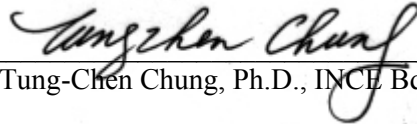


NOISE IMPACT ANALYSIS

**RANCHO PALOS VERDES GENERAL PLAN UPDATE
CITY OF RANCHO PALOS VERDES
LOS ANGELES COUNTY, CALIFORNIA**



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LSA

October 2010

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CITY OF RANCHO PALOS VERDES

LOS ANGELES COUNTY, CALIFORNIA

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October 2010

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INTRODUCTION

This Noise Impact Analysis has been prepared to evaluate the potential noise impacts associated with future development through build-out throughout the entire City in the Land Use Element of the updated General Plan of the City of Rancho Palos Verdes (City) in Los Angeles County, California.

PROJECT DESCRIPTION

The City is bounded by the Pacific Ocean to the west and south and is adjacent to the almost built-out jurisdictions of Palos Verdes Estates to the northwest, Rolling Hills Estates to the north, and Rolling Hills to the east. Figure 1 illustrates the City and its sphere of influence. The City is almost built out, and substantial areas of the City cannot be built on due to topographic constraints that restrict development. The City does not have any immediate access to a freeway, the closest freeway being Interstate 110 (I-110), which is located to the east of the City.

Based on the Land Use Element, although some vacant parcels within the City are undevelopable due to the severe terrain or other constraints, it is anticipated that development of the remaining 439 vacant developable parcels in the City would occur before the General Plan build-out is complete in 2035. In the traffic study for the General Plan Update (Willdan Engineering, July 19, 2010), these developable parcels were grouped into 28 traffic impact analysis zones so that the daily vehicle trips generated by these vacant parcels could be assessed in the General Plan Update traffic impact analysis. This Noise Impact Analysis includes the expected future development of the vacant lots within these 28 traffic impact analysis zones.

METHODOLOGY RELATED TO NOISE IMPACT ASSESSMENT

Evaluation of noise impacts associated with the proposed General Plan Update project includes the following:

- Discuss potential noise impacts associated with short-term construction and long-term operation of the developments on noise-sensitive uses adjacent to the 28 traffic impact analysis zones where these future development projects would occur.
- Determine the potential long-term traffic noise impacts due to future potential citywide development on the 28 traffic impact analysis zones.
- Evaluate potential mitigation measures for short-term and long-term noise impacts.

Because the City has not adopted any quantified noise criteria for environmental review under the California Environmental Quality Act (CEQA), this Noise Impact Analysis utilizes the noise and land use compatibility guidelines adopted in 1976 by the California Department of Health, Office of Noise Control, as thresholds against which potential noise impacts are evaluated.

CHARACTERISTICS OF SOUND

Sound is increasing in the environment and can affect quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

Figure 1: Regional and Project Location

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations (cycles per second) of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound and describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

MEASUREMENT OF SOUND

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times as much acoustic energy as one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 decibels. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source, noise in a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{\max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{\max} for short-term noise impacts. L_{\max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Another noise scale often used together with the L_{\max} in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts, which refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

PHYSIOLOGICAL EFFECTS OF NOISE

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA will result in dizziness and/or loss of equilibrium.

The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas.

Table A lists "Definitions of Acoustical Terms," and Table B shows "Common Sound Levels and Their Noise Sources." Table C shows "Land Use Compatibility for Exterior Community Noise," recommended by the California Department of Health, Office of Noise Control.

Table A: Definitions of Acoustical Terms

Term	Definition
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted, unless reported otherwise.)
L_{02} , L_{08} , L_{50} , L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max} , L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurement and Noise Control 1991.

Table B: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud

Table B: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposer	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	Reference Level
Average Office	60	Quiet	½ times as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ times as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	⅛ times as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc., 2004.

Table C: Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L _{dn} or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50–55	55–70	70+
Auditoriums, concert halls, amphitheaters	45–50	50–65	65–70	70+
Residential: low density single-family, duplex, mobile homes	50–55	55–70	70–75	75+
Residential: multifamily	50–60	60–70	70–75	75+
Transient lodging: motels, hotels	50–60	60–70	70–80	80+
Schools, libraries, churches, hospitals, nursing homes	50–60	60–70	70–80	80+
Actively used open spaces: playgrounds, neighborhood parks	50–67	—	67–73	73+

Table C: Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Golf courses, riding stables, water recreation, cemeteries	50–70	—	70–80	80+
Office buildings, commercial business and professional	50–67	67–75	75+	—
Industrial, manufacturing, utilities, agriculture	50–70	70–75	75+	—

Source: Office of Noise Control, California Department of Health, 1976.

Noise Range I—Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II—Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Noise Range III—Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV—Clearly Unacceptable: New construction or development should generally not be undertaken.

SETTING

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. In general, the City’s residential communities are spread throughout the entire City. These sensitive land uses, along with schools, hospitals, nursing homes, and churches, may be potentially affected by the noise associated with construction and operations of the potential future development sites on the 28 traffic impact analysis zones throughout the City.

Overview of the Existing Noise Environment

The primary existing noise sources in the City are transportation facilities. Traffic on major arterials such as Palos Verdes Drive, Hawthorne Boulevard, Crenshaw Boulevard, Crest Road, Crestridge Road, Western Avenue, Silver Spur Road, Highridge Road, Indian Peak Road, and Miraleste Drive is the source of ambient noise in the City.

The City has no railroad lines either in or abutting the City. Long Beach Municipal Airport is approximately 8 miles to the northeast and the runway orientation is from northwest to southeast. Aircraft operations at this airport would not affect the City. Torrance Municipal Airport is approximately 1.5 miles to the north and the runway orientation is also from the northwest to the southeast. Although there may be occasional flyovers by general aviation aircraft, there are no scheduled commercial flights flying directly over the City as part of the approach or departure routes. The City is well outside of the 60 dBA CNEL contours from both airports. As can be seen in the ambient noise survey discussed later, the majority of the monitoring locations did not register any distinguishable aircraft flyover noise. A detailed aircraft noise investigation is not warranted for the

proposed project. Therefore, discussion of noise associated with trains and airplanes within the City is limited to qualitative analysis only. The impact of buses and trucks is reflected in the traffic noise discussion below.

Existing Traffic Noise. Exterior land uses along the major arterials within the City limits would be potentially exposed to high noise levels if outdoor active use areas such as backyards and/or patios/balconies are directly adjacent to these roadways.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along major arterials within the City limits. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Table D provides the existing (2010) traffic noise levels adjacent to 29 segments of the roads with average daily traffic (ADT) volumes provided in the traffic study prepared for this General Plan Update (Willdan Engineering, July 19, 2010). These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

Traffic noise would be considered low if the 70, 65, and 60 dBA CNEL contours are all confined within the roadway right-of-way, moderate if the 70 dBA CNEL contour is confined within the roadway right-of-way but the 65 and 60 dBA CNEL contours extend to beyond the right-of-way, and high if the 70, 65, and 60 dBA CNEL contours all extend to beyond the roadway right-of-way. Previously referenced Table D shows that the existing traffic noise along the major arterials within the City range from moderate (Highridge Road, Indian Peak Road, Miraleste Drive, Palos Verdes Drive, Silver Spur Road, Crest Road, Crestridge Road, Western Avenue, and a portion of Crenshaw Boulevard and Hawthorne Boulevard) to high (Hawthorne Boulevard and majority of Crenshaw Boulevard).

