from power poles instead of temporary generators during building construction.
- Implement track-out control as follows:
    - ❖ Apply chemical stabilizer or pave the last 100 feet of internal travel path within a construction site prior to public road entry.
    - ❖ Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads.

- Remove any visible track-out into traveled public streets within 30 minutes of occurrence.
- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred.
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads.
  - Cover haul trucks or maintain at least 12 inches of freeboard to reduce blowoff during hauling.
  - Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph.

APPENDIX

Project Trip Generation Table

URBEMIS 2002 Computer Model
Year 2005
Year 2010
Year 2015
Year 2020

Cumulative Village 7 Development
Year 2005
Year 2010
Year 2015
Year 2020

Table 10 (Revised)

Traffic Study

Land Use	Quantity	Trip Gen.	Total ADT	Internal Rate (%)	Net ADT
Single Family	756 DU	10	7,560	15	6,426
Multi-Family	448 DU	8	3,584	15	3,046
Public Park	7.6 ac	5	38	65	13
CPF	2.8 ac	30	84	75	21
Elementary School	11.1 ac	90	999	53	470
High School	2,950 ST	2	5,900	15	5,015
TOTAL			**18,165**		**14,991**

URBEMIS 2002 For Windows 7.4.2

Name:	C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name:	Village 7 - 2005
ect Location:	San Diego County
oad Motor Vehicle Emissions	Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

STRUCTION EMISSION ESTIMATES

* 2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	7.22	4.15	90.08	0.01	492.05	0.05	492.00

* 2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

A SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

RATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	210.39	216.73	2,165.83	1.89	184.75

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	272.04	234.69	2,184.84	2.18	184.81

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - 2005
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

truction Start Month and Year: June, 2003
truction Duration: 12
l Land Use Area to be Developed: 0 acres
mum Acreage Disturbed Per Day: 49.2 acres
le Family Units: 756 Multi-Family Units: 448
il/Office/Institutional/Industrial Square Footage: 513158

TRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
2003***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	492.00	-	492.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	492.00	0.00	492.00
e 3 - Building Construction							
Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Const Worker Trips	7.22	4.15	90.08	0.01	0.92	0.05	0.87
Coatings Off-Gas	0.00	-	-	-	-	-	-
Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Off-Gas	0.00	-	-	-	-	-	-
alt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
alt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	7.22	4.15	90.08	0.01	0.92	0.05	0.87
x lbs/day all phases	7.22	4.15	90.08	0.01	492.05	0.05	492.00
2004***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 3 - Building Construction							
Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Const Worker Trips	6.62	3.86	82.84	0.01	0.92	0.05	0.87
Coatings Off-Gas	4,817.26	-	-	-	-	-	-
Coatings Worker Trips	5.94	2.66	67.97	0.01	0.92	0.05	0.87
alt Off-Gas	0.00	-	-	-	-	-	-
alt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
alt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74
x lbs/day all phases	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

: 3

e 1 - Demolition Assumptions: Phase Turned OFF

e 2 - Site Grading Assumptions
t Month/Year for Phase 2: Jun '03
e 2 Duration: 1.2 months
oad Truck Travel (VMT): 0
Road Equipment
. Type Horsepower Load Factor Hours/Day

e 3 - Building Construction Assumptions
t Month/Year for Phase 3: Jul '03
e 3 Duration: 10.2 months
art Month/Year for SubPhase Building: Jul '03
bPhase Building Duration: 10.2 months
f-Road Equipment
. Type Horsepower Load Factor Hours/Day
art Month/Year for SubPhase Architectural Coatings: May '04
bPhase Architectural Coatings Duration: 1 months
art Month/Year for SubPhase Asphalt: May '04
bPhase Asphalt Duration: 0.5 months
res to be Paved: 0
f-Road Equipment
. Type Horsepower Load Factor Hours/Day

SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
ural Gas	1.35	17.81	7.45	-	0.03
d Stoves - No summer emissions					
eplaces - No summer emissions					
dscaping	1.39	0.14	11.56	0.29	0.03
sumer Prdcts	58.90	-	-	-	-
ALS(lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
le family housing	78.45	95.81	969.39	0.84	81.65
tments low rise	38.45	45.42	459.56	0.40	38.71
entary school	4.76	6.68	65.68	0.06	5.71
school	88.28	68.38	666.87	0.59	58.30
& CPF	0.45	0.45	4.33	0.00	0.38
L EMISSIONS (lbs/day)	210.39	216.73	2,165.83	1.89	184.75

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

ATIONAL (Vehicle) EMISSION ESTIMATES

ysis Year: 2005 Temperature (F): 85 Season: Summer

C Version: EMFAC2002 (9/2002)

ary of Land Uses:

Type	Trip Rate	Size	Total Trips
le family housing	8.50 trips / dwelling units	756.00	6,426.00
tments low rise	6.80 trips / dwelling units	448.00	3,046.40
entary school	42.30 trips / acre	11.10	469.53
school	1.70 trips / students	2,950.00	5,015.00
& CPF	3.27 trips / acre	10.40	34.01

cle Assumptions:

et Mix:

cle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
t Auto	56.10	2.30	97.10	0.60
t Truck < 3,750 lbs	15.10	4.00	93.40	2.60
t Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Truck 5,751- 8,500	6.80	1.50	95.60	2.90
e-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
e-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
y-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
e Haul > 60,000 lbs	0.00	0.00	0.00	100.00
an Bus	0.10	0.00	0.00	100.00
orcycle	1.60	87.50	12.50	0.00
ool Bus	0.30	0.00	0.00	100.00
or Home	1.40	14.30	78.60	7.10

vel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
an Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
al Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
p Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
f Trips - Residential	27.3	21.2	51.5			
f Trips - Commercial (by land use)						
mentary school				20.0	10.0	70.0
h school				10.0	5.0	85.0
k & CPF				2.0	1.0	97.0

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - ~~2005~~ 2010
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

TRUCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
ALS (lbs/day,unmitigated)	7.22	4.15	90.08	0.01	492.05	0.05	492.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
ALS (lbs/day,unmitigated)	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

ATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	147.08	146.59	1,455.74	1.06	184.29

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	208.73	164.55	1,474.75	1.35	184.34

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - 2005
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

truction Start Month and Year: June, 2003
truction Duration: 12
l Land Use Area to be Developed: 0 acres
mum Acreage Disturbed Per Day: 49.2 acres
le Family Units: 756 Multi-Family Units: 448
il/Office/Institutional/Industrial Square Footage: 513158

TRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
2003***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	492.00	-	492.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	492.00	0.00	492.00
e 3 - Building Construction							
g Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
g Const Worker Trips	7.22	4.15	90.08	0.01	0.92	0.05	0.87
n Coatings Off-Gas	0.00	-	-	-	-	-	-
n Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
nalt Off-Gas	0.00	-	-	-	-	-	-
nalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
nalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
nalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	7.22	4.15	90.08	0.01	0.92	0.05	0.87
ax lbs/day all phases	7.22	4.15	90.08	0.01	492.05	0.05	492.00
* 2004***							
se 1 - Demolition Emissions							
itive Dust	-	-	-	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
se 2 - Site Grading Emissions							
itive Dust	-	-	-	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
se 3 - Building Construction							
g Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
g Const Worker Trips	6.62	3.86	82.84	0.01	0.92	0.05	0.87
h Coatings Off-Gas	4,817.26	-	-	-	-	-	-
h Coatings Worker Trips	5.94	2.66	67.97	0.01	0.92	0.05	0.87
halt Off-Gas	0.00	-	-	-	-	-	-
halt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
halt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
halt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74
Max lbs/day all phases	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

e 1 - Demolition Assumptions: Phase Turned OFF

e 2 - Site Grading Assumptions
t Month/Year for Phase 2: Jun '03
e 2 Duration: 1.2 months
oad Truck Travel (VMT): 0
Road Equipment

