Appendix C:

Noise

Noise Assessment

For

Lower Hesse Park

CITY OF RANCHO PALOS VERDES

Prepared For:

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1.0 EXISTING SETTING

1.1 Project Description

Originally purchased from the PVPUSD in 1977, Hesse Park measures approximately 29 acres. The property is zoned Open Space Recreation - Active. The Park is divided into two parts. Upper Hesse Park is on the eastern portion of the park, and measures approximately 11 acres. Upper Hesse Park is improved with a community center, a parking lot, playground equipment, and a multi-use athletic field with extensive landscaping. Lower Hesse Park, which is the area of the proposed improvements, measures approximately 18 acres and is mostly undeveloped, but contains unimproved walking trails, a sand volleyball court, picnic facilities, and a small unpaved parking lot.

The proposed park improvement plan is intended to enhance the accessibility, aesthetic condition, and recreational opportunities available at the park. The plan includes the facility based programs and amenities listed below. The plan includes two flex lawns, each approximately 1/4 acre in size and seeded with grass. Flex lawns are areas commonly used for drop-in recreation (Frisbee, touch football, etc.), picnicking, and relaxation. In addition, a Family Fun Zone is proposed that would include less structured playground equipment (climbing walls, learning/interactive play equipment, etc.), a small bicycle track appropriate for young children, and a seating area for families/users. The enhanced trail system would increase the number of trails at the park, improve the quality of the trails, add American with Disability Act (ADA) compliant trails; and promote connectivity between Upper and Lower Hesse Park. The existing parking lot would be improved and enlarged for a total of 32-36 parking spaces, and shade structures are suggested for sun/element protection at picnic and activity areas. The proposed park plan includes the following facility based programs, amenities, and features:

Facility-Based Programs

- Flex Lawn (2)
- Basketball Court (1 full size)
- Tennis Courts (3)
- Family Fun Zone (including tricycle/bicycle loop)
- Fitness Station
- Picnic Areas (2)
- Enhanced Trail System

Amenities

- Staff Office/ Restroom/ Storage
- Shade Structures
- Park Furniture (drinking fountains, trash cans, Mutt Mitt stations)
- Parking Lot
- Driveway Gates
- Landscaping and Irrigation
- Greenbelt
- Park Signage
- Landscape Buffers

The site plan is illustrated in Exhibit 1.

Exhibit 1

Site Plan

Mestre Greve Associates

1.2 Background Information on Noise

1.2.1 Noise Criteria Background

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dB higher than another is judged to be twice as loud; and 20 dB higher four times as loud; and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

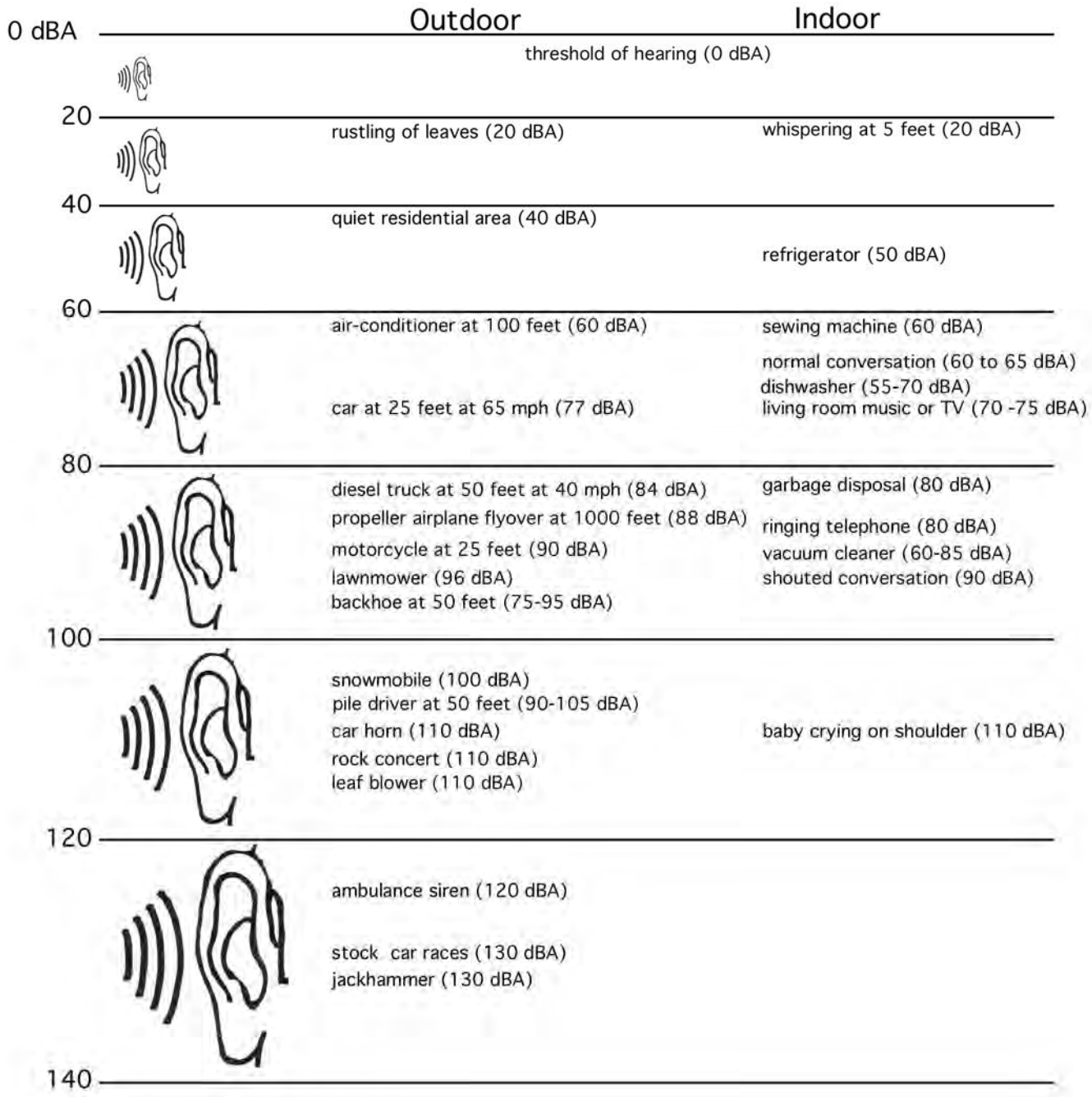
Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the "A-weighted decibel," abbreviated dBA. Exhibit 2 provides examples of various noises and their typical A-weighted noise level.