Ambient Noise Monitoring Results. LSA conducted ambient noise monitoring within the City from October 20 through 23, 2009, and on August 18, 2010. Table E lists the noise measurement location and noise sources observed during the noise measurement periods. Table F shows that ambient noise within the City is moderate, with the L_{eq} ranging from 42.4 to 75.0 dBA. In general, vehicular traffic is the dominant noise source within the City, especially in areas adjacent to arterials and major collector streets. Other noise sources that contributed to the ambient noise included car alarms, engine startups, car doors shutting, reverse beeping, car brakes, honking, lawn mowers, weed whackers, dust blowers, people, music, shopping carts, dogs barking, construction activity, birds/crows chirping, whistle blowing, school bell ringing, airplane and helicopter overflight, ambulance siren, children playing at playground, air conditioning units, chain-link fence clanking, and trees rustling in the wind. Figure 2 depicts the noise monitoring locations.

Table D: Existing (2010) Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (Feet)	Centerline to 65 CNEL (Feet)	Centerline to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Crenshaw Boulevard from North City Limit to Indian Peak Road	23,500	65	133	283	69.1
Crenshaw Boulevard from Indian Peak Road to Crest Road	15,500	< 50	102	215	67.3
Crest Road from Hawthorne Boulevard to Crenshaw Boulevard	13,200	< 50	77	160	65.3
Crest Road from Palos Verdes Drive East to Ganado Drive	3,000	< 50	< 50	59	60.4
Crestridge Road from Highridge Road to Crenshaw Boulevard	9,200	< 50	59	125	64.7
Hawthorne Boulevard from North City Limit to Blackhorse Road	28,000	72	149	318	69.9
Hawthorne Boulevard from Blackhorse Road to Indian Peak Road	26,100	70	143	304	69.5
Hawthorne Boulevard from Indian Peak Road to Grayslake Road/Highridge Road	41,400	92	193	413	71.6
Hawthorne Boulevard from Grayslake Road/Highridge Road to Granvia Altamira/Ridgegate Drive	28,700	74	152	324	70.0
Hawthorne Boulevard from Granvia Altamira/Ridgegate Drive to Eddinghill Drive/Seamount Drive	21,900	63	127	271	68.8
Hawthorne Boulevard from Eddinghill Drive/Seamount Drive to Crest Road	17,400	< 50	110	232	67.8
Hawthorne Boulevard from Crest Road to Vallon Drive	19,200	58	117	248	68.2
Hawthorne Boulevard from Vallon Drive to Palos Verdes Drive West	16,900	< 50	108	228	67.7
Highridge Road from Hawthorne Boulevard to City Limit with Rolling Hills Estates	8,800	< 50	< 50	98	63.1
Indian Peak Road from Crenshaw Boulevard to City Limit with Rolling Hills Estates	9,100	< 50	< 50	100	63.2
Miraleste Drive from Palos Verdes Drive East to 1 st Street	16,100	< 50	69	146	65.7
Miraleste Drive from 1 st St. to East City Limit at 9 th Street	6,100	< 50	< 50	76	62.0
Palos Verdes Drive East from North City Limit to Miraleste Drive	14,600	< 50	79	170	67.3
Palos Verdes Drive East from Miraleste Drive to north of Crest Drive	10,500	< 50	63	136	65.8
Palos Verdes Drive East from north of Crest Drive to Ganado Drive	7,900	< 50	< 50	92	62.1
Palos Verdes Drive East from Ganado Drive to Palos Verdes Drive South	5,100	< 50	< 50	68	61.3

Table D: Existing (2010) Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (Feet)	Centerline to 65 CNEL (Feet)	Centerline to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Palos Verdes Drive South from Palos Verdes Drive West and Crestmont Lane/Terranea Way	13,300	< 50	93	195	66.6
Palos Verdes Drive South from Crestmont Lane/Terranea Way to Forrestal Drive/Ocean Trails Drive	13,200	< 50	92	194	66.6
Palos Verdes Drive South from Forrestal Drive/Ocean Trails Drive to Palos Verdes Drive East	16,600	< 50	107	225	67.6
Palos Verdes Drive South from Palos Verdes Drive East to East City Limit	15,200	< 50	98	212	68.7
Palos Verdes Drive West from North City Limit to Hawthorne Boulevard	14,000	< 50	96	201	66.8
Palos Verdes Drive West from Hawthorne Boulevard to Palos Verdes Drive South	16,000	< 50	104	220	67.4
Silver Spur Road from North City Limit to North of Hawthorne Boulevard	9,200	< 50	71	152	65.9
Western Avenue from North City Limit to South City Limit	21,900	< 50	86	180	66.1

Source: LSA Associates, Inc., August 2010.

Note: ADT values rounded up to the nearest 100. Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibel

Table E: Noise Measurement Location and Noise Sources

Site	Location Description	Noise Sources
M-1	Southeast corner of Palos Verdes Drive West and Hawthorne Boulevard	Traffic on Palos Verdes Drive and Hawthorne Boulevard; traffic in parking lot of 7-Eleven store; lawnmower/weed whacker/dust blower; cars at gas station; and buses at nearby bus stop
M-2	Northeast corner of Hawthorne Boulevard and Granvia Altamira/Ridgegate Drive	Traffic on Hawthorne Boulevard and Granvia Altamira/Ridgegate Drive; car brakes squeaking at intersection; engine starting and car doors shutting; reverse beeping; people talking at the 7-Eleven parking lot; workers spray-painting wall and listening to loud music