	Type	Horsepower	Load Factor	Hours/Day

e 3 - Building Construction Assumptions
t Month/Year for Phase 3: Jul '03
e 3 Duration: 10.2 months
art Month/Year for SubPhase Building: Jul '03
bPhase Building Duration: 10.2 months
f-Road Equipment

	Type	Horsepower	Load Factor	Hours/Day

art Month/Year for SubPhase Architectural Coatings: May '04
bPhase Architectural Coatings Duration: 1 months
art Month/Year for SubPhase Asphalt: May '04
bPhase Asphalt Duration: 0.5 months
res to be Paved: 0
f-Road Equipment

	Type	Horsepower	Load Factor	Hours/Day

A SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
tural Gas	1.35	17.81	7.45	-	0.03
od Stoves - No summer emissions					
replaces - No summer emissions					
ndscaping	1.39	0.14	11.56	0.29	0.03
nsumer Prdcts	58.90	-	-	-	-
TALS(lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
le family housing	53.36	64.78	652.39	0.47	81.45
tments low rise	26.29	30.71	309.28	0.22	38.61
entary school	3.17	4.52	44.07	0.03	5.69
school	63.93	46.28	447.10	0.33	58.15
& CPF	0.32	0.30	2.90	0.00	0.38
L EMISSIONS (lbs/day)	147.08	146.59	1,455.74	1.06	184.29

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

ATIONAL (Vehicle) EMISSION ESTIMATES

ysis Year: 2010 Temperature (F): 85 Season: Summer

C Version: EMFAC2002 (9/2002)

ary of Land Uses:

Type	Trip Rate	Size	Total Trips
le family housing	8.50 trips / dwelling units	756.00	6,426.00
tments low rise	6.80 trips / dwelling units	448.00	3,046.40
entary school	42.30 trips / acre	11.10	469.53
school	1.70 trips / students	2,950.00	5,015.00
& CPF	3.27 trips / acre	10.40	34.01

cle Assumptions:

t Mix:

cle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
t Auto	54.70	1.10	98.70	0.20
t Truck < 3,750 lbs	15.20	2.00	96.00	2.00
t Truck 3,751- 5,750	16.20	1.20	98.10	0.70
Truck 5,751- 8,500	7.30	1.40	95.90	2.70
-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Heavy 14,001-33,000	1.00	0.00	20.00	80.00
y-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
n Bus	0.20	0.00	50.00	50.00
rcycle	1.60	68.80	31.20	0.00
ol Bus	0.10	0.00	0.00	100.00
r Home	1.40	7.10	85.70	7.20

el Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
n Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
l Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Trips - Residential	27.3	21.2	51.5			
Trips - Commercial (by land use)						
entary school				20.0	10.0	70.0
school				10.0	5.0	85.0
& CPF				2.0	1.0	97.0

URBEMIS 2002 For Windows 7.4.2

e Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ject Name: Village 7 - ~~2005~~ 2015
ject Location: San Diego County
Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

STRUCTION EMISSION ESTIMATES

* 2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	7.22	4.15	90.08	0.01	492.05	0.05	492.00

* 2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

A SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

RATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	99.29	88.83	903.22	1.06	183.97

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TALS (lbs/day,unmitigated)	160.94	106.79	922.23	1.34	184.02

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - 2005
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

truction Start Month and Year: June, 2003
truction Duration: 12
l Land Use Area to be Developed: 0 acres
num Acreage Disturbed Per Day: 49.2 acres
le Family Units: 756 Multi-Family Units: 448
il/Office/Institutional/Industrial Square Footage: 513158

TRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
2003***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	492.00	-	492.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	492.00	0.00	492.00
e 3 - Building Construction							
Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Const Worker Trips	7.22	4.15	90.08	0.01	0.92	0.05	0.87
Coatings Off-Gas	0.00	-	-	-	-	-	-
Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Off-Gas	0.00	-	-	-	-	-	-
alt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
alt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	7.22	4.15	90.08	0.01	0.92	0.05	0.87
x lbs/day all phases	7.22	4.15	90.08	0.01	492.05	0.05	492.00
2004***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 3 - Building Construction							
Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Const Worker Trips	6.62	3.86	82.84	0.01	0.92	0.05	0.87
Coatings Off-Gas	4,817.26	-	-	-	-	-	-
Coatings Worker Trips	5.94	2.66	67.97	0.01	0.92	0.05	0.87
alt Off-Gas	0.00	-	-	-	-	-	-
alt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
alt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74
x lbs/day all phases	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

: 3

e 1 - Demolition Assumptions: Phase Turned OFF

e 2 - Site Grading Assumptions
t Month/Year for Phase 2: Jun '03
e 2 Duration: 1.2 months
oad Truck Travel (VMT): 0
Road Equipment
. Type Horsepower Load Factor Hours/Day

e 3 - Building Construction Assumptions
t Month/Year for Phase 3: Jul '03
e 3 Duration: 10.2 months
art Month/Year for SubPhase Building: Jul '03
bPhase Building Duration: 10.2 months
f-Road Equipment
. Type Horsepower Load Factor Hours/Day
art Month/Year for SubPhase Architectural Coatings: May '04
bPhase Architectural Coatings Duration: 1 months
art Month/Year for SubPhase Asphalt: May '04
bPhase Asphalt Duration: 0.5 months
res to be Paved: 0
f-Road Equipment
. Type Horsepower Load Factor Hours/Day

SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
ural Gas	1.35	17.81	7.45	-	0.03
l Stoves - No summer emissions					
eplaces - No summer emissions					
dscaping	1.39	0.14	11.56	0.29	0.03
sumer Prdcts	58.90	-	-	-	-
ALS(lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
le family housing	34.79	39.24	405.23	0.47	81.31
tments low rise	17.26	18.60	192.11	0.22	38.55
entary school	2.02	2.74	27.30	0.03	5.68
school	45.00	28.07	276.78	0.33	58.05
& CPF	0.22	0.18	1.80	0.00	0.38
L EMISSIONS (lbs/day)	99.29	88.83	903.22	1.06	183.97

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

ATIONAL (Vehicle) EMISSION ESTIMATES

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

C Version: EMFAC2002 (9/2002)

ary of Land Uses:

Type	Trip Rate	Size	Total Trips
le family housing	8.50 trips / dwelling units	756.00	6,426.00
tments low rise	6.80 trips / dwelling units	448.00	3,046.40
entary school	42.30 trips / acre	11.10	469.53
school	1.70 trips / students	2,950.00	5,015.00
& CPF	3.27 trips / acre	10.40	34.01

cle Assumptions:

t Mix:

cle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
t Auto	54.40	0.40	99.40	0.20
t Truck < 3,750 lbs	15.30	0.70	98.00	1.30
t Truck 3,751- 5,750	16.40	0.60	98.80	0.60
Truck 5,751- 8,500	7.30	0.00	98.60	1.40
e-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
e-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
y-Heavy 33,001-60,000	0.80	0.00	0.00	100.00
e Haul > 60,000 lbs	0.00	0.00	0.00	100.00
an Bus	0.20	0.00	50.00	50.00
orcycle	1.60	50.00	50.00	0.00
ool Bus	0.10	0.00	0.00	100.00
or Home	1.50	0.00	93.30	6.70

vel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
an Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
al Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
p Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
f Trips - Residential	27.3	21.2	51.5			
f Trips - Commercial (by land use)						
mentary school				20.0	10.0	70.0
h school				10.0	5.0	85.0
k & CPF				2.0	1.0	97.0

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - ~~2005~~ 2020
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

TRUCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
ALS (lbs/day,unmitigated)	7.22	4.15	90.08	0.01	492.05	0.05	492.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
ALS (lbs/day,unmitigated)	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

ATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	75.22	60.86	658.65	1.05	183.85

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	136.87	78.82	677.66	1.34	183.91