Sound levels decrease as a function of distance from the source as a result of wave divergence, atmospheric absorption and ground attenuation. As the sound wave form travels away from the source, the sound energy is dispersed over a greater area, thereby dispersing the sound power of the wave. Atmospheric absorption also influences the levels that are received by the observer. The greater the distance traveled, the greater the influence and the resultant fluctuations. The degree of absorption is a function of the frequency of the sound as well as the humidity and temperature of the air.

Turbulence and gradients of wind, temperature and humidity also play a significant role in determining the degree of attenuation. Intervening topography can also have a substantial effect on the effective perceived noise levels.

Noise has been defined as unwanted sound and it is known to have several adverse effects on people. From these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. This criteria is based on such known impacts of noise on people as hearing loss, speech interference, sleep interference, physiological responses and annoyance. Each of these potential noise impacts on people are briefly discussed in the following narratives:

> **HEARING LOSS** is not a concern in community noise situations of this type. The potential for noise induced hearing loss is more commonly associated with occupational noise exposures in heavy industry or very noisy work environments. Noise levels in neighborhoods, even in very noisy airport environs, are not sufficiently loud to cause hearing loss.



Sources: League For The Hard Of Hearing, www.lhh.org
Handbook of Noise Control, McGraw Hill, Edited byCyril Harris, 1979
Measurements by Mestre Greve Associates

Exhibit 2

Typical Noise Levels

SPEECH INTERFERENCE is one of the primary concerns in environmental noise problems. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech. There are specific methods of describing speech interference as a function of distance between speaker and listener and voice level.

SLEEP INTERFERENCE is a major noise concern for traffic noise. Sleep disturbance studies have identified interior noise levels that have the potential to cause sleep disturbance. Note that sleep disturbance does not necessarily mean awakening from sleep, but can refer to altering the pattern and stages of sleep.

PHYSIOLOGICAL RESPONSES are those measurable effects of noise on people that are realized as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent is not known to which these physiological responses cause harm or are sign of harm.

ANNOYANCE is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability.

1.2.2 Noise Assessment Metrics

The description, analysis and reporting of community noise levels around communities is made difficult by the complexity of human response to noise and the myriad of noise metrics that have been developed for describing noise impacts. Each of these metrics attempts to quantify noise levels with respect to community response. Most of the metrics use the A-Weighted noise level to quantify noise impacts on humans. A-Weighting is a frequency weighting that accounts for human sensitivity to different frequencies.

Noise metrics can be divided into two categories: single event and cumulative. Single-event metrics describe the noise levels from an individual event such as an aircraft fly over or perhaps a heavy equipment pass-by. Cumulative metrics average the total noise over a specific time period, which is typically 1 or 24-hours for community noise problems. For this type of analysis, cumulative noise metrics will be used.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on man, (2) the variety of noises found in the environment, (3) the variations in noise levels that occur as a person moves through the environment, and (4) the variations associated with the time of day. They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this observation. Two of the predominate noise scales are the: Equivalent Noise Level (LEQ) and the Community Noise Equivalent Level (CNEL). These scales are described in the following paragraphs.

LEQ is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. LEQ is the "energy" average noise level during the time period of the sample. LEQ can be measured for any time period, but is typically measured for 1 hour. This 1-hour noise level can also be referred to as the Hourly Noise Level (HNL). It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL, Community Noise Equivalent Level, is the predominant rating scale now in use in California for land use compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. The evening time period (7 p.m. to 10 p.m.) penalizes noises by 5 dBA, while nighttime (10 p.m. to 7 a.m.) noises are penalized by 10 dBA. These time periods and penalties were selected to reflect people's increased sensitivity to noise during these time periods. A CNEL noise level may be reported as a "CNEL of 60 dBA," "60 dBA CNEL," or simply "60 CNEL." Typical noise levels in terms of the CNEL scale for different types of communities are presented in Exhibit 3.

Ldn, the day-night scale is similar to the CNEL scale except that evening noises are not penalized. It is a measure of the overall noise experienced during an entire day. The time-weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. In the Ldn scale, those noise levels that occur during the night (10 pm to 7 am) are penalized by 10 dB. This penalty was selected to attempt to account for increased human sensitivity to noise during the quieter period of a day, where home and sleep is the most probable activity.

L(%) is a statistical method of describing noise which accounts for variance in noise levels throughout a given measurement period. L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example since 5 minutes is 25% of 20 minutes, L(25) is the noise level that is equal to or exceeded for five minutes in a twenty-minute measurement period. It is L(%) that is used for most Noise Ordinance standards. For example most daytime County, state and City Noise Ordinances use an ordinance standard of 55 dBA for 30 minutes per hour or an L(50) level of 55 dBA. In other words, the Noise Ordinance states that no noise level should exceed 55 dBA for more that fifty percent of a given period.