Table E: Noise Measurement Location and Noise Sources

Site	Location Description	Noise Sources
M-3	Northeast corner of Hawthorne Boulevard and Seamount Drive/Eddinghill Drive	Traffic on Hawthorne Boulevard and Seamount Drive/Eddinghill Drive; dog barking; construction hammering; car brakes squeaking when stopping; driver asking question; music from car radio; weed whacker to the west
M-4	Southwest corner of Hawthorne Boulevard and Crest Road, near Ralph's Supermarket	Traffic on Hawthorne Boulevard and Crest Road; shopping carts clanking from Ralph's Supermarket to the north; engine starting; car door shutting; car alarm; car brakes squeaking at intersection; people chattering
M-5	Southwest corner of Hawthorne Boulevard and Alta Vista Drive	Traffic on Hawthorne Boulevard and Alta Vista Drive; birds chirping; construction or landscaping activity in the distance; cars braking and screeching
M-6	Southeast corner of Hawthorne Boulevard and Vallon Drive	Birds chirping; traffic on Hawthorne Boulevard and Vallon Drive; truck honking; bikers riding by; conversation by pedestrians passing by; cars braking and squeaking at intersection
M-7	Northeast corner of Hawthorne Boulevard and Grayslake Road/Highridge Road	Traffic on Hawthorne Boulevard and Grayslake Road/ Highridge Road; carwash across street at Chevron Station; car brakes squeaking; car honking; people talking in car while stopping at intersection; construction activity in the distance
M-8	Southeast corner of Crest Road and Highridge Road	Traffic on Crest Road and Highridge Road; conversation by pedestrians walking by; truck dumping trash cans and beeping in distance; car radio from car stopped in front of sound level meter
M-9	Northwest corner of Silver Spur Road and Basswood Avenue	Traffic on Silver Spur Road and Basswood Avenue; students walking by and talking/yelling; car alarms; car doors shutting; car brakes squeaking; honking; crow chirping; car playing music passing by; engine revving; whistle blowing at high school to the east
M-10	Southeast corner of Hawthorne Boulevard and Blackhorse Road	Traffic on Hawthorne Boulevard and Blackhorse Road; kids passing by; car doors shutting when kids are dropped off along Hawthorne Boulevard; bus brakes squeaking; kids talking while passing by
M-11	Southwest corner of Crenshaw Boulevard and Crestridge Road; Palos Verdes Art Center parking lot at 5504 Crenshaw Boulevard	Traffic on Crenshaw Boulevard and Crestridge Road; cars stopping at intersection with brakes squeaking; cars pulling into Art Center parking lot
M-12	Southwest corner of Palos Verdes Drive East and Crest Road, in parking lot of Marymount College	Traffic on Palos Verdes Drive and Crest Road; cars in and out of the parking lot; car doors shutting; car alarms; dog barking; car engine starting; car brakes squeaking; birds chirping; students talking while passing by; loud music; airplane overflight; weed whacker in the distance

Table E: Noise Measurement Location and Noise Sources

Site	Location Description	Noise Sources
M-13	Northwest corner of Western Avenue and Toscanini Drive, near 1803 Toscanini Drive	Traffic on Western Avenue and Toscanini Drive; car brakes squeaking; bikers passing by
M-14	Northwest corner of Hawthorne Boulevard and Locklenna Lane at Fred Hesse Community Park; 29301 Hawthorne Boulevard	Traffic on Hawthorne Boulevard and Locklenna Lane; people playing sports in park to the west; cars pulling in and out of park entrance; car alarm in Community Park parking lot
M-15	Northeast corner of Montemalaga Drive and Grayslake Road	Traffic on Montemalaga Drive and Grayslake Road; car passing playing loud music; birds chirping; airplane overflight; crow cawing
M-16	Southeast corner of Hawthorne Boulevard and Silver Spur Road	Traffic on Hawthorne Boulevard and Silver Spur Road; Arco station carwash; engine starting; doors shutting; car alarm; and cars pulling in and out of the gas station; car brakes squeaking; ambulance passing by on Hawthorne Boulevard with siren on; bus stopping at bus stop; honking
M-17	Southeast corner of Palos Verdes Drive East and Palos Verdes Drive South	Traffic on Palos Verdes Drive East and Palos Verdes Drive South; crow cawing; car tires peeling out on turn; brakes squeaking
M-18	Northeast corner of Palos Verdes Drive East and Rockinghorse Road, at 9 Rockinghorse Road residence	Traffic on Palos Verdes Drive East and Rockinghorse Road; residents talking while rolling trash can up driveway to street; car door shutting; engine starting; car pulling out of driveway; birds chirping; dogs barking
M-19	West end of Crest before turning into private property (Rancho Palos Verdes Estates), near 3867 Crest Road	Traffic on Crest Road coming in and out of private gated residential community; biker passing by; birds chirping; leaves falling from trees; aircraft overflight
M-20	Southwest corner on Crestwood Street and Western Avenue, at 29505 Western Avenue	Traffic on Crestwood Street and Western Avenue; people talking close by; truck beeping backing up; cars starting; cars pulling in and out of nearby lots; car brakes squeaking; horn honking; helicopter overflight
M-21	Southwest corner of Western Avenue and Peninsula Verde Drive, northeast corner of cemetery, 5 feet from Western Avenue near 1802 Peninsula Verdes Drive	Traffic passing on Western Avenue; cars pulling in and out of Peninsula Verdes Drive; helicopter overflight
A-1	Northwest corner of Crenshaw Boulevard and Crestridge Road, across from Palos Verdes Art Center	Traffic on Crenshaw Boulevard and Crestridge Road; cars pulling in and out of the Art Center
A-2	Belmont Village Assisted Living Facility entrance; 5701 Crestridge Road	Traffic on Crestridge Road; employee parking gate opening; cars entering and leaving the facility; landscaping activity; helicopter overflight
A-3	North side of Indian Peak Road	Traffic on Indian Peak Road; brakes squeaking; birds chirping; air conditioning units humming from nearby building; bikers passing by

Table E: Noise Measurement Location and Noise Sources

Site	Location Description	Noise Sources
B-1	Golden Cove Shopping Center, 31100 Hawthorne Boulevard	Traffic on Hawthorne Boulevard; cars and motorcycles entering parking lot; construction activity to the west; conversation by construction workers and pedestrians passing by; children playing at nearby Peninsula Montessori School
B-2	Villa Capri Condos, 50 feet from Hawthorne Boulevard	Traffic on Hawthorne Boulevard; car doors shutting; engine startup; conversation by pedestrians passing by on sidewalk
B-3	Villa Capri Condos, at cul-de-sac behind a large building at Golden Cove Shopping Center	Truck loading/unloading at Golden Cove Shopping Center; dog barking; crows cawing; store employees conversing; air conditioning units associated with commercial uses; cars passing by behind store building
C-1	Southeast corner of parking lot at St. John Fisher Church, 5448 Crest Road	Children yelling and screaming at church school playground to the west; car alarms; engine starting; car doors shutting at church parking lot; conversation by people nearby; school bell ringing; helicopter and aircraft overflight; crow chirping; construction or landscaping activity in the distance
C-2	Northwest corner of St. John Fisher Church/Fisher School parking lot	Traffic on Crenshaw Boulevard and Crest Road; children yelling and playing close by in parking lot near playground; cars stopping at intersection; barking and screeching; school instructor's whistle blowing; school bell ringing
C-3	Northwest corner of Crenshaw Boulevard and Crest Road; east of Villa Verde Condos	Traffic on Crenshaw Boulevard and Crest Road; car brakes squeaking at intersection; small airplane overflight
D-1	Northeast corner of Rolling Hills Seventh-Day Adventist Church parking lot; 28340 Highridge Road	Traffic on Highridge Road and Hawthorne Boulevard; birds chirping; reverse beeping from truck in the distance; car alarms; trees rustling from wind; airplane overflight; people talking in residential area to the east
D-2	West of Rolling Hills Seventh-Day Adventist Church parking lot entrance at 28340 Highridge Road	Traffic on Highridge Road; birds/crows chirping; landscaping activity to the west; trash can lids slamming; workers yelling; dog barking in distance; chain-link fence clanking; airplane overflight
D-3	Southwest corner of Hawthorne Boulevard and Indian Peak Road; inside auto service station parking lot at 27505 Hawthorne Boulevard	Traffic on Hawthorne Boulevard and Indian Peak Road; cars honking; car brakes squeaking; auto shop service noise; engine starting in auto garage

Source: LSA Associates, Inc., October 2009.