URBEMIS 2002 For Windows 7.4.2

Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Village 7.urb
ect Name: Village 7 - 2005
ect Location: San Diego County
oad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

truction Start Month and Year: June, 2003
truction Duration: 12
l Land Use Area to be Developed: 0 acres
mum Acreage Disturbed Per Day: 49.2 acres
le Family Units: 756 Multi-Family Units: 448
il/Office/Institutional/Industrial Square Footage: 513158

TRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
2003***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e 2 - Site Grading Emissions							
tive Dust	-	-	-	-	492.00	-	492.00
Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
oad Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
er Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	0.00	0.00	0.00	0.00	492.00	0.00	492.00
e 3 - Building Construction							
Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Const Worker Trips	7.22	4.15	90.08	0.01	0.92	0.05	0.87
Coatings Off-Gas	0.00	-	-	-	-	-	-
Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Off-Gas	0.00	-	-	-	-	-	-
alt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
alt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
alt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ximum lbs/day	7.22	4.15	90.08	0.01	0.92	0.05	0.87
x lbs/day all phases	7.22	4.15	90.08	0.01	492.05	0.05	492.00
2004***							
e 1 - Demolition Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
se 2 - Site Grading Emissions							
tive Dust	-	-	-	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
se 3 - Building Construction							
g Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
g Const Worker Trips	6.62	3.86	82.84	0.01	0.92	0.05	0.87
n Coatings Off-Gas	4,817.26	-	-	-	-	-	-
n Coatings Worker Trips	5.94	2.66	67.97	0.01	0.92	0.05	0.87
halt Off-Gas	0.00	-	-	-	-	-	-
halt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
halt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
halt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aximum lbs/day	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74
ax lbs/day all phases	4,829.15	5.32	135.94	0.02	1.84	0.10	1.74

: 3

e 1 - Demolition Assumptions: Phase Turned OFF

e 2 - Site Grading Assumptions
t Month/Year for Phase 2: Jun '03
e 2 Duration: 1.2 months
oad Truck Travel (VMT): 0
Road Equipment
      Type   Horsepower   Load Factor   Hours/Day

e 3 - Building Construction Assumptions
t Month/Year for Phase 3: Jul '03
e 3 Duration: 10.2 months
art Month/Year for SubPhase Building: Jul '03
bPhase Building Duration: 10.2 months
f-Road Equipment
      Type   Horsepower   Load Factor   Hours/Day
art Month/Year for SubPhase Architectural Coatings: May '04
bPhase Architectural Coatings Duration: 1 months
art Month/Year for SubPhase Asphalt: May '04
bPhase Asphalt Duration: 0.5 months
es to be Paved: 0
f-Road Equipment
      Type   Horsepower   Load Factor   Hours/Day

SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
ural Gas	1.35	17.81	7.45	-	0.03
d Stoves - No summer emissions					
eplaces - No summer emissions					
dscaping	1.39	0.14	11.56	0.29	0.03
sumer Prdcts	58.90	-	-	-	-
ALS(lbs/day,unmitigated)	61.65	17.96	19.01	0.29	0.06

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
e family housing	25.84	26.88	295.31	0.47	81.26
ments low rise	12.87	12.74	140.00	0.22	38.52
ntary school	1.48	1.88	19.93	0.03	5.68
school	34.86	19.23	202.10	0.33	58.01
& CPF	0.17	0.13	1.31	0.00	0.38
EMISSIONS (lbs/day)	75.22	60.86	658.65	1.05	183.85

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

TIONAL (Vehicle) EMISSION ESTIMATES

sis Year: 2020 Temperature (F): 85 Season: Summer

Version: EMFAC2002 (9/2002)

ry of Land Uses:

Type	Trip Rate	Size	Total Trips
e family housing	8.50 trips / dwelling units	756.00	6,426.00
ments low rise	6.80 trips / dwelling units	448.00	3,046.40
ntary school	42.30 trips / acre	11.10	469.53
school	1.70 trips / students	2,950.00	5,015.00
& CPF	3.27 trips / acre	10.40	34.01

le Assumptions:

