

Acoustical Analysis Report for Lehman Tentative Parcel Map

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Job # S200713

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Glossary of Terms and Acronyms

Ambient Sound: The combination of all near and far sounds in a given environment, none of which is particularly dominant.

Attenuation: The reduction in sound pressure level as sound is transmitted from one point to another.

Average Sound Level (L_{EQ}): Also known as equivalent sound level and expressed in dBA. The A-weighted sound level of a steady state sound which has the same sound energy as that contained in the actual time-varying sound being measured over a specific time period.

A-weighted Sound Level (dBA): Designed to approximate the response of the human ear to sound. A sound pressure level which has been filtered or weighted to quantitatively reduce the effect of low frequency noise.

Community Noise Equivalent Level (CNEL): The 24-hour weighted average noise level calculated as A-weighted sound pressure levels with different weighting factors for the noise levels occurring during the evening and nighttime periods. This weighting is applied to account for an individual's increased sensitivity to noise during these times. Sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting.

Day-Night Average Sound Level (L_{DN}): A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to the sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

Decibel (dB): The primary unit of sound measurement; used to quantify both sound pressure level and sound power level. In acoustics, equal to ten times the logarithm of the ratio of one sound and a lower-intensity reference sound.

Frequency: The number of oscillations per second; generally expressed in hertz (Hz) or cycles per second (cps).

Insertion Loss: The sound level reduction at a receiver that occurs when a sound-attenuating device, such as a silencer or barrier, is inserted in the path between source and receiver. Expressed in decibels at a specific frequency octave band.

Sound Level Meter: An instrument, usually handheld, that is used to measure sound pressure levels with averaging capabilities and standard frequency-weighting.

Sound Pressure Level (L_P or SPL): The level of sound energy, measured in dB, at a specific location. In order to be meaningful, a sound pressure level measurement must be accompanied by a reference distance at which the sound source was measured.

Executive Summary

The proposed project, known as the Lehman Tentative Parcel Map (TPM 21278), consists of the subdivision of an existing 10.28-acre parcel into four single-family residential lots. The project site is located on Linda Vista Drive in the Fallbrook Community Planning Area of the County of San Diego, California.

The primary noise source in the vicinity of the project site is automobile and truck traffic noise from Linda Vista Drive. Future exterior noise levels at the site will range from approximately 27 CNEL at the northeast corner of Parcel 4 to 60 CNEL at the edge of the right-of-way of Linda Vista Drive. According to the County of San Diego Noise Element to the General Plan, noise levels at outdoor use areas of single family residential sites should not exceed 60 CNEL. For lots with a net area between 4,000 square feet and 10 acres, the County of San Diego requires that at least ten percent of the net lot area be protected from noise levels greater than 60 CNEL. As the entire project site will be exposed to less than 60 CNEL in the future noise environment, no mitigation is deemed necessary to attenuate exterior noise impacts at the site.

Additionally, as noise impacts will not exceed 60 CNEL at the site in the future noise environment, no noise protection easement is required. Interior noise levels of future residences on site are expected to remain in compliance with County of San Diego and State of California noise regulations with standard building construction. No further interior noise analysis is required prior to building permit application.

It has been determined that typical construction activities will not exceed the County of San Diego temporary construction noise limit of 75 dBA at adjacent property lines during the construction activity. General good practice measures should be followed to ensure that noise levels remain below the County of San Diego construction noise limits, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and using equipment with effective mufflers. Equipment operation must also be limited to the allowable hours of operation set by the County of San Diego. With these recommendations, it is expected that construction equipment noise levels will be at or below an average eighthour equivalent noise level of 75 dBA, in compliance with County of San Diego regulations.

1.0 Introduction

This acoustical analysis is submitted to satisfy the acoustical requirements of the County of San Diego for Tentative Parcel Map approval. Its purpose is to assess noise impacts from nearby roadway traffic and to identify project features or requirements necessary to achieve exterior noise levels of 60 CNEL or less at outdoor useable areas, in compliance with the County of San Diego noise regulations. Feasibility of interior noise mitigation will also be addressed, as well as temporary construction noise impacts.

All noise level or sound level values presented herein are expressed in terms of decibels, with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol $L_{\rm EQ}$ for a specified duration. The Community Noise Equivalent Level (CNEL) is a calculated 24-hour weighted average, where sound levels during evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, $L_{\rm DN}$, which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on A-weighted decibels. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines, and for enforcement of noise ordinances. Further explanation can be provided upon request.

1.1 Project Description

The proposed project, known as Lehman Tentative Parcel Map (TPM 21278), consists of the subdivision of an existing 10.28-acre parcel into four single-family residential lots. The proposed net parcel sizes are 3.23 acres for Parcel 1 and 2.00 acres for Parcels 2, 3, and 4. The subject site and all surrounding parcels are currently zoned A70 (Agricultural) and have a General Plan Designation of SR-2 (Semi-Rural Residential). Please refer to project plans provided as Appendix A for more details.

1.2 Environmental Settings and Existing Conditions

1.2.1 Project Location

The project site is located on Linda Vista Drive in the Fallbrook Community Planning Area of the County of San Diego, California. The Assessor's Parcel Number (APN) for the property is 123-261-14-00. The project location is shown on the Vicinity Map, Figure 1, following this report. An Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map of this area are also provided as Figures 2 through 4.

1.2.2 Existing Traffic Volumes

The primary noise source in the vicinity of the project site is automobile and truck traffic noise from Linda Vista Drive. No other noise source is considered significant.

Linda Vista Drive is a two-lane, two-way Light Collector (2.2F) running generally east-west along the south property line of the project site. The posted speed limit is 35 mph, according to the San Diego Association of Governments (SANDAG) Transportation Forecast Information Center (see reference). No traffic count information was provided for Linda Vista Drive, and therefore, an analysis of current traffic noise conditions has not been provided. Future traffic noise projections are provided in Section 2.2.

1.2.3 Measured Noise Level

An on-site inspection and traffic noise measurement were made on the afternoon of Wednesday, August 12, 2020. The weather conditions were as follows: clear skies, low humidity, and temperatures in the high 80s with winds at 8 mph. The sound level measurement was performed with a sound level meter using A-weighting and a "slow" response time. A noise measurement was made near the edge of the right-of-way of Linda Vista Drive and the southern boundary of the project site, approximately 15 feet from the Linda Vista Drive centerline. The primary sources of noise during the measurement were some traffic noise and landscaping equipment operation. Vehicles on Linda Vista Drive were observed to be traveling at a speed of approximately 25 mph, below the 35 mph speed limit on this roadway. The microphone position was approximately five feet above grade. Traffic volumes were recorded for automobiles, medium-size trucks, and large trucks on Linda Vista Drive during the measurement period. After a 15-minute sound level measurement, paused for extraneous sources such as helicopter noise, there was no change in the LEQ and results were then recorded. The measured noise level and related weather conditions are found below in Table 1. More information can be found in Appendix B.

Table 1	. On-Site Noise Measurement Conditions and Results					
Date	Wednesday, August 12, 2020					
Time	2:16 p.m. – 2:37 p.m.					
Conditions	Clear skies, wind at 8 mph, temperature in the high 80s with low humidity					
Measured Noise Level	52.1 dBA L _{EQ}					

1.3 Methodology and Equipment

1.3.1 Field Measurement

Typically, a "one-hour" equivalent sound level measurement (L_{EQ}, A-Weighted) is recorded for at least one noise-sensitive location on the site. During the on-site noise measurement, start and end times are recorded and vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment(s). Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site.

For measurements of less than one hour in duration, the measurement time is long enough for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize. The vehicle counts are then converted to one-hour equivalent volumes by applying an appropriate factor. Other field data gathered include measuring or estimating distances, angles-of-view, slopes, elevations, roadway grades, and vehicle speeds. This information is subsequently verified using available maps and records.

1.3.2 Roadway Noise Calculation

The Traffic Noise Model (TNM) calculation protocol in CadnaA Version 2020 (based on the methodology used in TNM Version 2.5, released in February 2004 by the U.S. Department of Transportation) was used for all traffic modeling in the preparation of this report. Using the TNM protocol, the CNEL is calculated as 9.2% of the ADT for surrounding roadways, based on the studies made by Wyle Laboratories (see reference). Future CNEL is calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested, and planned with CadnaA, as required.