Table F: Short-Term Ambient Noise Monitoring Results

Site	Date	Start Time	Duration (minutes)	L _{eq}	L _{max}	L _{min}	L ₂	L ₈	L ₂₅	L ₅₀
M-1	10/20/09	10:15 a.m.	20	68.8	88.3	51.2	75.8	70.0	66.5	63.7
M-2	10/22/09	10:23 a.m.	20	68.7	79.5	59.1	75.1	72.7	69.5	66.1
M-3	10/22/09	9:45 a.m.	20	69.3	83.0	50.1	76.6	73.7	70.4	66.1
M-4	10/21/09	10:36 a.m.	20	61.6	73.5	49.5	68.8	65.6	62.0	59.3
M-5	10/21/09	9:58 a.m.	20	69.7	84.9	44.3	76.9	74.0	70.5	66.4
M-6	10/21/09	9:21 a.m.	20	70.0	88.4	42.0	76.9	73.8	70.3	65.4
M-7	10/22/09	11:21 a.m.	20	70.4	83.0	54.6	76.5	74.1	71.5	68.4
M-8	10/21/09	11:19 a.m.	20	62.6	82.2	41.8	70.6	67.3	62.3	56.9
M-9	10/22/09	3:06 p.m.	20	61.5	80.3	48.0	67.9	65.5	62.1	57.6
M-10	10/22/09	4:13 p.m.	20	68.5	85.1	45.8	74.5	72.2	69.6	65.5
M-11	10/21/09	2:28 p.m.	20	63.5	74.6	49.2	70.1	67.8	64.6	60.8
M-12	10/23/09	1:14 p.m.	20	57.7	71.2	38.7	67.1	62.4	57.0	52.1
M-13	10/23/09	12:16 p.m.	20	73.4	85.6	57.2	79.7	77.2	74.5	71.5
M-14	10/21/09	4:27 p.m.	20	64.6	72.9	40.5	70.8	69.0	66.4	62.9
M-15	10/22/09	3:42 p.m.	20	60.8	83.0	37.1	69.1	63.1	59.1	55.1
M-16	10/22/09	2:20 p.m.	20	73.7	93.0	55.9	81.1	73.2	68.6	64.9
M-17	10/23/09	1:45 p.m.	20	66.5	84.9	38.5	74.1	70.6	65.7	62.4
M-18	10/22/09	5:30 p.m.	20	60.6	78.1	42.0	66.6	63.9	61.5	58.6
M-19	8/18/10	1:05 p.m.	20	42.4	55.8	36.0	49.5	45.9	42.0	39.5
M-20	8/18/10	2:03 p.m.	20	64.6	81.8	50.9	72.4	68.2	64.0	60.8
M-21	8/18/10	2:43 p.m.	20	75.0	87.1	55.9	80.9	78.7	76.3	73.5
A-1	10/21/09	2:58 p.m.	20	65.9	79.1	53.8	71.4	69.4	66.9	64.3
A-2	10/21/09	3:33 p.m.	20	62.1	74.6	42.8	69.1	67.3	63.4	57.6
A-3	10/23/09	2:44 p.m.	20	66.6	76.3	49.9	72.6	71.1	68.9	63.9
B-1	10/20/09	11:35 a.m.	20	69.4	82.1	41.9	76.8	73.7	70.4	66.3

Table F: Short-Term Ambient Noise Monitoring Results

Site	Date	Start Time	Duration (minutes)	L _{eq}	L _{max}	L _{min}	L ₂	L ₈	L ₂₅	L ₅₀
B-2	10/20/09	12:18 p.m.	20	56.0	71.3	38.7	61.5	59.4	56.9	54.5
B-3	10/20/09	1:57 p.m.	20	49.6	58.8	41.9	55.5	52.4	50.8	50.0
C-1	10/21/09	12:31 p.m.	20	57.9	82.6	35.6	56.9	52.3	44.5	41.4
C-2	10/21/09	1:13 p.m.	20	58.5	70.9	48.1	65.8	61.5	58.5	56.4
C-3	10/21/09	1:52 p.m.	20	58.0	70.1	41.2	64.4	61.3	59.0	56.8
D-1	10/22/09	12:29 p.m.	20	45.4	57.4	42.0	50.1	47.6	45.4	44.4
D-2	10/22/09	12:55 p.m.	20	54.8	71.3	35.8	62.2	59.1	55.4	50.1
D-3	10/22/09	1:35 pm	20	68.9	79.3	57.2	75.0	72.9	70.2	67.2

Source: LSA Associates, Inc., October 2009.

- L₂ = the noise level exceeded two percent of the time
- L₈ = the noise level exceeded eight percent of the time
- L₂₅ = the noise level exceeded a quarter of the time
- L₅₀ = median noise level
- L_{eq} = equivalent continuous noise level
- L_{max} = maximum noise level
- L_{min} = minimum noise level

Figure 2: Ambient Noise Monitoring Locations

Thresholds of Significance

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located.

City of Rancho Palos Verdes Noise Standards. The City's current General Plan Noise Element discusses the noise environment, noise effects on people, and noise sources within the City. It also discusses potential solutions to excessive noise. The City's policies include the following:

1. Mitigate impacts generated by steady state noise intrusion (e.g., land strip buffers, landscaping, and site design).
2. Develop an ordinance to control noise.
3. Regulate land use so that there is a minimal degree of noise impact on adjacent land uses.
4. Contain through traffic to existing arterials and collectors so that local roads are not used as by-passes or shortcuts so as to minimize noise.
5. Require residential uses in the 70 dBA location range to provide regulatory screening or some other noise inhibiting agent to ensure compliance with the noise ordinance.
6. Control traffic flows of heavy construction vehicles en route to and from construction sites to minimize noise.
7. Maintain current and up-to-date information on noise control measures, on fixed point and vehicular noise sources.
8. Require strict noise attenuation measures to be taken in all multifamily residential units.
9. Coordinate with all public agencies, especially our adjoining neighbors, who might wish to enter into a joint effort to study and/or control noise emissions.
10. Review noise attenuation measures applicable to home, apartment, and office building construction, make appropriate proposals for the City zoning ordinance, and make appropriate recommendations for modifying the Los Angeles County Building Code.
11. Encourage the State and Federal governments to actively control and reduce vehicle noise emissions.
12. Encourage State law enforcement agencies such as the California Highway Patrol to vigorously enforce all laws which call for the control and/or reduction of noise emissions.