Mix:

le Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Auto	54.40	0.40	99.40	0.20
Truck < 3,750 lbs	15.30	0.70	98.00	1.30
Truck 3,751- 5,750	16.40	0.60	98.80	0.60
ruck 5,751- 8,500	7.30	0.00	98.60	1.40
Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Heavy 10,001-14,000	0.30	0.00	66.70	33.30
eavy 14,001-33,000	1.00	0.00	20.00	80.00
-Heavy 33,001-60,000	0.80	0.00	0.00	100.00
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Bus	0.20	0.00	50.00	50.00
cycle	1.60	50.00	50.00	0.00
l Bus	0.10	0.00	0.00	100.00
Home	1.50	0.00	93.30	6.70

l Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Trips - Residential	27.3	21.2	51.5			
Trips - Commercial (by land use)						
entary school				20.0	10.0	70.0
school				10.0	5.0	85.0
& CPF				2.0	1.0	97.0

URBEMIS 2002 For Windows 7.4.2

Name: <Not Saved>
ct Name: Village 7 - 2005
ct Location: San Diego County
ad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

RUCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	10.52	6.04	131.21	0.01	708.08	0.08	708.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	7,011.98	7.74	198.02	0.02	2.70	0.16	2.54

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	77.45	27.28	27.60	0.40	0.09

ATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	276.44	305.16	3,040.01	2.66	260.12

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	353.89	332.44	3,067.61	3.06	260.20

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
e family housing	107.51	130.95	1,324.96	1.15	111.60
ments low rise	37.85	44.57	450.98	0.39	37.99
ntary school	8.33	11.85	116.57	0.10	10.13
r high school	11.04	15.48	152.29	0.14	13.24
school	87.39	67.09	654.31	0.58	57.20
& CPF	0.59	0.63	6.06	0.01	0.53
rcial	23.74	34.59	334.85	0.30	29.43
EMISSIONS (lbs/day)	276.44	305.16	3,040.01	2.66	260.12

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

TIONAL (Vehicle) EMISSION ESTIMATES

sis Year: 2005 Temperature (F): 85 Season: Summer

Version: EMFAC2002 (9/2002)

ry of Land Uses:

Type	Trip Rate	Size	Total Trips
e family housing	8.34 trips / dwelling units	1,053.00	8,783.07
ments low rise	6.67 trips / dwelling units	448.00	2,989.50
ntary school	75.07 trips / acre	11.10	833.28
r high school	41.71 trips / acre	26.10	1,088.63
school	1.67 trips / students	2,950.00	4,920.60
& CPF	4.17 trips / acre	11.40	47.54
rcial	583.87 trips / acre	4.50	2,627.41

le Assumptions:

Mix:

le Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Auto	56.10	2.30	97.10	0.60
Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Truck 3,751- 5,750	15.50	1.90	96.80	1.30
ruck 5,751- 8,500	6.80	1.50	95.60	2.90
Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Heavy 10,001-14,000	0.30	0.00	66.70	33.30
eavy 14,001-33,000	1.00	10.00	20.00	70.00
-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Bus	0.10	0.00	0.00	100.00
cycle	1.60	87.50	12.50	0.00
l Bus	0.30	0.00	0.00	100.00
Home	1.40	14.30	78.60	7.10

el Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
l Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Trips - Residential	27.3	21.2	51.5			
Trips - Commercial (by land use)						
entary school				20.0	10.0	70.0
or high school				20.0	10.0	70.0
school				10.0	5.0	85.0
& CPF				2.0	1.0	97.0
ercial				2.0	1.0	97.0

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URBEMIS 2002 For Windows 7.4.2

ame: <Not Saved>
t Name: Village 7 - 2005
t Location: San Diego County
d Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

RUCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	10.52	6.04	131.21	0.01	708.08	0.08	708.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	7,011.98	7.74	198.02	0.02	2.70	0.16	2.54