Noise levels were calculated for the site using the methodology described above. The calculated noise levels (L_{EQ}) were compared with the measured traffic noise level to determine if adjustments or corrections (calibration) should be applied to the traffic noise prediction model. Adjustments are intended to account for site-specific differences, such as reflection and absorption, which may be greater or lesser than accounted for in the model.

The measured noise level of 52.1 dBA L_{EQ} at approximately 15 feet from the Linda Vista Drive centerline was compared to the calculated (modeled) noise level of 49.2 dBA L_{EQ} for the same anticipated traffic flow. According to the Federal Highway Administration's Highway Traffic Noise: Analysis and Abatement Guide (see reference), a traffic noise model is considered validated if the measured and calculated noise impacts differ by three decibels or less. No adjustment was deemed necessary to model noise levels for the project site as the difference between the measured and calculated levels was found to be less than three decibels. This information is presented in Table 2. Please refer to Appendix B for more information.

Table 2. Calculated versus Measured Traffic Noise Data											
Location	Calculated	Measured	Difference	Correction							
15' from Linda Vista Drive centerline	49.2 dBA L _{EQ}	52.1 dBA L_{EQ}	2.9 dB	None Applied							

1.3.3 Measurement Equipment

Some or all of the following equipment was used at the site to measure existing noise levels:

- Larson Davis Model LxT Type 1 Sound Level Meter, Serial # 4084
- Larson Davis Model CA250 Type 1 Calibrator, Serial # 2106

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterward to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with a sound level meter that conforms to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

2.0 Noise-Sensitive Land Uses Affected by Airborne Noise

2.1 Guidelines for Determination of Significance

The County of San Diego Noise Element to the General Plan states that exterior noise levels at outdoor use areas of single family residential property should not exceed 60 CNEL. In the event that noise levels exceed 60 CNEL, mitigation must be proposed to bring noise levels into compliance. For lots with net areas ranging from 4,000 square feet to 10 acres, as is the case for parcels on this project site, at least ten percent of the net lot area must be noise-protected. In addition, the interior noise levels of all on-site residences must not exceed 45 CNEL, as per the County of San Diego Noise Element as well as the State of California Building Code.

Pertinent sections of the County of San Diego Noise Element to the General Plan are provided in Appendix C.

2.2 Potential Noise Impacts

2.2.1 Potential Build-out Noise Conditions and Impacts

The future traffic volume was determined using the San Diego County General Plan Update 2030 Base Forecast for the Fallbrook area, provided by County of San Diego staff. According to County staff, the adjusted forecasted volume should be used in the analysis. The adjusted traffic volume of Linda Vista Drive for the year 2030 is expected to be 1,000 Average Daily Trips (ADT) in the vicinity of the project site. Although the current posted speed limit is 35 mph, future traffic has been modeled considering the minimum design speed for the 2.2F Light Collector classification, which is 40 mph. Although no truck traffic was observed during the site visit, for a conservative analysis, it was assumed that the daily traffic would include approximately 0.5% medium trucks and 0.5% heavy trucks.

2.2.1.1 Exterior

The exterior noise impacts at the project site are primarily the result of automobile and truck traffic traveling on Linda Vista Drive. Without mitigation or proposed project structures, the project site will be exposed to noise levels ranging from 27 CNEL at the northeast corner of Parcel 4 to 60 CNEL at the edge of the right-of-way of Linda Vista Drive at ground level in the future noise environment. These contours were calculated conservatively and do not account for the topography of the site, which would only serve to further reduce noise levels by potentially providing more shielding between the roadway and noise-sensitive receiver locations. For a graphical representation of future contours, please refer to Figure 5: Site Plan Showing Future Traffic CNEL Contours and Noise Measurement Location, and for additional information, please refer to Appendix B.

Noise levels are shown to be 60 CNEL at the edge of the right-of-way of Linda Vista Drive, and will be significantly reduced at the locations of the future residences as well as any outdoor use areas. The County of San Diego requires noise levels of 60 CNEL or less for at least ten percent of the net lot area, and in this case, nearly all of the four parcels will be exposed to noise levels of less than 60 CNEL, with only the edge of the parcels exposed to 60 CNEL. For these reasons, no mitigation will be necessary to reduce future exterior noise levels, as future noise projections show noise impacts well below the 60 CNEL noise limit.

2.2.1.2 Interior

The State of California and the County of San Diego require buildings to be designed in order to attenuate, control, and maintain interior noise levels to below 45 CNEL in habitable residential space. Current exterior building construction is generally expected to achieve at least 15 decibels of exterior-to-interior noise attenuation, with windows opened, according to the U.S. Environmental Protection Agency Office of Noise Abatement and Control (see reference). Considering this typical amount of noise reduction, 60 CNEL is generally considered to be the threshold above which a focused interior noise analysis would be required. Where exterior noise levels exceed 60 CNEL, the County of San Diego requires a noise protection easement in order to ensure that, at the time of building permit application, an acoustical analysis is performed to identify mitigation measures necessary for achieving compliant interior noise levels within habitable structures.

Calculations show that future noise levels will not exceed 60 CNEL at any location on the project site, with the 60 CNEL contour located along the right-of-way of Linda Vista Drive. A noise protection easement will not be required for this project based on low traffic noise impacts.

2.2.2 Design Considerations and Mitigation Measures

2.2.2.1 Exterior

Noise levels are shown to be 60 CNEL at the edge of the right-of-way of Linda Vista Drive, and will be significantly reduced at the locations of the future residences as well as any outdoor use areas. The County of San Diego requires noise levels of 60 CNEL or less for at least ten percent of the net lot area, and in this case, nearly all of the four parcels will be exposed to noise levels of less than 60 CNEL, with only the edge of the parcels exposed to 60 CNEL. For these reasons, no mitigation will be necessary to reduce future exterior noise levels, as future noise projections show noise impacts well below the 60 CNEL noise limit.

2.2.2.2 Interior

A noise protection easement will not be required for this project based on low traffic noise impacts. Interior noise levels of future residences on site are expected to remain in compliance with County of San Diego and State of California noise regulations with standard building construction. No further interior noise analysis is required prior to building permit application.

3.0 Project-Generated Airborne Noise

3.1 Guidelines for Determination of Significance

The County of San Diego Municipal Code states that noise levels from stationary sources shall not exceed 55 dBA between the hours of 7 a.m. and 10 p.m. and 45 dBA between the hours of 10 p.m. and 7 a.m. at properties zoned A70.

Section 36.409 of the County of San Diego Noise Ordinance states it is unlawful to operate construction equipment that exceeds an average sound level of 75 dBA for an eight-hour period, between 7 a.m. and 7 p.m. when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. In addition, according to Section 36.408 of the ordinance, construction activities must be limited to the hours of 7 a.m. to 7 p.m., Monday through Saturday (except legal holidays). No construction activity is permitted on Sunday. Section 36.410 provides noise limits for impulsive noise, which is defined as a high peak noise level of short duration (one second or less). Impulsive activity includes blasting and the use of equipment such as a rock crusher, hoe ram, pile driver, or drill rig. Impulsive noise limits are provided for both residential and agricultural properties.

Pertinent sections of the County of San Diego Noise Ordinance are provided in Appendix C.

3.2 Potential Operational Noise Impacts

The only anticipated operational noise impact from the proposed project would be residential HVAC units. The units are anticipated to be small capacity, and are not expected to have a significant noise impact on surrounding properties. No further analysis is deemed necessary.

3.3 Potential General Construction Noise Impacts

3.3.1 Potential Temporary Construction Noise Impacts without Mitigation

According to the County of San Diego Noise Ordinance, temporary construction noise must be adequately controlled at occupied properties. The nearest occupied properties surrounding the site include receivers to the north, south, and west, with any other surrounding noise-sensitive receivers located at a greater distance from proposed construction activity.