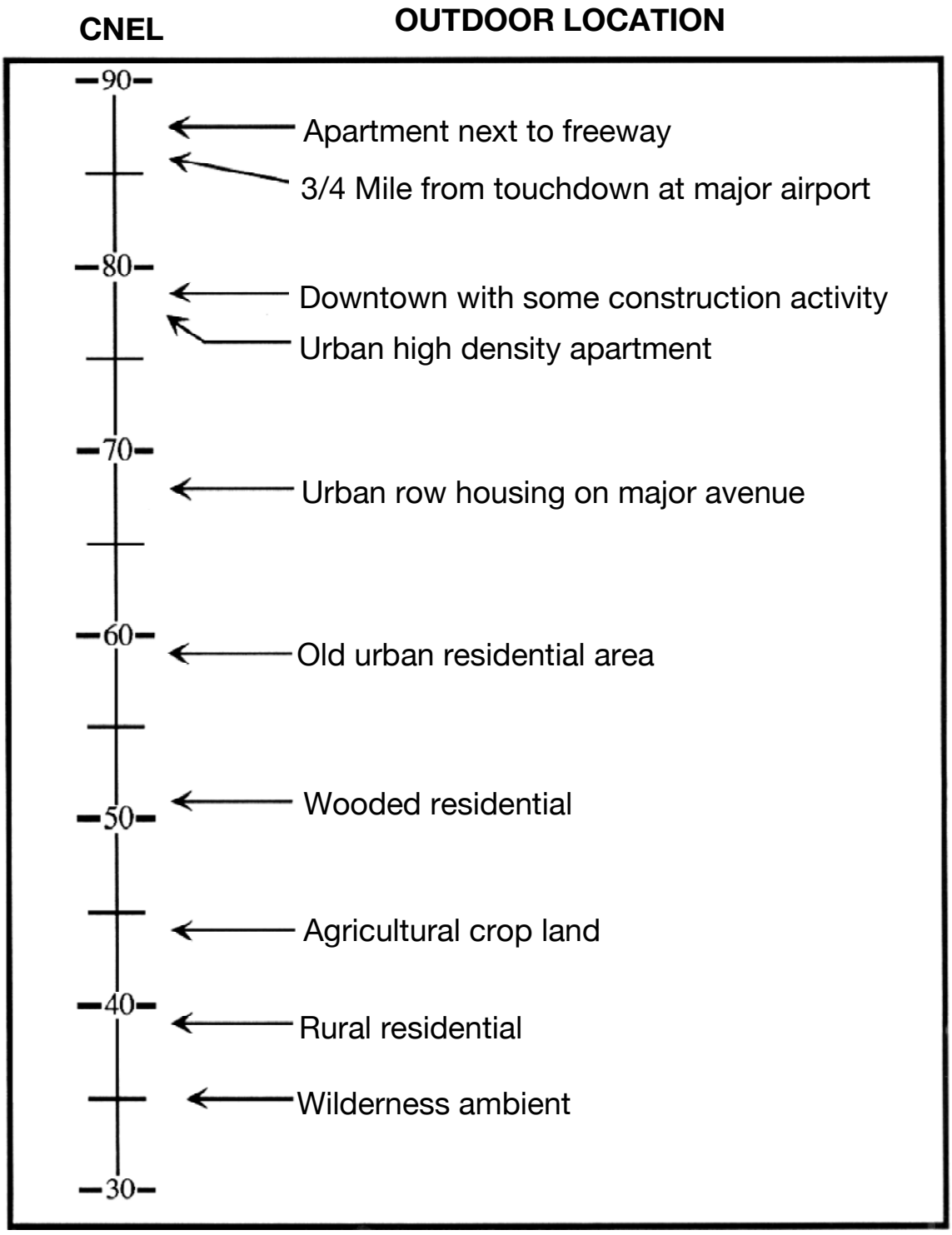


Exhibit 3

Typical CNEL Noise Levels

1.3 Noise Criteria

1.3.1 City of Rancho Palos Verdes Noise Element

The City of Rancho Palos Verdes is in the process of updating the General Plan including the Noise Element. The draft Noise Element (dated November 9, 2010) reflects the most current thinking of the advisory committee and City staff. The draft Noise Element states:

> *It shall be the goal of the City of Rancho Palos Verdes, through proper land use planning and regulations, to provide for a quiet and serene residential community.*

The draft Noise Element specifies outdoor and indoor noise standards for residential uses impacted by transportation noise sources. The City's noise standards are consistent with the State of California's noise standards. The interior and exterior noise standards are in terms of the Community Noise Equivalent Level (CNEL). The standards state that for residential land use, the exterior noise exposure level shall not exceed 65 CNEL and the interior noise exposure level shall not exceed 45 CNEL. It should be noted that these noise levels are substantially higher than occur in most residential areas. Only areas directly along busy roadways would experience noise levels this high. The draft Noise Element also provides a discussion that homes with windows open would need to experience noise levels no higher than 57 CNEL on the outside to insure that the 45 CNEL indoor level would be met.

The City of Rancho Palos Verdes has not adopted a noise ordinance. A noise ordinance restricts the amount of noise generated on one parcel of property that can impact an adjacent or nearby property owner. Since the City has not yet adopted a noise ordinance, this type of document is not available for guidance.

Based on the guidance provided in the draft Noise Element a noise goal that reflects a "quiet and serene residential community," but some noise level definitely less than 57 CNEL would be appropriate for areas around the park.

The draft Noise Element does provide guidance on construction noise. Construction should be limited to the hours between 7 a.m. and 7 p.m. Monday through Saturday only. Construction is also not permitted on legal holidays. Additional guidance is provided in the draft Noise Element on appropriate mitigation measures should construction noise be an issue.