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	77.45	27.28	27.60	0.40	0.09

TIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	191.49	206.42	2,042.67	1.50	259.46

F AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	268.94	233.70	2,070.27	1.89	259.55

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
family housing	73.16	88.54	891.69	0.64	111.32
ents low rise	25.90	30.14	303.51	0.22	37.89
tary school	5.54	8.02	78.21	0.06	10.10
high school	7.36	10.47	102.17	0.08	13.20
chool	63.34	45.41	438.68	0.33	57.06
CPF	0.41	0.42	4.06	0.00	0.53
cial	15.78	23.42	224.35	0.17	29.35
EMISSIONS (lbs/day)	191.49	206.42	2,042.67	1.50	259.46

ot include correction for passby trips.
ot include double counting adjustment for internal trips.

IONAL (Vehicle) EMISSION ESTIMATES

sis Year: 2010 Temperature (F): 85 Season: Summer

Version: EMFAC2002 (9/2002)

y of Land Uses:

Type	Trip Rate	Size	Total Trips
family housing	8.34 trips / dwelling units	1,053.00	8,783.07
ents low rise	6.67 trips / dwelling units	448.00	2,989.50
tary school	75.07 trips / acre	11.10	833.28
high school	41.71 trips / acre	26.10	1,088.63
school	1.67 trips / students	2,950.00	4,920.60
CPF	4.17 trips / acre	11.40	47.54
cial	583.87 trips / acre	4.50	2,627.41

le Assumptions:

Mix:

le Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Auto	54.70	1.10	98.70	0.20
Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Truck 3,751- 5,750	16.20	1.20	98.10	0.70
ruck 5,751- 8,500	7.30	1.40	95.90	2.70
Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Heavy 10,001-14,000	0.30	0.00	66.70	33.30
eavy 14,001-33,000	1.00	0.00	20.00	80.00
-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Bus	0.20	0.00	50.00	50.00
cycle	1.60	68.80	31.20	0.00
l Bus	0.10	0.00	0.00	100.00
Home	1.40	7.10	85.70	7.20

l Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Trips - Residential	27.3	21.2	51.5			
Trips - Commercial (by land use)						
entary school				20.0	10.0	70.0
r high school				20.0	10.0	70.0
school				10.0	5.0	85.0
& CPF				2.0	1.0	97.0
ercial				2.0	1.0	97.0

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URBEMIS 2002 For Windows 7.4.2

ame: <Not Saved>
t Name: Village 7 - 2005
t Location: San Diego County
d Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

UCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	10.52	6.04	131.21	0.01	708.08	0.08	708.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	7,011.98	7.74	198.02	0.02	2.70	0.16	2.54

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	77.45	27.28	27.60	0.40	0.09

TIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	127.82	125.10	1,267.02	1.49	259.01

F AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
LS (lbs/day,unmitigated)	205.27	152.38	1,294.62	1.89	259.09

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
e family housing	47.72	53.64	553.87	0.64	111.13
ents low rise	17.01	18.26	188.52	0.22	37.83
ntary school	3.51	4.86	48.45	0.06	10.09
r high school	4.68	6.35	63.29	0.08	13.18
school	44.63	27.54	271.57	0.33	56.96
& CPF	0.28	0.26	2.51	0.00	0.53
rcial	9.98	14.21	138.80	0.17	29.30
EMISSIONS (lbs/day)	127.82	125.10	1,267.02	1.49	259.01

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

TIONAL (Vehicle) EMISSION ESTIMATES

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

Version: EMFAC2002 (9/2002)

ry of Land Uses:

Type	Trip Rate	Size	Total Trips
e family housing	8.34 trips / dwelling units	1,053.00	8,783.07
ments low rise	6.67 trips / dwelling units	448.00	2,989.50
ntary school	75.07 trips / acre	11.10	833.28
r high school	41.71 trips / acre	26.10	1,088.63
school	1.67 trips / students	2,950.00	4,920.60
& CPF	4.17 trips / acre	11.40	47.54
rcial	583.87 trips / acre	4.50	2,627.41

le Assumptions:

Mix:

le Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Auto	54.40	0.40	99.40	0.20
Truck < 3,750 lbs	15.30	0.70	98.00	1.30
Truck 3,751- 5,750	16.40	0.60	98.80	0.60
ruck 5,751- 8,500	7.30	0.00	98.60	1.40
Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Heavy 10,001-14,000	0.30	0.00	66.70	33.30
eavy 14,001-33,000	1.00	0.00	20.00	80.00
-Heavy 33,001-60,000	0.80	0.00	0.00	100.00
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Bus	0.20	0.00	50.00	50.00
cycle	1.60	50.00	50.00	0.00
l Bus	0.10	0.00	0.00	100.00
Home	1.50	0.00	93.30	6.70

l Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Trips - Residential	27.3	21.2	51.5			
Trips - Commercial (by land use)						
entary school				20.0	10.0	70.0
or high school				20.0	10.0	70.0
school				10.0	5.0	85.0
& CPF				2.0	1.0	97.0
ercial				2.0	1.0	97.0

URBEMIS 2002 For Windows 7.4.2

Name: <Not Saved>
ct Name: Village 7 - 2005
ct Location: San Diego County
ad Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

RUCTION EMISSION ESTIMATES

2003 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	10.52	6.04	131.21	0.01	708.08	0.08	708.00

2004 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
LS (lbs/day,unmitigated)	7,011.98	7.74	198.02	0.02	2.70	0.16	2.54

SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	77.45	27.28	27.60	0.40	0.09

ATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	96.27	85.71	924.10	1.48	258.84

OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
ALS (lbs/day,unmitigated)	173.72	112.99	951.70	1.88	258.93

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
le family housing	35.45	36.74	403.63	0.64	111.06
tments low rise	12.69	12.51	137.38	0.22	37.80
entary school	2.57	3.33	35.37	0.06	10.08
or high school	3.44	4.35	46.20	0.08	13.17
school	34.59	18.87	198.30	0.32	56.92
& CPF	0.21	0.18	1.83	0.00	0.53
ercial	7.32	9.74	101.38	0.17	29.28
L EMISSIONS (lbs/day)	96.27	85.71	924.10	1.48	258.84

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

ATIONAL (Vehicle) EMISSION ESTIMATES

ysis Year: 2020 Temperature (F): 85 Season: Summer

C Version: EMFAC2002 (9/2002)

ary of Land Uses:

Type	Trip Rate	Size	Total Trips
le family housing	8.34 trips / dwelling units	1,053.00	8,783.07
tments low rise	6.67 trips / dwelling units	448.00	2,989.50
entary school	75.07 trips / acre	11.10	833.28
or high school	41.71 trips / acre	26.10	1,088.63
school	1.67 trips / students	2,950.00	4,920.60
& CPF	4.17 trips / acre	11.40	47.54
ercial	583.87 trips / acre	4.50	2,627.41

cle Assumptions:

t Mix:

cle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
t Auto	54.40	0.40	99.40	0.20
t Truck < 3,750 lbs	15.30	0.70	98.00	1.30
t Truck 3,751- 5,750	16.40	0.60	98.80	0.60
Truck 5,751- 8,500	7.30	0.00	98.60	1.40
-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Heavy 14,001-33,000	1.00	0.00	20.00	80.00
y-Heavy 33,001-60,000	0.80	0.00	0.00	100.00
Haul > 60,000 lbs	0.00	0.00	0.00	100.00
n Bus	0.20	0.00	50.00	50.00
rcycle	1.60	50.00	50.00	0.00
ol Bus	0.10	0.00	0.00	100.00
r Home	1.50	0.00	93.30	6.70

el Conditions

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

Trips - Commercial (by land use)

entary school	20.0	10.0	70.0
or high school	20.0	10.0	70.0
school	10.0	5.0	85.0
& CPF	2.0	1.0	97.0
ercial	2.0	1.0	97.0