At the time this report was prepared, the residence on Parcel 4 was currently under construction with rough framing complete. No other heavy equipment use is expected for this parcel in the future. The residences on Parcels 1 through 3 will be constructed following the sale of the residence on Parcel 4 and will be phased such that only one residence is under construction at any given time. Construction information was not available for Parcels 1 through 3, so typical anticipated construction activity has been evaluated. A total of 8,000 cubic yards of earthwork will be performed on site, consisting of balanced cut and fill of earth. No impulsive activity is anticipated on site. The anticipated construction activities are shown in Table 3.

Table 3. Anticipated Construction Activities										
Stage	Anticipated Large Equipment									
Grading	Dozer, Backhoe									
Foundations	Concrete Mixer, Concrete Pump									
Framing/Construction	Air Compressor, Forklift									
Paving	Paver, Roller									

Please refer to Table 4 for typical noise levels of construction equipment expected to be used on site, as described above. All noise levels have been provided by the UK Department for Environment, Food and Rural Affairs (DEFRA), with typical duty cycles of equipment provided by the Federal Highway Association (FHWA) (see references).

Table 4. Typical Construction Equipment Noise Levels											
Stage	Duty Cycle (%)	Calculated Noise Level at 50 Feet (dBA)									
Dozer	40	74									
Backhoe	40	64									
Concrete Mixer	40	71									
Concrete Pump	20	71									
Air Compressor	40	61									
Forklift	40	71									
Paver	50	71									
Roller	20	69									

Noise levels were calculated at the nearest receivers to the north, south, and west of the project site. The noise sources were placed at worst-case areas for each receiver, either centered on the future building pad or near the biofiltration basins, to evaluate worst-case impacts to the surrounding receivers as equipment is focused on various areas of the property. Noise calculations consider typical duty cycles of equipment, to account for periods of activity and inactivity on the site.

Noise levels of construction at each of the locations described above are shown in Table 5. Detailed calculations can be found in Appendix D: Construction Equipment Noise Calculations. A graphical representation of source and receiver locations is provided as Figure 6.

Table 5.	Temporary Construction N	oise Levels at Neighboring P	roperties	
Stage	Receiver Location	Distance to Receiver (ft)	8-Hour Average Noise Level (dBA)	
	R1 (North)	115	63.2	
Grading	R2 (South)	65	68.2	
	R3 (West)	110	63.6	
	R1 (North)	115	61.5	
Foundation	R2 (South)	340	52.1	
	R3 (West)	110	61.9	
	R1 (North)	115	60.2	
Framing/Construction	R2 (South)	340	50.8	
	R3 (West)	110	60.6	
	R1 (North)	115	61.7	
Paving	R2 (South)	65	66.7	
	R3 (West)	110	62.1	

3.3.2 Design Considerations and Temporary Mitigation Measures

As shown above, worst-case noise levels from temporary construction activity are expected to be in compliance with the County of San Diego eight-hour average equivalent noise limit of 75 dBA for construction activity.

For any project in which construction activity will take place near occupied residential properties, the following "good practice" recommendations should be adhered to whenever possible:

- 1. Turn off equipment when not in use.
- 2. Equipment used in construction should be maintained in proper operating condition, and all loads should be properly secured to prevent rattling and banging.
- 3. Use equipment with effective mufflers.
- 4. Minimize the use of backup alarms.
- 5. Equipment staging areas should be placed at locations away from noise-sensitive (occupied) receivers.

These general recommendations, in addition to limiting construction equipment operation to the allowable hours detailed in the County of San Diego Noise Ordinance, will assist in maintaining the comfort of neighboring sensitive receivers during the construction of this site.

3.4 Potential Impulsive Noise Impacts

There is no anticipated need for impulsive construction activity on site; and therefore, this noise source has not been included in this analysis.

4.0 Project-Generated Groundborne Noise and Vibration

Proposed construction phases for this project are not expected to include any significant vibration inducing equipment, such as pile driving or heavy soil compaction. As these types of equipment will not be present, excessive levels of groundborne vibration and groundborne levels are not expected to be received by any persons. Construction vibration is therefore anticipated to be less than significant from activity at the project site.

5.0 Conclusion

According to the County of San Diego Noise Element to the General Plan, noise levels at outdoor use areas of single family residential sites should not exceed 60 CNEL. For lots with a net area between 4,000 square feet and 10 acres, the County of San Diego requires that at least ten percent of the net lot area be protected from noise levels greater than 60 CNEL. As the entire project site will be exposed to less than 60 CNEL in the future noise environment, no mitigation is deemed necessary to attenuate exterior noise impacts at the site.

Additionally, as noise impacts will not exceed 60 CNEL at the site in the future noise environment, no noise protection easement is required. Interior noise levels of future residences on site are expected to remain in compliance with County of San Diego and State of California noise regulations with standard building construction. No further interior noise analysis is required prior to building permit application.

It has been determined that typical construction activities will not exceed the County of San Diego temporary construction noise limit of 75 dBA at adjacent property lines during the construction activity. General good practice measures should be followed to ensure that noise levels remain below the County of San Diego construction noise limits, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and using equipment with effective mufflers. Equipment operation must also be limited to the allowable hours of operation set by the County of San Diego. With these recommendations, it is expected that construction equipment noise levels will be at or below an average eighthour equivalent noise level of 75 dBA, in compliance with County of San Diego regulations.

6.0 Certification

All recommendations for noise control are based on the best information available at the time our consulting services are provided. However, as there are many factors involved in sound transmission, and Eilar Associates has no control over the construction, workmanship, or materials, Eilar Associates is specifically not liable for final results of any recommendations or implementation of the recommendations.

This report is based on the related project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the proposed Lehman Tentative Parcel Map (TPM 21278), located on Linda Vista Drive in the Fallbrook Community Planning Area of the County of San Diego, California. This report was prepared by Amy Hool and Rachael Cowell.

Amy Hool, INCE President/CEO Rachael S. Cowell, INCE Acoustical Consultant

That's Call

7.0 References

San Diego Association of Governments (SANDAG) Traffic Forecast Information Center, Series 14, http://tfic.sandag.org.

DataKustik, CadnaA, Version 2020.

Wyle Laboratories, Development of Ground Transportation Systems Noise Contours for the San Diego Region, December 1973.

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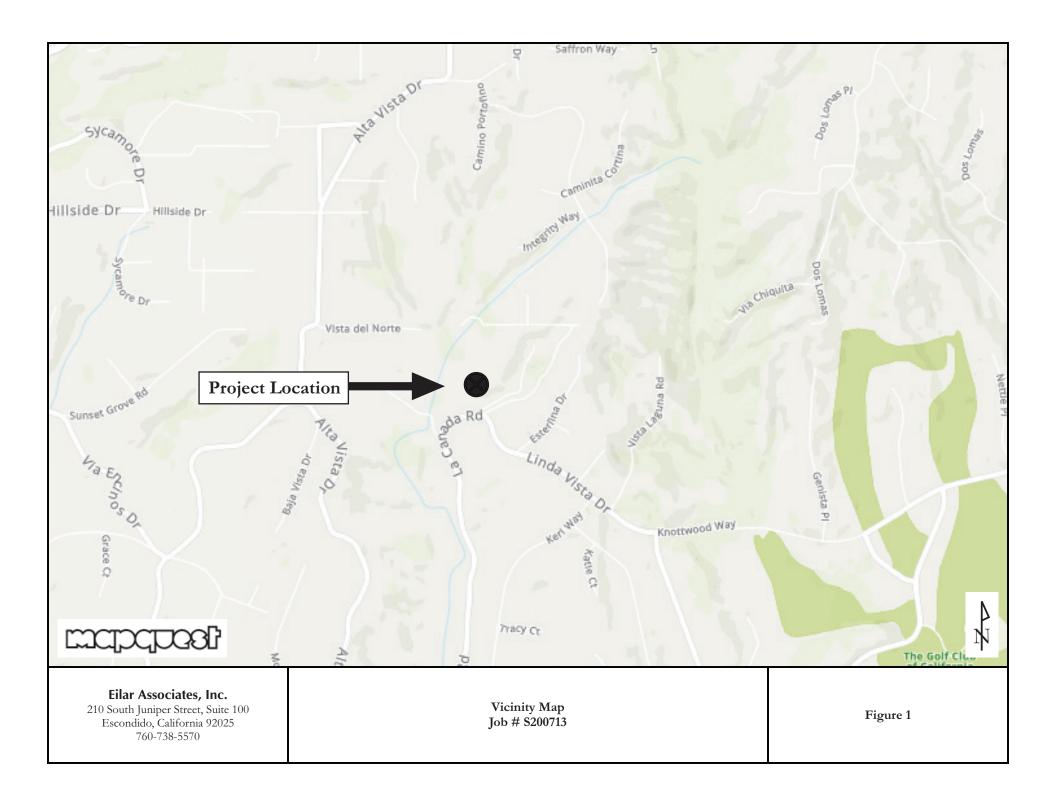
County of San Diego Noise Ordinance.