1.3.2 County of Los Angeles Noise Ordinance

A noise ordinance is designed to control unnecessary, excessive and annoying sounds from stationary (non-transportation) noise sources. Noise ordinance requirements cannot be applied to mobile noise sources such as heavy trucks when traveling on public roadways. Federal and state laws preempt control of mobile noise sources on public roads. Noise ordinance standards typically apply to industrial and commercial noise sources impacting residential areas. They are also applicable to noise generated at parks and schools impacting residential areas unless specifically exempted. The County of Los Angeles Noise Ordinance has no enforcement relevance in the City of Rancho Palos Verdes. It is presented in this report to present a set of

standards that may be appropriate to evaluate the potential for noise conflicts between the park uses and the surrounding residential areas. In fact, the County of Los Angeles Noise Ordinance is slightly more stringent than most communities in Southern California, but is still consistent with the guidelines presented in the "California Model Noise Ordinance" that was developed by the California Department of Health Services.

Chapter 12.08 of the County of Los Angeles Code defines the County's Noise Ordinance. The Noise Ordinance establishes exterior and interior noise limits that cannot be exceeded at neighboring properties due to noise generated on private property. Standards are defined for four noise zones based on the impacted property's use; Noise Zone 1 includes all residential properties, Noise Zone 2 includes all professional office and public institutional properties, Noise Zone 3 includes all commercial properties with the exception of professional office properties, and Noise Zone 4 includes all industrial properties.

The exterior noise standards for residential uses (Noise Zone 1) are presented in Table 1. The noise standards are in terms of noise levels that cannot be exceeded for a specified period of time. The time limits are listed in the first column of Table 1. The second column lists the equivalent noise metric in terms of "percent noise level" or L%. The percent noise level describes the noise level that is exceeded during a certain percentage of the measurement period. For example, the L50 noise level is the level exceeded 50% of the measurement period or thirty minutes in an hour. The third and fourth columns list the daytime and nighttime noise levels for the specified metric that cannot be exceeded under the Noise Ordinance. For residential uses, greater noise levels are permitted during the day (7 a.m. to 10 p.m.) as compared to nighttime (10 p.m. to 7 a.m.) to account for increased sensitivity to noise during the nighttime.

For residential uses the Noise Ordinance states that the daytime noise level for a noise source measured at an outdoor area of a residential property cannot exceed 70 dBA ever, 65 dBA for more than 1 minute of any hour, 60 dBA for more than 5 minutes of any hour, 55 dBA for more than 15 minutes of any hour, or 50 dBA for more than 30 minutes of any hour. Nighttime noise level limits are reduced by 5 dB to reflect the increased sensitivity to noise occurring during this time period.

Table 1
County of Los Angeles Noise Exterior Ordinance Standards

Maximum Time of Exposure	Noise Metric	Noise Level Not To Be Exceeded Residential Zone 7 a.m. to 10 p.m. (Daytime)	Noise Level Not To Be Exceeded Residential Zone 10 p.m. to 7 a.m. (Nighttime)
Noise Zone 1: All Residential Properties			
30 Minutes/Hour	L50	50 dBA	45 dBA
15 Minutes/Hour	L25	55 dBA	50 dBA
5 Minutes/Hour	L8.3	60 dBA	55 dBA
1 Minute/Hour	L1.7	65 dBA	60 dBA
Any period of time	Lmax	70 dBA	65 dBA

1.4 Existing Noise Measurements

The existing noise levels in the vicinity of the Lower Hesse Park project are needed to establish the current baseline noise levels. A noise measurement survey of the project site and the surrounding area was conducted. The sites were selected to provide coverage of the area. The measurement sites are displayed in Exhibit 4.

Four short-term noise measurements were taken. All four of the short-term measurements were taken between 10 a.m. and noon on May 19, 2011. Measurements at all sites were performed using a Brüel & Kjær Model 2236 automated digital noise data acquisition system and sound meter mounted on a tripod. During measurements a large windscreen covered the sound meter's microphone to dampen-out the effect of unwanted wind-generated noise. For each measurement site, at least 15 minutes of data were collected. Both before and after each set of measurements were taken, a Brüel & Kjær calibrator with certification traceable to the National Institute of Standards and Technology was used to calibrate the sound meter to ensure that the measured sound levels readings were accurate. At the conclusion of each set of measurements, the Leq, Lmin, Lmax, L1.7, L8.3, L25 and L50 values for the full time period were stored as a record on the sound meter, and written down on a data sheet and then the buffer on the sound meter was reset to prepare it for the set of measurements at the next site. Prevailing weather conditions were noted along with any other factors that might adversely affect the noise measurements. Table 2 shows the results of the measurements.

Table 1 Existing Noise Measurements (dBA)

Site	Date	Time	Leq	Lmax	L1.7	L8.3	L25	L50	Lmin
1	5-19-11	12:11 pm	63.2	72.0	69.5	67.5	65.0	61.0	44.1
2	5-19-11	12:26 pm	47.1	66.9	56.5	49.5	46.5	41.5	38.7
3	5-19-11	12:41 pm	46.0	65.5	52.5	49.0	44.5	38.0	34.6
4	5-19-11	1:09 pm	42.8	60.5	47.0	45.0	43.5	41.5	37.7

Site 1: Near south end of Parklynn Drive.

Site 1 is near the south end of Parklynn Drive which is across the street from the existing park. The dominant noise source was the traffic on Hawthorne Boulevard. The Lmax was 72.0 dBA, which was caused by the traffic. The L50 at this site measured 61.0 dBA, which is representative of a residential area along a busy roadway.