The City's Municipal Code, Title 17, Chapter 12, Section 030 (17.12.030), Development Standards, stated that within the commercial districts, certain restrictions on noise associated with deliveries and mechanical equipment have been identified. It states that "Unless otherwise specified in an approved conditional use permit or other discretionary approval, all deliveries of commercial goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of sixty-five dBA, as measured from the closest property line to the mechanical equipment, shall only be allowed on

commercial properties which abut a residential district, between the hours of seven a.m. and seven p.m., Monday through Sunday.”

In addition, The City’s Municipal Code, Title 17, Chapter 56, Section 020 (17.56.020), Conduct of construction and landscaping activities, states that “It is unlawful to carry on construction, grading or landscaping activities or to operate heavy equipment except between the hours of seven a.m. and seven p.m. Monday through Saturday. No such activity shall be permitted on Sunday or legal holidays, unless a special construction permit is obtained from the director” of the Community Development Department.

Title 8, Chapter 04, Section 010 (8.04.010) of the City’s Municipal Code states that “Except as hereinafter provided, Title 11, entitled ‘Health and Safety,’ of the Los Angeles County Code, as amended and in effect on September 1, 1998, is adopted by reference as the health code of the City of Rancho Palos Verdes and may be cited as such.”

However, because the City has not adopted any quantitative noise level criteria for the CEQA review process, the noise standards recommended in the State’s guidelines, as shown in previously referenced Table C, are used in this Noise Impact Analysis. Typically, residential uses in areas exposed to traffic noise levels exceeding 65 dBA CNEL is not considered acceptable. Mitigation measures would need to be incorporated to ensure that the State’s 45 dBA CNEL interior noise standard for residential uses is achieved.

PROJECT IMPACTS

Construction Noise

Short-term noise impacts would be associated with excavation, grading, and erecting of buildings during construction of any future development on the 28 traffic impact analysis zones within the City identified in the Traffic Impact Analysis (Wildan Engineering, July 19, 2010). Construction-related short-term noise levels would be higher than existing ambient noise levels in the vicinity of these 28 traffic impact analysis zones today but would no longer occur once construction of the individual project on any of the 28 traffic impact analysis zones is completed.

Two types of short-term noise impacts could occur during the construction of any individual project on these 28 traffic impact analysis zones. First, construction crew commutes and the transport of construction equipment and materials to the individual vacant parcel site would incrementally increase noise levels on access roads leading to that individual vacant parcel site. There will be a relatively high single-event noise exposure potential at a maximum level of 87 dBA L_{max} with trucks passing at 50 feet (ft). However, the projected construction traffic will be small when compared to the existing traffic volumes on affected streets in the vicinity of these 28 traffic impact analysis zones, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would not be substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, and/or construction on the individual vacant parcel site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These

various sequential phases may change the character of the noise generated on the individual vacant parcel site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table G lists maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor. Typical maximum noise levels range up to 91 dBA at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the individual vacant parcel site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

Table G: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jackhammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Dozers	77–90	85
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoes	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek, & Newman, 1987.

dBA = A-weighted decibel

L_{max} = maximum noise level

Construction of any future development on these 28 traffic impact analysis zones is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. This equipment would be used on the individual vacant parcel site. Based on Table G, the maximum noise level generated by each scraper on the individual vacant parcel site is assumed to be 87 dBA L_{max} at 50 ft from the scraper. Each bulldozer would also generate 85 dBA L_{max} at 50 ft. The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 50 ft from these vehicles. Each

doubling of a sound source with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level at each receptor location during this phase of construction would be 91 dBA L_{max} at a distance of 50 ft from the active construction area.

Although the City's Municipal Code does not specify an upper noise limits for construction activity, a temporary construction barrier with a minimum height of 6 ft is recommended along the project boundaries when this type of equipment is used adjacent to the areas with the closest existing residences. The temporary construction barriers can use particle boards or gypsum boards, with no gaps or holes in them that could potentially deteriorate the noise attenuation effect. In addition, compliance with the construction hours specified in the City's Municipal Code noise control ordinance would be required.

Traffic Noise Impact

Exterior land uses proposed on the vacant parcels along Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (Analysis Zone [AZ] 19), Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), Palos Verdes Drive between Ganado Drive and Palos Verdes Drive South (AZ 26), Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), and Silver Spur Road between north City limit and north of Hawthorne Boulevard (AZ 4) would be potentially exposed to high traffic noise levels from these roads.

The other remaining 15 traffic analysis zones are not adjacent to any major arterials or collector street segments with relatively high traffic volumes and therefore would not be exposed to high traffic noise levels reaching the 65 dBA CNEL exterior noise standard. The future traffic volumes for roadway segments analyzed in the General Plan Build Out with and without project scenarios are provided in the traffic study for the General Plan Update (Willdan Engineering, July 19, 2010).

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along arterials and major collector roads within the City and in the vicinity of the 13 traffic analysis zones with potential future developments along the major arterials identified above (AZs 4, 10, 11, 12, 15, 16, 19, 21, 23, 24, 26, 27, and 28).

This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Table H provides the General Plan Build Out traffic noise levels adjacent to the same roadway segments evaluated in the existing environment. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

Table H shows that, after General Plan build out, future traffic noise levels along the major arterials and collector roads within the City, as identified in the Traffic Impact Analysis (Willdan Engineering, July 19, 2010) would add 0.7 to 2.3 dBA to corresponding existing traffic noise levels along arterials and major collector roads within the City. This range of traffic noise level changes is not considered significant and no significant growth-related traffic noise impacts would occur on existing uses throughout the City.

Table H: General Plan Build Out Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (Feet)	Center-line to 65 CNEL (Feet)	Center-line to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Crenshaw Boulevard from North City Limit to Indian Peak Road	31,300	77	161	343	70.3	1.2
Crenshaw Boulevard from Indian Peak Road to Crest Road	23,600	66	134	284	69.1	1.8
Crest Road from Hawthorne Boulevard to Crenshaw Boulevard	19,500	< 50	98	207	67.0	1.7
Crest Road from Palos Verdes Drive East to Ganado Drive	3,500	< 50	< 50	66	61.1	0.7
Crestridge Road from Highridge Road to Crenshaw Boulevard	11,800	< 50	69	147	65.8	1.1
Hawthorne Boulevard from North City Limit to Blackhorse Road	36,900	86	179	382	71.1	1.2
Hawthorne Boulevard from Blackhorse Road to Indian Peak Road	34,800	83	172	368	70.8	1.3
Hawthorne Boulevard from Indian Peak Road to Grayslake Road/Highridge Road	53,000	107	227	486	72.6	1.0
Hawthorne Boulevard from Grayslake Road/Highridge Road to Granvia Altamira/Ridgegate Drive	37,500	87	181	386	71.1	1.1
Hawthorne Boulevard from Granvia Altamira/Ridgegate Drive to Eddinghill Drive/Seamount Drive	29,300	74	154	328	70.0	1.2
Hawthorne Boulevard from Eddinghill Drive/Seamount Drive to Crest Road	23,700	66	134	285	69.1	1.3
Hawthorne Boulevard from Crest Road to Vallon Drive	29,300	74	154	328	70.0	1.8