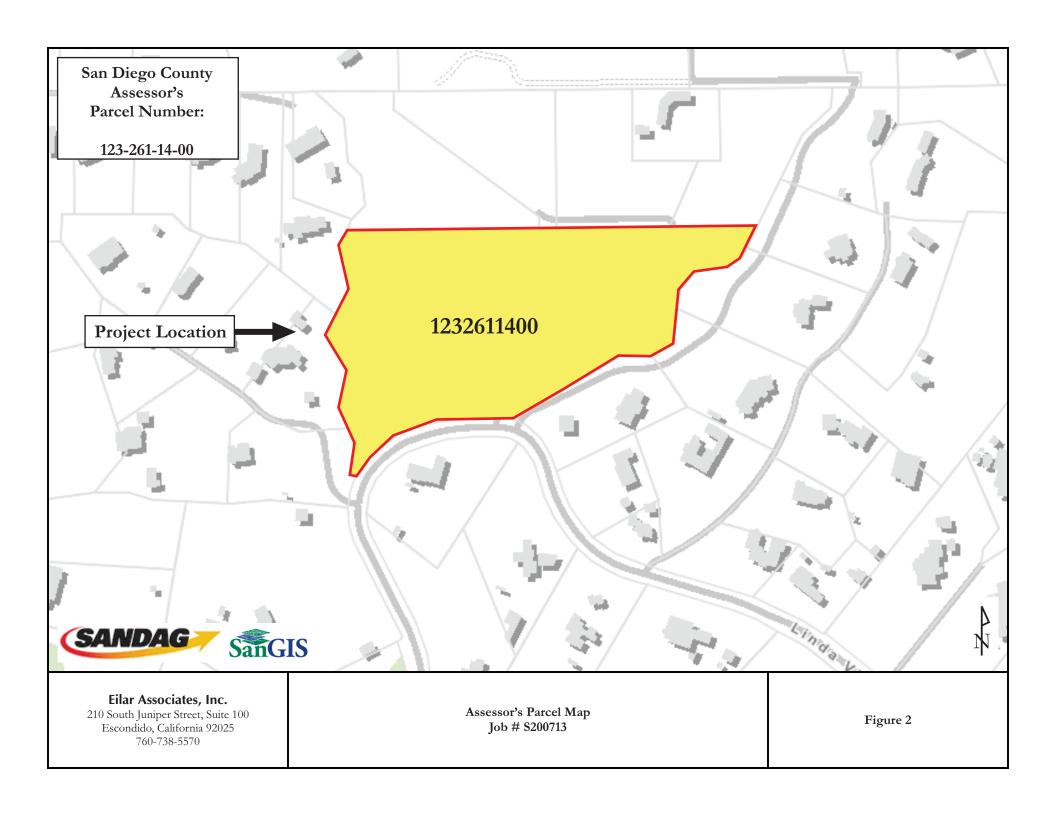
UK Department for Environment, Food, and Rural Affairs (DEFRA) Construction Noise Database.

U.S. Department of Transportation Federal Highway Administration, Construction Noise Handbook, Construction Equipment Noise Levels and Ranges.