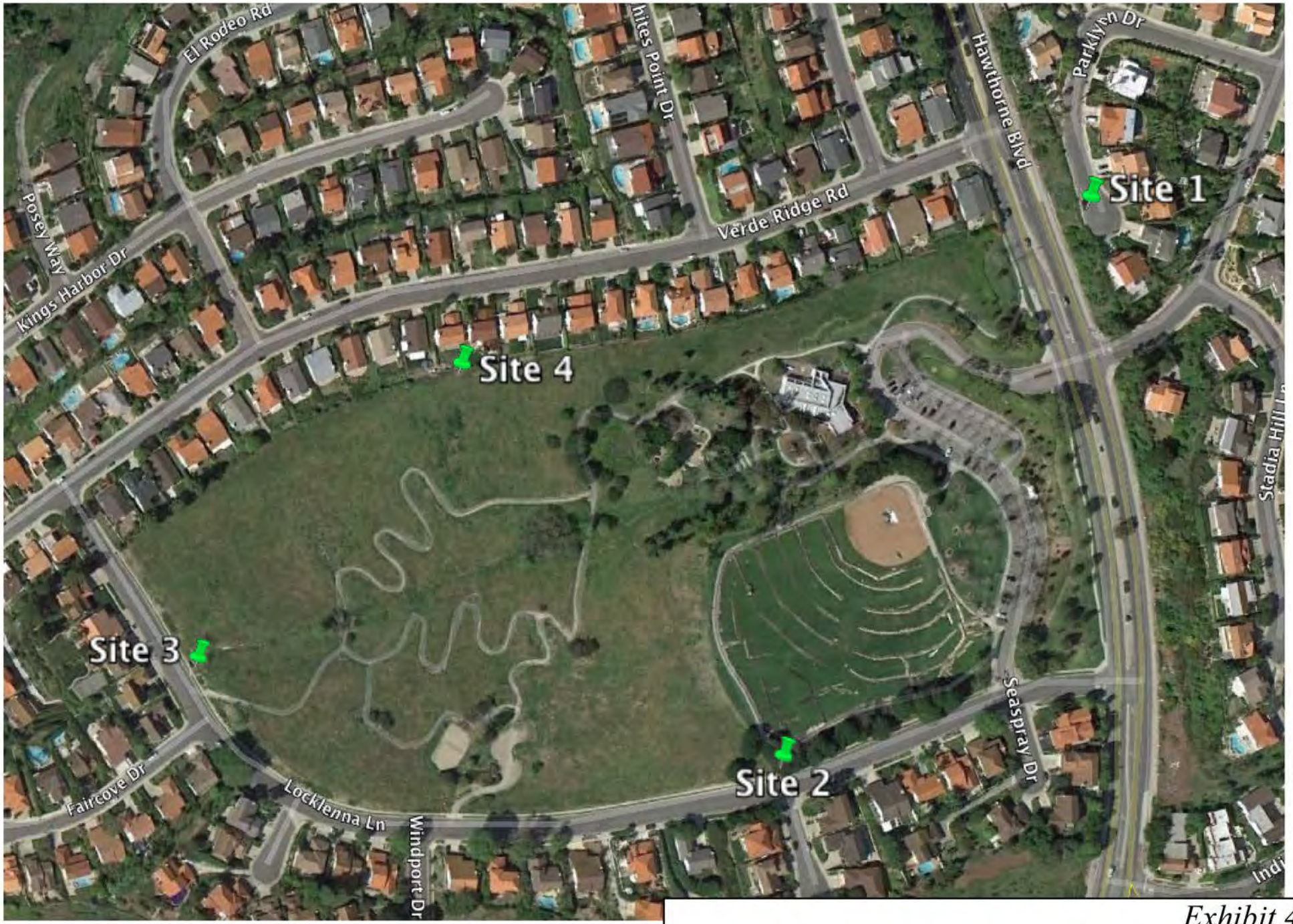


Exhibit 4

Noise Measurement Locations

Mestre Greve Associates

Site 2: South Edge of Site along Locklenna Lane

Site 2 is located towards the southeast corner of the project site. Noise sources heard at this site include distant construction, wind in trees, and an occasional car on Locklenna Lane. The Lmax was 66.9 dBA and was due to a car traveling on Locklenna Lane. The L50 at this site measured 41.5 dBA, which is typical for a quiet residential area.

Site 3: West Edge of Site along Locklenna Lane

Site 3 is located along the west edge of the project site. Noise sources heard at this site include distant gardener and an occasional car on Locklenna Lane. The Lmax was 65.5 dBA and was due to a car traveling on Locklenna Lane. The L50 at this site measured 38.0 dBA, which is typical for a quiet residential area.

Site 4: North Side of Project

Site 4 is located on the north side of the project adjacent to existing homes. Distant gardeners and construction could be heard at times. The Lmax of 60.5 dBA was due to a military jet flying high overhead. The L50 at this site measured 41.5 dBA.

Sites 2 through 4 had noise levels typical of a quiet residential area. All noise levels measured for these three sites were below the County of Los Angeles Noise Ordinance criteria for residential areas. Site 1 had higher noise levels due to traffic on Hawthorne Boulevard, and noise levels that were higher than the noise ordinance criteria.

1.5 Existing Roadway Noise Levels

The highway noise levels projected in this report were computed using the Highway Noise Model published by the Federal Highway Administration ("FHWA Highway Traffic Noise Prediction Model," FHWA-RD-77-108, December, 1978). The FHWA Model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the "equivalent noise level." A computer code has been written which computes equivalent noise levels for each of the time periods used in the calculation of CNEL. Weighting these noise levels and summing them results in the CNEL for the traffic projections used. CNEL contours are found by iterating over many distances until the distances to the 60, 65, and 70 CNEL contours are found.

Traffic volumes and estimated speeds were used with the FHWA Model to estimate the noise levels in terms of CNEL. Existing traffic volumes for arterials utilized were obtained from the traffic study prepared by Arch Beach Consulting and dated March 8, 2012. All roadway links assessed in the traffic study were analyzed for the noise assessment.

The distances to the CNEL contours for the roadways in the vicinity of the project site are given in Table 2. These numbers represent the distance from the centerline of the road to the contour value shown. Note that the values given in Table 2 do not take into account the effect of any noise barriers or topography that may reduce traffic noise levels. It should be noted that the noise levels along Doveridge Drive are so low that the noise level is less than 55 CNEL outside the road right of way.