Table H: General Plan Build Out Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (Feet)	Center-line to 65 CNEL (Feet)	Center-line to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Hawthorne Boulevard from Vallon Drive to Palos Verdes Drive West	26,600	70	144	308	69.6	1.9
Highridge Road from Hawthorne Boulevard to City Limit with Rolling Hills Estates	10,600	< 50	52	111	63.9	0.8
Indian Peak Road from Crenshaw Boulevard to City Limit with Rolling Hills Estates	12,700	< 50	59	125	64.7	1.5
Miraleste Drive from Palos Verdes Drive East to 1 st Street	19,100	< 50	77	163	66.4	0.7
Miraleste Drive from 1 st Street to East City Limit at 9 th Street	7,500	< 50	< 50	88	62.9	0.9
Palos Verdes Drive East from North City Limit to Miraleste Drive	19,100	< 50	94	203	68.4	1.1
Palos Verdes Drive East from Miraleste Drive to North of Crest Drive	14,500	< 50	79	169	67.2	1.4
Palos Verdes Drive East from North of Crest Drive to Ganado Drive	11,400	< 50	57	117	63.7	1.6
Palos Verdes Drive East from Ganado Drive to Palos Verdes Drive South	7,100	< 50	< 50	85	62.7	1.4
Palos Verdes Drive South from Palos Verdes Drive West and Crestmont Lane/Terranea Way	22,700	64	130	277	68.9	2.3
Palos Verdes Drive South from Crestmont Lane/Terranea Way to Forrestal Drive/Ocean Trails Drive	21,700	63	127	269	68.7	2.1

Table H: General Plan Build Out Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (Feet)	Center-line to 65 CNEL (Feet)	Center-line to 60 CNEL (Feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Palos Verdes Drive South from Forrestal Drive/Ocean Trails Drive to Palos Verdes Drive East	25,100	68	139	296	69.4	1.8
Palos Verdes Drive South from Palos Verdes Drive East to East City Limit	23,100	61	130	280	70.5	1.8
Palos Verdes Drive West from North City Limit to Hawthorne Boulevard	18,900	58	116	245	68.1	1.3
Palos Verdes Drive West from Hawthorne Boulevard to Palos Verdes Drive South	25,900	69	142	302	69.5	2.1
Silver Spur Road from North City Limit to north of Hawthorne Boulevard	11,200	< 50	81	173	66.8	0.9
Western Avenue from North City Limit to South City Limit	30,500	< 50	106	224	67.5	1.4

Source: LSA Associates, Inc., August 2010.

Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Based on the Land Use Element and the traffic study for the General Plan Update (Willdan Engineering, July 19, 2010), it is anticipated that development would occur on the 28 traffic impact analysis zones identified in the Traffic Impact Analysis before the General Plan Build Out. One of the City's policies requires residential uses in the 70 dBA location range to provide regulatory screening or some other noise-inhibiting agent to ensure compliance with the noise ordinance.

Outdoor Active Use Areas. Previously referenced Table H shows that the 65 dBA CNEL noise contour along arterials and major collector roads in the vicinity of the 13 vacant analysis zones identified previously (AZs 4, 10, 11, 12, 15, 16, 19, 21, 23, 24, 26, 27, and 28) would potentially affect the outdoor active use areas such as backyards, patios, or balconies along these roads. All outdoor active use areas proposed within the impact zone of the 65 dBA CNEL should require a sound wall to ensure that the 65 dBA CNEL exterior noise standard is not exceeded. The remaining 15 traffic analysis zones of the 28 traffic impact zones are not adjacent to any arterials or collector streets with relative high traffic volumes and will not be experience potential high traffic noise levels and are therefore not evaluated for traffic noise impacts as discussed earlier.

As shown in Table H, the following roadway segments adjacent to the 13 vacant developable parcels/analysis zones (AZs 4, 10, 11, 12, 15, 16, 19, 21, 23, 24, 26, 27, and 28) would have the 65 dBA CNEL noise contour extending beyond the roadway right-of-way. Therefore, outdoor active use areas, such as backyards, patios, or balconies proposed on these vacant parcels that are within the following distances from the roadway centerline may require mitigation measures, such as stand-alone sound barriers (along the property line for the backyards or along the perimeter of the patios and/or balconies), to reduce the exterior traffic noise to 65 dBA CNEL or lower:

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 98 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 154 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 94 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 79 ft;
- Palos Verdes Drive between Ganado Drive and Palos Verdes Drive South (AZ 26), 39 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 116 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 142 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 81 ft.

If there are substantial differences between the elevations of the noise-generating roadway segment and the private outdoor active use areas, sound barriers are most effective when constructed at the side with higher elevation. For example, if the road is higher than the residential property, sound barrier built along the right-of-way or edge of shoulder is more effective than sound barrier built along the property line.

Interior Noise Levels. Based on the data provided in the EPA's Protective Noise Levels (EPA 550/9-79-100, November 1979), standard homes in Southern California provide at least 12 dBA of exterior to interior noise attenuation with windows open and 24 dBA with windows closed. Therefore, homes exposed to exterior traffic noise levels lower than 69 dBA CNEL ($45 + 24 = 69$ dBA) would not have their interior noise level exceeding the 45 dBA CNEL standard with windows closed. With windows open, homes exposed to exterior traffic noise levels exceeding 57 dBA CNEL ($45 + 12 = 57$ dBA) would exceed the 45 dBA CNEL interior noise standard. Residential homes proposed within the following distance from the roadway centerline that have no natural or manmade barriers providing shielding effect would be potentially exposed to traffic noise levels exceeding 69 dBA CNEL and would require mitigation measures such as building façade upgrades (double-paned windows, solid-core wood doors, etc):

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 53 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 83 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 51 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 43 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 63 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 77 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 44 ft.

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units proposed within the following distances from the roadway centerline on the vacant parcels and without shielding from natural or manmade barriers to ensure that windows can remain closed for prolonged periods of time.

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 328 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 520 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 322 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 268 ft;
- Palos Verdes Drive between Ganado Drive and Palos Verdes Drive South (AZ 26), 135 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 388 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 479 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 274 ft.

Stationary Noise Impacts

The majority of the vacant developable parcels/analysis zones identified in the Land Use Element and evaluated in the Traffic Impact Analysis (Willdan Engineering, July 19, 2010) are not adjacent to any major stationary noise sources such as industrial or commercial uses. Therefore, no mitigation measures are required for stationary source noise impacts. However, should there be any residential uses proposed on these vacant parcels that are near commercial uses with potential loading/unloading activity noise, such noise impacts would need to be mitigated. As stated in the City's Municipal Code, Title 17, Chapter 12, Section 030, unless otherwise specified in an approved conditional use permit or other discretionary approval, all deliveries of commercial goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment that emits noise levels in excess of 65 dBA, as measured from the closest property line to the mechanical equipment, shall only be allowed on commercial properties that abut a residential district between the hours of 7:00 a.m. and 7:00 p.m., Monday through Sunday. Any residual noise impacts from off-site stationary noise sources can be mitigated with stand-alone noise barriers with sufficient height to block the line-of-sight between the stationary sources of concern and the receptor locations.