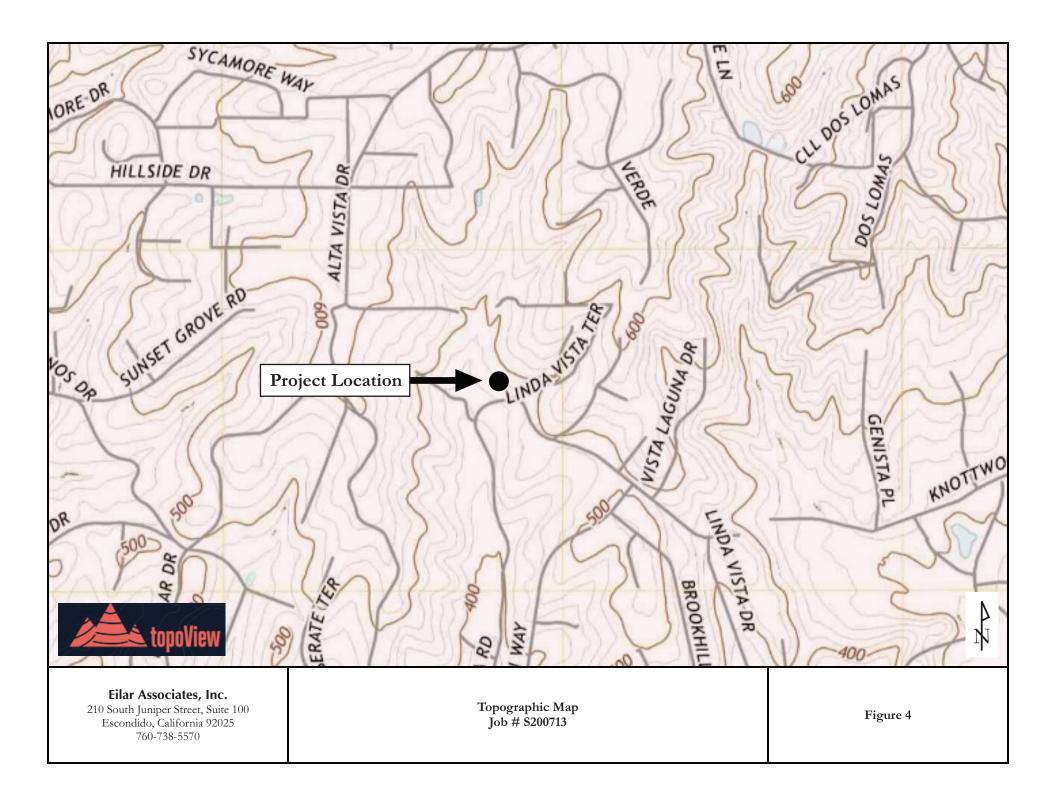


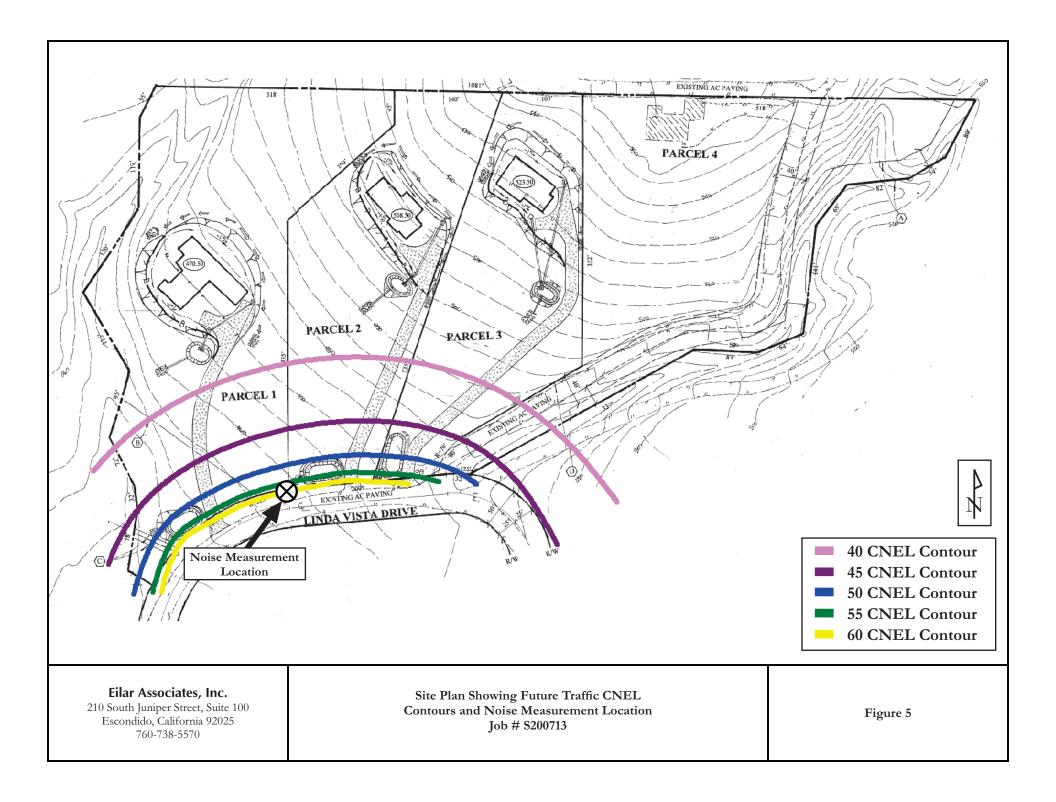
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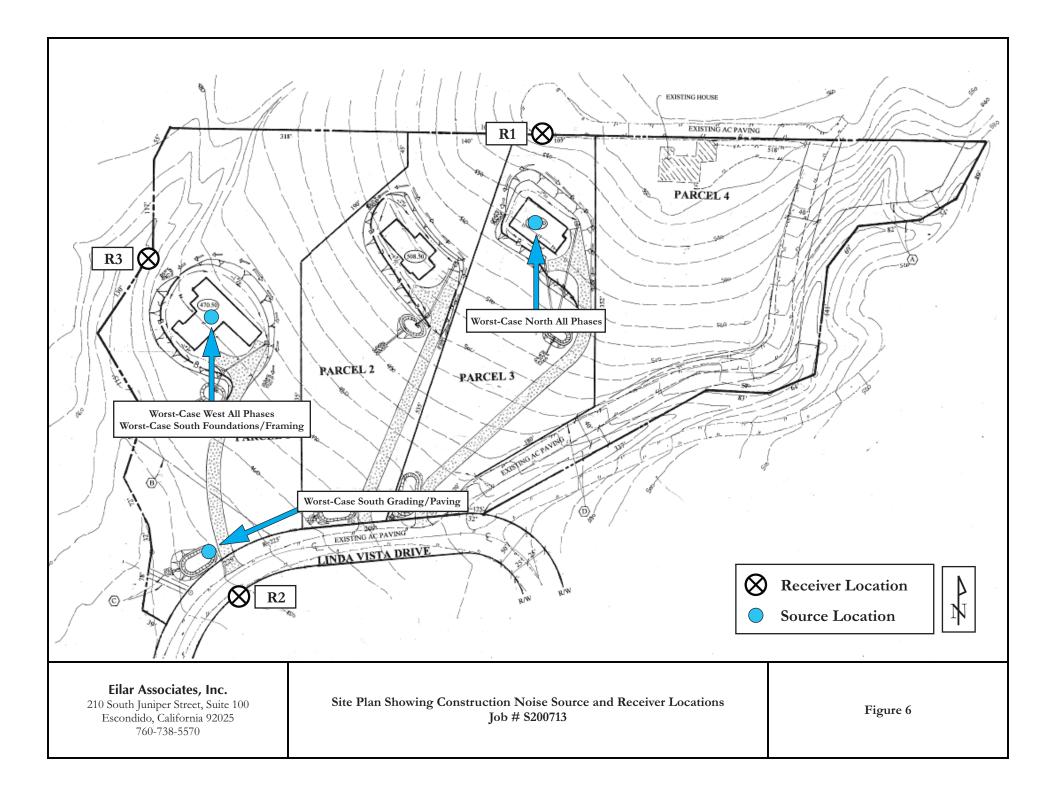














Appendix A

Project Plans

EASEMENTS: TENTATIVE PARCEL MAP NO. (A) INDICATES EXISTING 25' PRIVATE ROAD EASEMENT PER DOC. REC. 11-18-1947 IN BOOK LAND DIVISION STATEMENT OWNER'S CERTIFICATE ZONING DIVISION (B) INDICATES EXISTING UTILITY EASEMENT TO SDGE PER DOC. REC. 2-02-1949 IN BOOK 3101, PAGE 129 (NO WIDTH GIVEN) C INDICATES EXISTING 12' UTILITY EASEMENT TO SDGE PER DOC. REC. 7-15-1975 AS FILE I hereily cartify that I am the record owner, as shown on the listest equalized County assessment, of the property shown on the Ternative Parcel Map. All of my contiguous ownership within and beyond the boundaries of the Terlative Parcel Map are shown. The basis of creation of the lists in my comership (e.g., Parcel Map, Fired Map, Chefficial of Compliance, Recorded Dood before 29/17) is indicated on the Terrative Parcel Map. I understood that property is considered as configurate with a fit is superated by roads, streets, utility essements or ratinate fight cleany. The wavely as defined in Section 23.5 of the Street and Highlany Cook, all and the correlative days not read or streets. NO. 75-182495 DISIDICATES EXISTING 40° PRIVATE TOAD & UTILITY EASEMENT PER DOC. REC. 9-06-1994 AS FILE. NO. 94-538736 I further certify that I will not, by this application, create or cause to be created, or will not have pericipeted in the creedion of more than four pareats on configurate property unities such configurate process were created by major subcliviation. For purposes of this confficient, the ferm participated means having cooperated with or acted in a planning, coordinating or decision-making capacity in any formal or information association or participated. I certify under penalty of perjury that the foregoing is true and correct. Executed this 6TH day of JUNE , 2019 at FALLBROOK ALL OWNERS MUST SIGN Name: LEHMAN FAMILY TRUST DATED JULY 1- Name: Address: 1494 MEREDITH ROAD, FALLBROOK, CA. 92028 PARCEL 3 Phone: 760-525-7000 1. Complete Tax Assessor's number is: 123-261-14 PARCEL 4 3.05 ACRES GROSS 2.00 ACRES NET Abbreviated legal description of the land shown on the Tentative Parcel Map: PORTION OF LOT 26, MAP 2323 3. General Plan Regional Category: SEMI-RURAL RESIDENTIAL (SR-2) 4. Community/Subregional Plan Area: FALLBROOK 5. Land Use Designation(s): LIMITED AGRICULTURAL 6. Associated Permits: NONE Location and status of existing legal access to subject properly from a publicly maintained read (i.e., recorded or unrecorded exerment – identify and specify width): PARCEL 2 FRONTAGE ON PUBLIC ROAD (LINDA VISTA DRIVE) 8. Water source/Water District: RAINBOW MUNICIPAL WATER DISTRICT 9. Septic/Sewer District: INDIVIDUAL SEPTIC SYSTEMS ENGINEER OF WORK: PATRICK W. HARRISON, RCE 10. Fire District: NORTH COUNTY FIRE PROTECTION DISTRICT POWAY, CA. 92064 838-679-8808 E-MAIL: HARRISONECESSAM...COM PARCEL 1 11. School District(s): FALLBROOK UNION HIGH SCHOOL & FALLBROOK ELEMENTARY SCHOOL DISTRICT 12. Existing Zoning: USE REGULATIONS 12/20/2013 ANIMAL REGULATIONS 2 AC Building Type Maximum Floor Area NVA Floor Area Ratio N/A Height Lot Coverage Setback Open Space N/A SPECIAL AREA REGULATIONS LINDA VISTA DRIVE SLOPE TABLE N SCALE 1" = 60 % OF SLOPE OVER 25% SLOPE IS: 5 % AVERAGE SLOPGE OF PROPERTY IS: 15 % AREA OVER 25% SLOPE IS: 0.53 ACKES SLOPES OVER 25% SHOWN THUS: HEALTH DEPARTMENT CERTIFICATION DEH2019-LMAP-00068 ALL PARCEIS SHALL HAVE A LAVOLT OF THE SERVICE DEPOCAL SYSTEM, PROPOSED STRUCTURES, CLUB AND FILL APPROPRIES OF THE ASSOCIATION OF CORRESPONDED AND THE ASSOCIATION OF THE PROPRIES OF THE ASSOCIATION OF THE ASSOCI NO SLOPES OVER 50% FALLERASIK SOLAR ACCESS STATEMENT: ALL LOTS WITHIN THIS SUBDIVISION HAVE AMINIMUM OF 100 SQUARE FEET OF SOLAR ACCESS FOR EACH FUTURE DWELLINGCOMMERIALINDUSTRIAL UNIT ALLOWED BY THIS SUBDIVISION. EACH PARCEL IS APPROVED FOR A STANDARD SEPTIC TANK CONNECTED TO .** OF THE DRAIN FILED TO SERVE A POUR-REDROOM DWELLING: PROVIDED THE ORGINAL SIA SOT DISTURBED IN ANY, WAY, SUCH AS CUTTENG, FILLING OR RIPPING, THIS DOES NOT CONSTITUTE APPROVAL FOR COMMERCAL ESTABLISHMENTS SOURCE OF TOPO: COUNTY OF SAN DIEGO 200 SCALE TOPO INDEX: 422-1701 *DATA AND RECOMMENDATIONS IN THE NAME OF TOD LEHMAN BY DAVID H. LOWEN, BCE - LINDA VISTA TERRACE PARCEL 1, 4 BEDROOM SFD, 410 CLF OF LEACH LINE WITH 5' TRENCH WITH 5' OF ROCK PARCEJ, 2, MINDROOM SFD, 380 CLF OF LEACH LINE WITH 3' TRENCH WITH 3' OF ROCK PARCEJ, 1, 4 BEDROOM SFD, 40 CLF OF LEACH HEN WITH 5' TRENCH WITH 3' OF ROCK PARCEJ, 4, 4 BEDROOM SFD, 410 CLF OF LEACH LINE WITH 5' TRENCH WITH 3' OF ROCK EXISTING AC BURM (TYPICAL) APPROVED BY: CATHERINE DEAN, REHS 11-20-2019 LINDA VISTA DRIVE THIS CERTIFICATION DOES NOT IMPLY ALL CONDITIONS PURSUANT TO THE RESOURCE PROFESSION ORDINANCE HAVE BEEN MEET THE DEPARTMENT OF PLANNING AND LAND USE SHOULD BE CONSULTED RECLARACION DHE APPLICATION OF THE ORDINANCE RELITATIVE TO SHE PROBLET ANY RESULTANT CHANGES TO THE SEPTICE SYSTEM DESION (5) MUST BE ALE PALALAZED BY THE DEPARTMENT OF ENVIRONMENTAL RELITATION. VICINITY MAP TYPICAL SECTION-4P WIDE UNNAMED PRIVATE ROAD EASEMENT TYPICAL SECTION-LINDA VISTA DEIVE NO SCALE NO SCALE