Table 2 Existing Roadway Traffic Noise Levels

			Distance to CNEL Contour from Centerline of Roadway (feet)		
Roadway	**Link**	**CNEL @ 100 ft**	**65 CNEL**	**60 CNEL**	**55 CNEL**
Hawthorne Boulevard	North of Verde Ridge	57.9	33	72	155
Hawthorne Boulevard	Verde Ridge to Doveridge	57.9	33	72	155
Hawthorne Boulevard	Doveridge to Locklenna	57.9	33	72	155
Hawthorne Boulevard	South of Locklenna	57.9	33	72	155
Doveridge Drive	East of Hawthorne	41.8	RW	RW	RW
Locklenna Lane	West of Hawthorne	45.0	RW	RW	21
Verde Ridge Road	West of Hawthorne	49.4	RW	RW	42

RW – Noise contour falls within road right-of-way.

1.6 Existing Aircraft Noise Levels

The closest airport to the project site is Torrance Municipal Airport. Torrance Airport is about 4 miles northeast of the project site. This is a small municipal airport that typically supports only small, quieter, non-jet aircraft. Aircraft do fly over the project site as was confirmed during noise measurements. However, the combination of the relatively low frequency of occurrence of these flyovers, the short time duration of the flyovers, the large distance of the flying aircraft to the project site (e.g. the altitude of flying aircraft), and the low intensity of the noise energy emitted by these aircraft result in noise impacts at the project site that are only sufficient to make minor alterations to the average ambient noise level. Aircraft noise does not significantly impact the project site.

2.0 POTENTIAL NOISE IMPACTS

Potential noise impacts are commonly divided into two groups; temporary and long term. Temporary impacts are usually associated with noise generated by construction activities. Long-term impacts are further divided into impacts on surrounding land uses generated by the proposed project and those impacts that occur at the proposed project site.

2.1 Noise Impact Criteria

Off-site impacts from on-site activities, short-term and long-term, are measured against the City's Draft Noise Element as discussed in Section 1.3.1. Additionally, since the City does not have a noise ordinance, the noise levels associated with the operation of the park will be contrasted with ambient conditions and the Los Angeles County Noise Ordinance to determine impacts. Construction activities for the proposed project will be required to meet the City standards. Noise generating activities associated with the operation of the project will be compared against the Los Angeles County noise limits and against ambient noise levels to determine potential impacts.

Long-term off-site impacts from traffic noise are measured against two criteria. Both criteria must be met for a significant impact to be identified. First, project traffic must cause a substantial noise level increase (greater than 3 dB) on a roadway segment adjacent to a noise sensitive land use. Second the resulting future with project noise level must exceed the criteria level for the noise sensitive land use. In this case, the criteria level is 65 CNEL for residential land uses. In community noise assessment, changes in noise levels greater than 3 dB are often identified as significant, while changes less than 1 dB will not be discernible to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. Note that there is no scientific evidence is available to support the use of 3 dB as the significance threshold. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. In a community noise situation, however, noise exposures are over a long time period, and changes in noise levels occur over years, rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dB, and 3 dB appears to be appropriate for most people.

2.2 Temporary Impacts

2.2.1 Construction Noise

Construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high levels. For the most part the park design will utilize the existing topography of the site and very little construction activity will be required. However, grading will be need for the park entrance, parking lot, and other areas. Heavy equipment for the park entrance and parking lot may operate within 50 feet of existing residences.

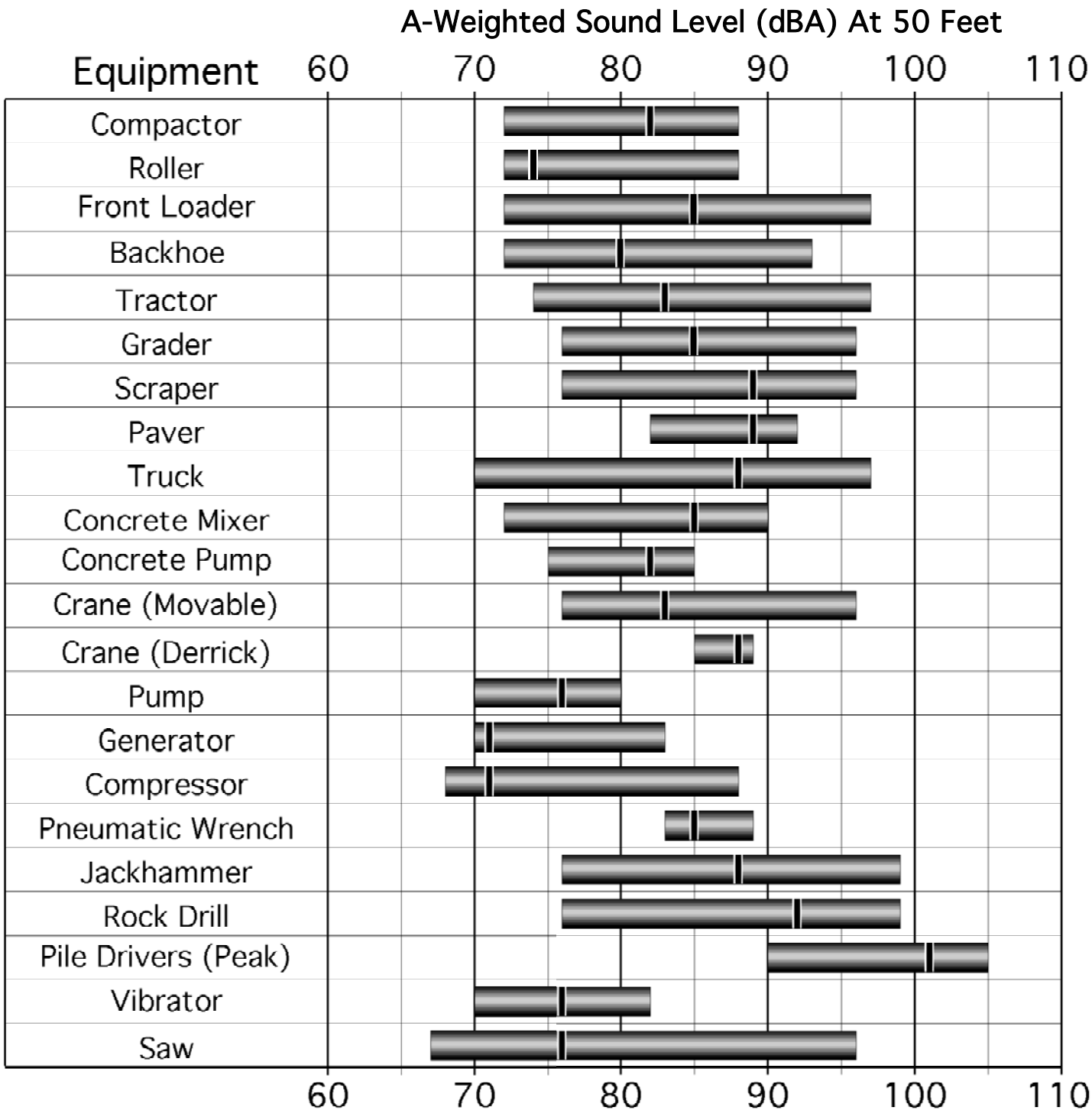
Worst-case examples of construction noise at 50 feet are presented in Exhibit 5. The peak noise level for most of the equipment that will be used during the construction is 70 to 95 dBA at a distance of 50 feet. Noise levels at further distances are less. For example, at 200 feet, the peak construction noise levels range from 58 to 83 dBA. The average noise levels are typically 5 to 15 dB lower than the peak noise levels. Average noise levels (L50) at the nearest residences could be in the range of 65 to 85 dBA. The construction noise levels projected for the project are high, and without some form of mitigation construction noise would significantly impact nearby residents resulting in temporary annoyance and speech interference. See Section 3.1.1 for mitigation measures addressing construction noise impacts.