Aircraft and Train Noise Impacts

The City has no railroad lines either in or abutting the City, and there are currently no regularly scheduled flight paths or aircraft over the City. This is true of aircraft taking off or landing at Los Angeles International Airport, and Long Beach and Torrance airfields. Therefore, other than occasional aircraft overflight that may result in temporary annoyance, no significant aircraft or train noise impacts would occur. No mitigation measures are required.

MITIGATION MEASURES

Construction Impacts

Construction will be limited to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday in accordance with the City's Municipal Code requirements. No construction activities are permitted outside of these hours or on Sundays and legal holidays unless a special construction permit is obtained from the director of the Community Development Department.

The following measures can be implemented to reduce potential construction noise impacts on sensitive receptors adjacent to the individual project development area:

1. During all site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
2. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
3. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Traffic Noise Impacts

Outdoor Land Uses. All outdoor active-use areas (backyard, patio, or balcony, etc.) proposed within the following distances from the roadway centerline should require a sound wall with a minimum wall height of 5 ft to reduce the exterior noise level to 65 dBA CNEL or lower for residential or other noise-sensitive land uses:

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 98 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 154 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 94 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 79 ft;
- Palos Verdes Drive between Ganado Drive and Palos Verdes Drive South (AZ 26), 39 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 116 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 142 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 81 ft.

Interior Noise. To meet the State's 45 dBA CNEL interior-noise standard and to achieve the indoor air-exchange ventilation requirements specified in Chapter 35 of the Uniform Building Code, all residential structures along the following roadway segments proposed within the following distances from the roadway centerline on the vacant parcels and without shielding from natural or manmade barriers will require mechanical ventilation to ensure that windows can remain closed for a prolonged period of time.

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 328 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 520 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 322 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 268 ft;
- Palos Verdes Drive between Ganado Drive and Palos Verdes Drive South (AZ 26), 135 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 388 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 479 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 274 ft.

In addition, residential homes proposed within the following distances from the roadway centerline that have no natural or manmade barriers providing shielding effect would require mitigation measures such as building façade upgrades (double-paned windows, solid-core wood doors, etc):

- Crest Road between Hawthorne Boulevard and Crenshaw Boulevard (AZ 19), 53 ft;
- Hawthorne Boulevard between Crest Road and Vallon Drive (AZ 15 and AZ 16), 83 ft;
- Palos Verdes Drive East between north City limit and Miraleste Drive (AZ 23), 51 ft;
- Palos Verdes Drive East between Miraleste Drive and north of Crest Drive (AZ 24), 43 ft;
- Palos Verdes Drive West between north City limit and Hawthorne Boulevard (AZ 10, AZ 11, and AZ 12), 63 ft;
- Palos Verdes Drive West between Hawthorne Boulevard and Palos Verdes Drive South (AZ 21, AZ 27, and AZ 28), 77 ft; and
- Silver Spur Road between north City limit and north of Hawthorne Boulevard, 44 ft.

Stationary Sources Noise Impacts

Any residual noise impacts from off-site stationary noise sources can be mitigated with stand-alone noise barriers with sufficient height to block the line-of-sight between the stationary sources of concern and the receptor locations.

Aircraft and Train Noise Impacts

No mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the identified mitigation measures, potential short-term and long-term noise impacts would be reduced to below the level of significance.

REFERENCES

Bolt, Beranek & Newman, Noise Control for Buildings and Manufacturing Plants, 1987.

City of Rancho Palos Verdes, Municipal Code, Title 17, Chapter 12, Section 030 (17.12.030),
Development Standards, Title 17, Chapter 56, Section 020 (17.56.020), Conduct of construction
and landscaping activities, and Title 8, Chapter 04, Section 010 (8.04.010).

City of Rancho Palos Verdes, Noise Element of the General Plan.

Federal Highway Administration, Highway Traffic Noise Prediction Model, FHWA RD-77-108,
1977.

Willdan Engineering, Traffic Impact Analysis, City of Rancho Palos Verdes General Plan Circulation
Element Update, July 19, 2010.

APPENDIX A

FHWA TRAFFIC NOISE MODEL PRINTOUTS

RANCHO PALOS VERDES GENERAL PLAN UPDATE

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

EXISTING BASELINE CONDITIONS

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009
ROADWAY SEGMENT: Crenshaw Boulevard Between Sea Crest Drive and Crest Road
NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1900 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	64.2	136.5

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crenshaw Boulevard Between Crest Road and City Limit with Rolling Hills Estate

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14700 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
58.3	116.9	247.6	531.4

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009
ROADWAY SEGMENT: Crest Road Between Hawthorne Boulevard and Crenshaw Boulevard
NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8900 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.3	178.1	380.8

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009
ROADWAY SEGMENT: Crest Road Between Palos Verdes Drive East and Ganado Drive
NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	90.6	189.7

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crest Road Between Ganado Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 600 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	67.4

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Palos Verdes Drive West and Vallon Drive

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.8	120.4	255.4	548.1

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009
ROADWAY SEGMENT: Hawthorne Boulevard Between Vallon Drive and Crest Road
NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.8	120.4	255.4	548.1

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Crest Road and Eddinghill Drive/Seamount Drive

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19900 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
69.3	142.1	302.6	650.1

TABLE Existing-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Eddinghill Dr./Seamount Dr. and Highridge Rd.

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19900 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
69.3	142.1	302.6	650.1

TABLE Existing-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Highridge Road/Grayslake Road and Indian Peak Road

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.0	134.6	286.2	614.8

TABLE Existing-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Silver Spur Road and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.0	134.6	286.2	614.8

TABLE Existing-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Highridge Road Between Hawthorne Blvd. and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.1	150.5	323.9

TABLE Existing-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Indian Peak Road Between Crenshaw Blvd. and City Limit with Rolling Hills Estate
S

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	73.2	150.9	321.8

TABLE Existing-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Palos Verdes Drive East and Via Colinita

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	90.1	193.7	417.1

TABLE Existing-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Via Colinita and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	69.5	149.4	321.5

TABLE Existing-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009
ROADWAY SEGMENT: Palos Verdes Drive East North of Palos Verdes Drive South
NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3000 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	86.4	184.7

TABLE Existing-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Palos Verdes Drive East Between Crest Road and Miraleste Drive

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7800 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	76.1	162.2	348.7

TABLE Existing-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between Miraleste Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10700 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	93.5	200.1	430.4

TABLE Existing-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between north of Palos Verdes Drive South and Crest Road

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3000 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	86.4	184.7

TABLE Existing-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between west of Schooner Drive and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13000 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	106.2	227.7	490.0

TABLE Existing-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between east of Seacove Drive and west of Schooner Drive

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	101.4	217.1	467.1

TABLE Existing-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between Hawthorne Boulevard and east of Seacove Drive