EASEMENTS: PRELIMINARY GRADING PLAN O INDICATES EXISTING 25' PRIVATE ROAD EASIMENT PER DOC. REC. 11-18-190T IN BOOK 2534, PAGE 346 2 ENVIRONMENTAL LOG NUMBER: ER: ENGINEER OF RECORD: PATRICK W. HARRISON, RCE 12999 CREST ROAD POWAY, CA. 92084 833-679-8868 E-MAIL: HARRISONRCE@AOL.COM PRELIMINARY GRADING PLAN NOTE: THIS PLAN IS PROVIDED TO ALLOW FOR A FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THATA ACCEPTANCE OR APPOVAVIO OF THIS FLAX DOES NOT CONSTITUE AN APPROVAL TO PREFER AND SOME AND AGREES TO GETAIN VALID PRIMESSONS BEFORE COMMENCING SUCH ACTIVITIES. LEGEND: INDICATES EXISTING AC PAVING SLOPE RATIO NOT TO EXCEED 1.5:1 FOR CUT SLOPES AND 2:1 FOR FILL SLOPES INDICATES PROPOSED AC PAVING OWNER & APPLICANT: INDICATES PROPOSED 2:1 FILL SLOPE INDICATES PROPOSED 1.5:1 CUT SLOPE INDICATES PROPOSED BROW DITCH INDICATES PROPOSED RIP-RAP EXISTING AC PAVING TAX ASSESSORS PARCEL NUMBER: 123-261-14 INDICATES PROPOSED PAD ELEVATION EARTHWORK QUANTIES: CUT: 8,600 CY FILL: 8,000 CY EXPORT: 0 CY IMPORV: 0 CY INDICATES PROPOSED BIOFILTRATION BASIN INDICATES PROPOSED 6" DRAIN PIPE PARCEL 4 PARCEL 2 % PARCEL 3 PARCEL 1 LINDA VISTA DRIVE -- LINDA VISTA TERRACE VICINITY MAP NO SCALE



Appendix B

CadnaA Analysis Data and Results

Eilar Associates, Inc.

210 South Juniper Street, Suite 100 Escondido, California 92025-4230 Phone: (760) 738-5570

Date: 17 Aug 2020

Calculation Configuration

Configuration	<u> </u>
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	1.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Strictly acc. to Scriali 03 / Scriali-Translabit	
Aircraft (???)	

Receivers

Name	M.	ID	Level Lr Limit. Value			Value		Land	d Use	Height	Coordinates		
			Day	Night	Day	Night	Type Auto N		Noise Type		X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)	(m)	(m)	(m)
Calibration		R0	49.2	-60.8	0.0	0.0		х	Total	1.52 r	291.67	126.86	1.52

Roads

Name	M.	ID		Lme		Cou	nt Data	ata exact Cour				ì		Speed Limit		SCS	SCS Surface		Gradient	Mult	. Reflec	ction
			Day	Evening	Night	DTV	Str.class.		М			p (%) Auto		Auto	Truck	Dist.	Dstro	Туре		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)
Linda Vista	a +		40.2	0.0	0.0			28.0	0.0	0.0	0.0	0.0	0.0	40		5.18	0.0	1	0.0	0.0		

Geometry - Roads

Name	H	lei	ight		Coordinat	es		Dist	LSlope
	Begin		End	х	у	Z	Ground	(m)	(%)
	(m)		(m)	(m)	(m)	(m)	(m)		
Linda Vista	0.00	r		283.49	-32.08	0.00	0.00		
				240.65	62.42	0.00	0.00		
				247.79	93.08	0.00	0.00		
				253.25	105.68	0.00	0.00		
				276.35	118.28	0.00	0.00		
				290.32	122.56	0.00	0.00		
				316.25	127.52	0.00	0.00		
				346.07	125.84	0.00	0.00		
				360.36	120.38	0.00	0.00		
				374.64	90.98	0.00	0.00		
				391.86	51.92	0.00	0.00		
				416.22	29.24	0.00	0.00		
				473.76	15.38	0.00	0.00		
				569.94	-27.04	0.00	0.00		

Eilar Associates, Inc.

210 South Juniper Street, Suite 100 Escondido, California 92025-4230 Phone: (760) 738-5570

Date: 17 Aug 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	1.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Leve	el Lr	Limit.	Value	Land Use			Height	Coordinates		
			Day	Night	Day	Night	Туре	Auto	Noise Type		Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)	(m)	(m)	(m)
Max		R1	60.0	-59.4	0.0	0.0		х	Total	1.52 r	291.67	126.86	1.52
Min		R2	26.5	-79.0	0.0	0.0		х	Total	1.52 r	567.00	283.66	1.52

Roads

Nar	me	M.	ID		Lme		Cour	nt Data		ex	cact Cou	nt Data	1		Speed	Limit	SCS	Surf	ace	Gradient	Mult	. Reflec	tion
				Day	Evening	Night	DTV	Str.class.		М			p (%)		Auto	Truck	Dist.	Dstro	Туре		Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)
Linda	Vista	+		51.3	0.0	0.0			82.0	0.0	0.0	1.0	0.0	0.0	64		5.18	0.0	1	0.0	0.0		

Geometry - Roads

Name	H	lei	ight		Dist	LSlope			
	Begin		End	х	у	Z	Ground	(m)	(%)
	(m)		(m)	(m)	(m)	(m)	(m)		
Linda Vista	0.00	r		283.49	-32.08	0.00	0.00		
				240.65	62.42	0.00	0.00		
				247.79	93.08	0.00	0.00		
				253.25	105.68	0.00	0.00		
				276.35	118.28	0.00	0.00		
				290.32	122.56	0.00	0.00		
				316.25	127.52	0.00	0.00		
				346.07	125.84	0.00	0.00		
				360.36	120.38	0.00	0.00		
				374.64	90.98	0.00	0.00		
				391.86	51.92	0.00	0.00		
				416.22	29.24	0.00	0.00		
				473.76	15.38	0.00	0.00		
				569.94	-27.04	0.00	0.00		



Appendix C

Pertinent Sections of the County of San Diego Noise Element to the General Plan & Noise Ordinance



Noise Effects

Noise has a significant effect on quality of life. An individual's reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about ten dB greater than the reference sound to be judged as twice as loud. In general, a three dB change in community noise levels is perceivable, while one to two dB changes generally are not perceived. Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: noise-induced hearing loss; interference with communication; effects on sleep; effects on performance and behavior; extra-auditory health effects; and annoyance.