2.3 Long-Term Off-Site Impacts

Increased traffic caused by the project will result in increased traffic noise levels along the roadways in the vicinity of the project. This section examines noise impacts from the proposed project on the surrounding land uses. Specifically traffic noise increases due to the project are examined.

2.3.1 Traffic Noise

Table 3 shows the expected incremental traffic noise level increases on adjacent roadways for the project. The noise level increases were calculated using traffic volumes presented in the previously referenced traffic study prepared for the project by Arch Beach Consulting. The traffic volumes used are presented in the appendix. Examining the noise increase due to the project shows that the project is not projected to result in a substantial noise increase (i.e., increases greater than 3 dB) along any of the existing roadway segments. In fact, all noise increases due to the project will be no greater than 0.4 dB, which is well below the significance threshold (i.e., 3 dB) and will not be noticeable to local residents.



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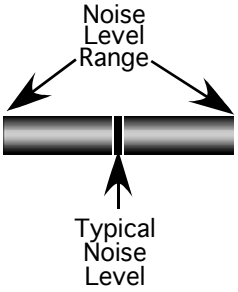

Sources: "Handbook of Noise Control,"
by Cyril Harris, 1979
"Transit Noise and Vibration Impact Assessment"
by Federal Transit Administration, 1995

Exhibit 5

Construction Noise Levels

Mestre Greve Associates

Table 3 Traffic Noise CNEL Increases (dB)

Roadway	Link	Increase
Hawthorne Boulevard	North of Verde Ridge	0.02
Hawthorne Boulevard	Verde Ridge to Doveridge	0.01
Hawthorne Boulevard	Doveridge to Locklenna	0.01
Hawthorne Boulevard	South of Locklenna	0.01
Doveridge Drive	East of Hawthorne	0.07
Locklenna Lane	West of Hawthorne	0.43
Verde Ridge Road	West of Hawthorne	0.05

2.3.2 Off-Site Impacts From On-site Activities

The Lower Hesse Park will contain a parking lot and activity areas that have the potential to generate noise. In the following sub-sections the key elements of the project are assessed to determine their potential to impact the surrounding residential areas.

Day Camp/Playground/Activity Lawn

The list of activities that are envisioned at the park were presented previously in Section 1.1 – Project Description. The majority of activities would generate little noise. The loudest noise events would probably involve children or adults occasionally yelling. The yelling would not be sustained. Three activity areas were considered where yelling might occur. These areas are the tennis courts, basketball court, and family play zone (refer to Exhibit 1 for the location of these areas).

The maximum noise level at the closest residential area was projected for a yell from each of these three areas. A yell is 83 dBA at 3 feet ("Noise Effects Handbook, A Desk Reference to Heath and Welfare Effects of Noise," By Office of the Scientific Assistant Office of Noise Abatement and Control, U.S. Environmental Protection Agency, October 1979, Revised July 1981). The resultant noise level for a yell from each of the three locations at the closest residence is presented in Table 4. Mestre Greve Associates has also conducted noise measurements at basketball courts during continuous play. Our measurements indicate that the average basketball noise during play at the nearest residences would be less than 40 dBA (Leq).

Table 4 Noise Level From Yell

Activity Area	Distance to Residence (ft)	Noise Level (Lmax)
Tennis Courts	120	51 dBA
Basketball Court	160	48 dBA
Family Play Zone	290	43 dBA

Noise associated with the activity areas should be consistent with the Los Angeles County Noise Ordinance or an impact would be expected. The noise ordinance limits Lmax levels as measured near the property line to 70 dBA, and this is used as a significance threshold. The noise levels are projected to be in the range of 43 to 51 dBA (Lmax). These levels are well below the ordinance criteria. Ambient noise measurements showed Lmax levels ranging from 47.0 to 56.5 dBA for the three measurement sites around the park (i.e., Sites 2, 3, and 4). The projected noise levels for yells are below these levels, and therefore, the noise levels from park activities will be below the ambient conditions. Therefore, there will not be any impact from park activities on the surrounding residential area.