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.7	229.5	492.3

TABLE Existing-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Silver Spur Road Between north of Elkmont Dr. and City Limit of Rolling Hills Estates

NOTES: Rancho Palos Verdes - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.1	150.5	323.9

RANCHO PALOS VERDES GENERAL PLAN UPDATE
FHWA ROADWAY NOISE LEVEL ANALYSIS
CONTOUR6 MODEL PRINTOUTS
GENERAL PLAN BUILDOUT WITHOUT PROJECT

TABLE General Plan Buildout w/o Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crenshaw Boulevard Between Sea Crest Drive and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	70.6	150.4

TABLE General Plan Buildout w/o Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crenshaw Boulevard Between Crest Road and City Limit with Rolling Hills Estate

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
63.7	129.3	274.7	590.0

TABLE General Plan Buildout w/o Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crest Road Between Hawthorne Boulevard and Crenshaw Boulevard

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	94.5	198.4	425.0

TABLE General Plan Buildout w/o Project-04
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crest Road Between Palos Verdes Drive East and Ganado Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	99.5	209.3

TABLE General Plan Buildout w/o Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crest Road Between Ganado Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 700 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	73.8

TABLE General Plan Buildout w/o Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Palos Verdes Drive West and Vallon Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.6	133.6	284.2	610.3

TABLE General Plan Buildout w/o Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Hawthorne Boulevard Between Vallon Drive and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.6	133.6	284.2	610.3

TABLE General Plan Buildout w/o Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Crest Road and Eddinghill Drive/Seamount Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.1	157.4	335.9	722.1

TABLE General Plan Buildout w/o Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Eddinghill Dr./Seamount Dr. and Highridge Rd.

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.1	157.4	335.9	722.1

TABLE General Plan Buildout w/o Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Highridge Road/Grayslake Road and Indian Peak Road

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
72.5	149.4	318.5	684.5

TABLE General Plan Buildout w/o Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Silver Spur Road and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
72.5	149.4	318.5	684.5

TABLE General Plan Buildout w/o Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Highridge Road Between Hawthorne Blvd. and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10600 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	77.5	166.6	358.6

TABLE General Plan Buildout w/o Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Indian Peak Road Between Crenshaw Blvd. and City Limit with Rolling Hills Estate
S

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10500 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	80.3	166.8	356.4

TABLE General Plan Buildout w/o Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Palos Verdes Drive East and Via Colinita

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15600 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	100.2	215.4	463.9

TABLE General Plan Buildout w/o Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Via Colinita and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10600 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	77.5	166.6	358.6

TABLE General Plan Buildout w/o Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Palos Verdes Drive East North of Palos Verdes Drive South

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	95.6	204.6

TABLE General Plan Buildout w/o Project-17
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Palos Verdes Drive East Between Crest Road and Miraleste Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	84.7	181.0	389.2

TABLE General Plan Buildout w/o Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between Miraleste Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
DAY	EVENING	NIGHT	
---	-----	-----	
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	103.5	221.9	477.3

TABLE General Plan Buildout w/o Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between north of Palos Verdes Drive South and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	95.6	204.6

TABLE General Plan Buildout w/o Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between west of Schooner Drive and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
55.9	118.3	253.7	546.0

TABLE General Plan Buildout w/o Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between east of Seacove Drive and west of Schooner Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
53.3	112.6	241.4	519.5

TABLE General Plan Buildout w/o Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between Hawthorne Boulevard and east of Seacove Drive

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.8	120.4	255.4	548.1

TABLE General Plan Buildout w/o Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Silver Spur Road Between north of Elkmont Dr. and City Limit of Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout w/o Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10700 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	78.0	167.6	360.8

RANCHO PALOS VERDES GENERAL PLAN UPDATE

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

GENERAL PLAN BUILDOUT WITH PROJECT

TABLE General Plan Buildout with Project-01
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crenshaw Boulevard Between Sea Crest Drive and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	74.7	159.3

TABLE General Plan Buildout with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crenshaw Boulevard Between Crest Road and City Limit with Rolling Hills Estate

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17800 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.9	132.2	281.0	603.6

TABLE General Plan Buildout with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crest Road Between Hawthorne Boulevard and Crenshaw Boulevard

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10800 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	96.2	202.1	433.0

TABLE General Plan Buildout with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Crest Road Between Palos Verdes Drive East and Ganado Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	99.5	209.3

TABLE General Plan Buildout with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Crest Road Between Ganado Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 700 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	73.8

TABLE General Plan Buildout with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Palos Verdes Drive West and Vallon Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.4	135.5	288.3	619.3

TABLE General Plan Buildout with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Hawthorne Boulevard Between Vallon Drive and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18600 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.6	136.0	289.3	621.5

TABLE General Plan Buildout with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Crest Road and Eddinghill Drive/Seamount Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.3	157.8	336.9	724.2

TABLE General Plan Buildout with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Eddinghill Dr./Seamount Dr. and Highridge Rd.

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23400 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.3	157.8	336.9	724.2

TABLE General Plan Buildout with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Highridge Road/Grayslake Road and Indian Peak Road

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21900 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
73.3	151.2	322.4	692.9

TABLE General Plan Buildout with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Hawthorne Boulevard Between Silver Spur Road and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22000 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
73.5	151.6	323.4	695.0

TABLE General Plan Buildout with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Highridge Road Between Hawthorne Blvd. and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	79.9	171.8	369.8

TABLE General Plan Buildout with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Indian Peak Road Between Crenshaw Blvd. and City Limit with Rolling Hills Estate
S

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10500 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	80.3	166.8	356.4

TABLE General Plan Buildout with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Palos Verdes Drive East and Via Colinita

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15600 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	100.2	215.4	463.9

TABLE General Plan Buildout with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Miraleste Drive Between Via Colinita and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10600 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	77.5	166.6	358.6

TABLE General Plan Buildout with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Palos Verdes Drive East North of Palos Verdes Drive South

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	95.6	204.6

TABLE General Plan Buildout with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT: Palos Verdes Drive East Between Crest Road and Miraleste Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	84.7	181.0	389.2

TABLE General Plan Buildout with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between Miraleste Drive and City Limit with Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
DAY	EVENING	NIGHT	
---	-----	-----	
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	103.5	221.9	477.3

TABLE General Plan Buildout with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive East Between north of Palos Verdes Drive South and Crest Road

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3500 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	95.6	204.6

TABLE General Plan Buildout with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between west of Schooner Drive and City Limit with Los Angeles

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15300 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
55.9	118.3	253.7	546.0

TABLE General Plan Buildout with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between east of Seacove Drive and west of Schooner Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14200 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
53.3	112.6	241.4	519.5

TABLE General Plan Buildout with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Palos Verdes Drive South Between Hawthorne Boulevard and east of Seacove Drive

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15800 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
60.7	122.4	259.7	557.6

TABLE General Plan Buildout with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/05/2009

ROADWAY SEGMENT:

Silver Spur Road Between north of Elkmont Dr. and City Limit of Rolling Hills Estates

NOTES: Rancho Palos Verdes - General Plan Buildout with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10700 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
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AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
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0.0	78.0	167.6	360.8