Noise Standards

Noise exposure criteria are incorporated into land use planning to reduce future conflicts between noise and land use. This is achieved by specifying acceptable noise exposure ranges for various land uses throughout the County. The County uses the Noise Compatibility Guidelines listed in Table N-1 (Noise Compatibility Guidelines) to determine the compatibility of land use when evaluating proposed development projects.

The Noise Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments. For example, a commercial project would be evaluated differently than a residential project in a rural area or a mixed-use project in a more densely developed area of the County.

A land use located in an area identified as "acceptable" indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. Land uses that fall into the "conditionally acceptable" noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source may interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as "conditionally acceptable," structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Standards listed in Table N-2 (Noise Standards). For land uses where the exterior noise levels fall within the "unacceptable" range, new construction generally should not be undertaken.

COUNTY OF SAN DIEGO

Table N-1 Noise Compatibility Guidelines												
	Land Use Category		55	6	Exterio	or Noi 6			IEL) 70	75	<u>. </u>	80
A	Residential—single family residences, mobile homes, senior housing, convalescent homes											
В	Residential—multi-family residences, mixed-use (commercial/residential)											
С	Transient lodging—motels, hotels, resorts											
D*	Schools, churches, hospitals, nursing homes, child care facilities											
E*	Passive recreational parks, nature preserves, contemplative spaces, cemeteries											
F*	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation											
G*	Office\professional, government, medical\dental, commercial, retail, laboratories											
H*	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair											
	ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.											
	CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table N-2, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate county decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.											
	UNACCEPTABLE—New construction or dev	elopment sh	all not	be und	lertake	n.						

^{*} Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL (refer to Table N-2).

Note: For projects located within an Airport Influence Area of an adopted Airport Land Use Compatibility Plan (ALUCP), additional Noise Compatibility Criteria restrictions may apply as specified in the ALUCP.



Table N-2 Noise Standards Note

- 1. The exterior noise level (as defined in Item 3) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
- 2. The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
- 3. The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA L_{eq} (one hour average).
- 4. For single-family detached dwelling units, "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.
- 5. For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
- 6. For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
- 7. For noise sensitive land uses where people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
- 8. The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
- 9. For Categories E and F the exterior noise level standard shall not exceed the limit defined as "Acceptable" in Table N-1 or an equivalent one-hour noise standard.

Note: Exterior Noise Level compatibility guidelines for Land Use Categories A-H are identified in Table N-1, Noise Compatibility Guidelines.

In addition, the County has adopted community noise control standards as part of the County's Noise Abatement and Control Ordinance (County Code of Regulatory Ordinances, Title 3, Division 6, Chapter 4) and provides guidance for implementation of the County's noise policies and ordinance in the County's *California Environmental Quality Act* (CEQA) Guidelines for Determining Significance for Noise. The Noise Ordinance defines limits for activities that generate excessive noise and sets noise level limits for land uses. The County's CEQA significance guidelines provide guidance on the use of the General Plan Noise Element and the County Noise Abatement and Control Ordinance when considering the environmental impact of noise exposure to high or excessive noise levels.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88; amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.408. HOURS OF OPERATION OF CONSTRUCTION EQUIPMENT.

Except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

- (a) Between 7 p.m. and 7 a.m.
- (b) On a Sunday or a holiday. For purposes of this section, a holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, December 25th and any day appointed by the President as a special national holiday or the Governor of the State as a special State holiday. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10 a.m. and 5 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in sections 36.409 and 36.410.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.409. SOUND LEVEL LIMITATIONS ON CONSTRUCTION EQUIPMENT.

Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

(Amended by Ord. No. 9700 (N.S.), effective 2-4-05; amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.410. SOUND LEVEL LIMITATIONS ON IMPULSIVE NOISE.

In addition to the general limitations on sound levels in section <u>36.404</u> and the limitations on construction equipment in section <u>36.409</u>, the following additional sound level limitations shall apply:

(a) Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in <u>Table 36.410A</u>, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in <u>Table 36.410A</u> are as described in the County Zoning Ordinance.

TABLE 36.410A. MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS (dBA)

OCCUPIED PROPERTY USE	DECIBELS (dBA)					
Residential, village zoning or civic use	82					
Agricultural, commercial or industrial use	85					

(b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in <u>Table 36.410B</u>, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in <u>Table 36.410B</u> are as described in the County Zoning Ordinance.

TABLE 36.410B. MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS (dBA) FOR PUBLIC ROAD PROJECTS

OCCUPIED PROPERTY USE	dB(A)				
Residential, village zoning or civic use	85				
Agricultural, commercial or industrial use	90				

(c) The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute, it will be deemed that the maximum sound level was exceeded during that minute.

(Added by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.411. CONTAINERS AND CONSTRUCTION MATERIAL.

It shall be unlawful for any person to handle, transport, or cause to be handled or transported in any public place, any container or any construction material in such a way as to create a disturbing, excessive, or offensive noise as defined in section 36.402 of this chapter.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.412. SIGNAL DEVICE FOR FOOD TRUCKS.

No person shall operate or cause to have operated or used any sound signal device other than sound-amplification equipment attached to a motor vehicle wagon or manually propelled cart from which food or any other items are sold which emits a sound signal more frequently than once every ten minutes in any one street block and with a duration of more than ten seconds for any single emission. The sound level of this sound signal shall not exceed 90 decibels at 50 feet from the point of the noise source.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.413. MULTIPLE FAMILY DWELLING UNITS.

Notwithstanding any other provision of this chapter it shall be unlawful for any person to create, maintain or cause to be maintained any sound within the interior of any multiple family dwelling unit which causes the noises level to exceed those limits set forth below in another dwelling unit:

TABLE 36.413
ALLOWABLE INTERIOR NOISE LEVEL

Type of Land Use	Hours		Allowable Interior Noise Level (dBA)				
		No Time	1 min in 1 hour	5 min in 1 hour			
Multifamily	10 pm- 7 am	> 45	40	35			
Residential	7 am-10 pm	> 55	50	35			

(> greater than)



Appendix D

Construction Equipment Noise Calculations

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Dozer Receiver: R1 - North **Noise Source** Noise Level (dBA) 74 at 50 feet **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 115 feet Path Calculation Source to Receiver Direct Path Distance: 115 feet Sound Pressure Level 66.8 115 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 62.8 Summation Number of Sources: 2

Level during 8 hour day: 63.2

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Backhoe
Receiver: R1 - North

Noise Source					
	Noise Level (dBA)	64	at	50	feet

Distances					
Source Elevation	5	feet	at	0	feet above grade
Receiver Elevation:	5	feet	at	0	feet above grade
Source to Receiver Distance:	115	feet			_

Path Calculation		
Source to Receiver Direct Path Distance: _	115	feet

Sound Pressure Level	56.8	at	115	feet
Hours of Use:	8	=		
Duty Cycle (%):	40	=		
Level During 8 Hour day:	52.8	_		
		-		

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Dozer Receiver: R2 - South **Noise Source** Noise Level (dBA) 74 at 50 feet Distances Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 65 feet Path Calculation Source to Receiver Direct Path Distance: 65 feet Sound Pressure Level 71.7 65 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: Summation Number of Sources: 2

Level during 8 hour day: **68.2**

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Backhoe
Receiver: R2 - South