Parking Lots

Traffic associated with parking lots is not usually of sufficient volume to exceed community noise standards that are based on a time averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by car door slamming, engine start-up, alarm activation and car pass-bys can still be annoying to nearby residents. Tire squeal may also be a problem depending on the type of parking surface. The parking lot areas will be as close as 100 feet to existing residences. Estimates of the maximum noise levels associated with some parking lot activities are presented in Table 5. These levels are based on measurements conducted by Mestre Greve Associates. The noise levels presented are for a distance of 100 feet from the source, and are the maximum noise level generated. A range is given to reflect the variability of noise generated by various automobile types and driving styles.

Table 5 Maximum Noise Levels Generated By Parking Lots (dBA at 100 feet)

Event	Lmax
Door Slam	55 to 65
Car Alarm Activation	60 to 65
Engine Start-up	50 to 65
Car pass-by	50 to 65

The nearest residences to the parking lot are the residences that are located directly south of the project. It is estimated that the maximum noise level due to parking related activities at these residences could reach 65 dBA (Lmax) when the vehicle making the noise is located in the nearest parking stalls near the residences and operates at the loud end of the range shown in Table 5. The Lmax noise levels at the nearest residences for an individual car parking in the lot could range anywhere from 50 to 65 dBA. The long term average noise levels would be much lower than this due to the fact that noise generated by individual vehicles are transitory, and the maximum noise level would only occur a small fraction of the time.

The maximum sound level of 65 dBA is below the Los Angeles County Noise Ordinance that is being used in the assessment as a significance threshold. A noise is not consistent with the ordinance only when it exceeds the noise criteria. Since parking lot noise would be below the significance threshold, an impact would not occur due to the parking lot.

2.4 Long-Term On-Site Impacts

This section examines noise impacts to the project site itself due to activities that occur exterior to the project. Specifically, we will examine traffic noise levels that impact within the project.

2.4.1 On-Site Noise Exposure

The distances to the future 55, 60 and 65 CNEL contours for the roadways in the vicinity of the proposed project site are presented in Table 6. These noise levels reflect the existing plus project traffic forecasts and were provided by Arch Beach Consulting in the traffic report referenced previously. The same methodology was used for these noise levels as was used for the existing traffic noise levels and was presented in Section 1.5.

Table 6 Existing Plus Project Roadway Traffic Noise Levels

			Distance to CNEL Contour from Centerline of Roadway (feet)		
Roadway	**Link**	**CNEL @ 100 ft**	**65 CNEL**	**60 CNEL**	**55 CNEL**
Hawthorne Boulevard	North of Verde Ridge	62.7	70	150	325
Hawthorne Boulevard	Verde Ridge to Doveridge	57.9	33	72	156
Hawthorne Boulevard	Doveridge to Locklenna	57.9	33	72	156
Hawthorne Boulevard	South of Locklenna	57.9	33	72	156
Doveridge Drive	East of Hawthorne	41.9	RW	RW	RW
Locklenna Lane	West of Hawthorne	45.5	RW	RW	23
Verde Ridge Road	West of Hawthorne	49.4	RW	RW	42

RW – Noise contour falls within roadway right-of-way.

The only noise source near the project site would be traffic on Locklenna Lane. This roadway is over 25 feet away from any park activity area. The noise levels along this street on the park site

would be less than 55 CNEL. This is a very low traffic noise exposure. Therefore, there will be no incompatibilities between the park areas and the noise environment.

3.0 MITIGATION MEASURES

3.1 Temporary Impacts

3.1.1 Construction Noise

The analysis presented in Section 2.2.1 shows that project construction will result in significant impacts to residences if uncontrolled, and therefore, mitigation is required.

The most effective method of controlling construction noise is through limiting construction hours. The City of Rancho Palos Verdes does commonly employ restrictions on construction hours for certain types of construction equipment. Therefore, the following mitigation measure is proposed and is consistent with the guidance provided in the draft Noise Element and the Municipal Code.

Mitigation Measure N-1:
All construction activities should be limited to the hours between 7 a.m. and 7 p.m. Monday through Saturday. Construction shall be prohibited during all other time periods and all day on Sundays and legal holidays.

The following measures are also being recommended for the control of construction noise. They are taken from the guidance provided in the draft Noise Element.

Mitigation Measure N-2:
The following measures shall be employed by the project contractors.

- 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.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- 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.

3.2 Long Term Off-Site Impacts

3.2.1 Traffic Noise

The analysis presented in Section 2.3.1 shows that the project will not result in any significant long-term off-site traffic noise impacts. No mitigation is required.

3.2.2 On-Site Activities

The analysis indicates that there would not be any noise impacts from the proposed parking lots or the park activity areas. No mitigation is required.

3.3 Long Term On-Site Impacts

No long term on-site impacts will occur.

4.0 UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed Grandview Park project will not result in any unavoidable significant adverse impacts.

APPENDIX

Lower Hesse Park
ADT Traffic Data

Link #	Roadway	End 1	End 2	Existing ADT	Existing + Project	Speed
1	Hawthorne Boulevard	North of Verde Ridge		15,500	15,565	40
2	Hawthorne Boulevard	Verde Ridge	Doveridge	15,500	15,539	25
3	Hawthorne Boulevard	Doveridge	Locklenna	15,500	15,545	25
4	Hawthorne Boulevard	South of Locklenna		15,500	15,539	25
5	Doveridge Drive	East of Hawthorne		380	386	25
6	Locklenna Lane	West of Hawthorne		800	884	25
7	Verde Ridge Road	West of Hawthorne		2,180	2,206	25