Noise Source				
Noise Level (dBA) 64	at	50	feet	
Distances				
Source Elevation 5	feet	at	0	feet above grade
Receiver Elevation: 5	feet	at	0	feet above grade
Source to Receiver Distance: 65	feet	•		-
Path Calculation				
Source to Receiver Direct Path Distance:	65	_ feet		
Sound Pressure Level 61.7	at	65	feet]
Hours of Use: 8				
Duty Cycle (%): 40				
Level During 8 Hour day: 57.7				

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Dozer Receiver: R3 - West **Noise Source** Noise Level (dBA) 74 at 50 feet Distances Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 110 feet Path Calculation Source to Receiver Direct Path Distance: 110 feet Sound Pressure Level 67.2 110 feet Hours of Use: 8 Duty Cycle (%): _ Level During 8 Hour day: Summation Number of Sources: 2

Level during 8 hour day: 63.6

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Backhoe
Receiver: R3 - West

Noise Source					
	Noise Level (dBA)	64	at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 110 feet

Path Calculation

Source to Receiver Direct Path Distance: _____110 ____ feet

Sound Pressure Level 57.2 at 110 feet

Hours of Use: 8
Duty Cycle (%): 40
Level During 8 Hour day: 53.2

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: **Concrete Mixer** Receiver: R1 - North **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 115 feet Path Calculation Source to Receiver Direct Path Distance: 115 feet Sound Pressure Level 63.8 115 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: **59.8** Summation Number of Sources: 2

Level during 8 hour day: 61.5

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Concrete Pump
Receiver: R1 - North

Noise Source					
	Noise Level (dBA) _	71	_ at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 115 feet

Path Calculation

Source to Receiver Direct Path Distance: _____115 ____ feet

Sound Pressure Level 63.8 at 115 feet

Hours of Use: 8
Duty Cycle (%): 20
Level During 8 Hour day: 56.8

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: **Concrete Mixer** Receiver: R2 - South **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 340 feet Path Calculation Source to Receiver Direct Path Distance: 340 feet Sound Pressure Level 54.3 340 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 50.4 Summation Number of Sources: 2

Level during 8 hour day: 52.1

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Concrete Pump
Receiver: R2 - South

Noise Source					
	Noise Level (dBA)	71	_ at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 340 feet

 Sound Pressure Level
 54.3
 at
 340
 feet

 Hours of Use:
 8
 20

 Level During 8 Hour day:
 47.4

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: **Concrete Mixer** Receiver: R3 - West **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 110 feet Path Calculation Source to Receiver Direct Path Distance: 110 feet Sound Pressure Level 64.2 110 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 60.2 Summation Number of Sources: 2

Level during 8 hour day: 61.9

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Concrete Pump
Receiver: R3 - West

Noise Source					
	Noise Level (dBA)	71	at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 110 feet

Path Calculation

Source to Receiver Direct Path Distance: _____110 ____ feet

Sound Pressure Level 64.2 at 110 feet

Hours of Use: 8
Duty Cycle (%): 20
Level During 8 Hour day: 57.2

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Air Compressor Receiver: R1 - North **Noise Source** Noise Level (dBA) 61 at 50 feet **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 115 feet Path Calculation Source to Receiver Direct Path Distance: 115 feet Sound Pressure Level 53.8 115 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 49.8 Summation Number of Sources: 2

Level during 8 hour day: **60.2**

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Forklift
Receiver: R1 - North

Noise Source					
	Noise Level (dBA)	71	_ at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 115 feet

Path Calculation

Source to Receiver Direct Path Distance: _____115 ____ feet

Sound Pressure Level 63.8 at 115 feet

Hours of Use: 8
Duty Cycle (%): 40
Level During 8 Hour day: 59.8

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Air Compressor Receiver: R2 - South **Noise Source** Noise Level (dBA) 61 at 50 feet **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 340 feet Path Calculation Source to Receiver Direct Path Distance: 340 feet Sound Pressure Level 44.3 340 feet Hours of Use: 8 Duty Cycle (%): _ Level During 8 Hour day: 40.4 Summation Number of Sources: 2

Level during 8 hour day: 50.8

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Forklift
Receiver: R2 - South

Noise Source					
	Noise Level (dBA)	71	_ at	50	feet

Distances					
Source Elevation	5	feet	at	0	feet above grade
Receiver Elevation:	5	feet	at	0	feet above grade
Source to Receiver Distance:	340	feet			
Source to Receiver Distance:	340	feet		1	

Path Calculation		
Source to Receiver Direct Path Distance:	340	feet

Sound Pressure Level	54.3	at	340	feet
Hours of Use:	8	='		
Duty Cycle (%):	40	_'		
Level During 8 Hour day:	50.4	_		
· · · · ·		_		

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Air Compressor Receiver: R3 - West **Noise Source** Noise Level (dBA) 61 at 50 feet **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 110 feet Path Calculation Source to Receiver Direct Path Distance: 110 feet Sound Pressure Level 54.2 110 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 50.2 Summation Number of Sources: 2

Level during 8 hour day: **60.6**

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Forklift
Receiver: R3 - West

Noise Source	9					
	Noise Level (dBA)	71	at	50	feet	
Distances						
	Source Elevation	5	feet	at	0	feet above grade
	Receiver Elevation:	5	feet	at	0	feet above grade
Source to	Receiver Distance:	110	feet	•		_

Path Calculation		
Source to Receiver Direct Path Distance:	110	feet

Sound Pressure Level	64.2	at	110	feet
Hours of Use:	8	_		
Duty Cycle (%):	40	_		
Level During 8 Hour day:	60.2			
		_		

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Paver Receiver: R1 - North **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 115 feet Path Calculation Source to Receiver Direct Path Distance: 115 feet Sound Pressure Level 63.8 115 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: 60.8 Summation Number of Sources: 2

Level during 8 hour day: 61.7

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Roller
Receiver: R1 - North

Noise Source					
	Noise Level (dBA) _	69	_ at	50	feet

Source Elevation 5 feet at 0 feet above grade
Receiver Elevation: 5 feet at 0 feet above grade
Source to Receiver Distance: 115 feet

Path Calculation

Source to Receiver Direct Path Distance: _____115 ____ feet

Sound Pressure Level 61.8 at 115 feet

Hours of Use: 8
Duty Cycle (%): 20
Level During 8 Hour day: 54.8

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Paver Receiver: R2 - South **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 65 feet Path Calculation Source to Receiver Direct Path Distance: 65 feet Sound Pressure Level 68.7 65 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: Summation Number of Sources: 2 Level during 8 hour day: 66.7

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Roller
Receiver: R2 - South

Noise Source]
Noise Level (dBA) _	69	at	50	feet	
Distances					
Source Elevation	5	feet	at	0	feet above grade
Receiver Elevation:	5	feet	at	0	feet above grade
Source to Receiver Distance:	65	feet	-		
Path Calculation					
Source to Receiver Direct Path	Distance:	65	feet		
Sound Pressure Level	66.7	at	65	feet	7
Hours of Use:	8	J.		.000	
Duty Cycle (%):	20				
Level During 8 Hour day:	59.7				

Noise Attenuation by Distance Calculation Job: Lehman TPM Job #: S200713 Date: 8/12/2020 Source: Paver Receiver: R3-West **Noise Source** Noise Level (dBA) 71 at 50 **Distances** Source Elevation ____ feet above grade feet feet above grade Receiver Elevation: 5 feet Source to Receiver Distance: 110 feet Path Calculation Source to Receiver Direct Path Distance: 110 feet Sound Pressure Level 64.2 110 feet Hours of Use: 8 Duty Cycle (%): Level During 8 Hour day: Summation Number of Sources: 2

Level during 8 hour day: 62.1

Job: Lehman TPM
Job #: S200713
Date: 8/12/2020
Source: Roller
Receiver: R3-West

Noise Source					
	Noise Level (dBA)	69	_ at	50	feet

Source Elevation 5 feet at 0 feet above grade Receiver Elevation: 5 feet at 0 feet above grade Source to Receiver Distance: 110 feet

Path Calculation

Source to Receiver Direct Path Distance: _____110 ____ feet

Sound Pressure Level 62.2 at 110 feet

Hours of Use: 8
Duty Cycle (%): 20
Level During 8 Hour day: 55.2