Appendix E: Noise Impact Study

Lomita General Plan Update

Noise Impact Study

City of Lomita, CA

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1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

MD prepared this noise assessment to evaluate the potential noise impacts for the Planning Area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. This assessment compares the existing and future conditions to the noise standards set forth by the Federal, State, and Local agencies. Consistent with the city's Noise Guidelines, the Project must comply with the applicable noise criterion outlined within the city's existing Noise Element and proposed Public Safety Element and Municipal Code.

The following is in this report:

- A description of the Planning Area and the proposed Project
- Information regarding the fundamentals of noise and vibration
- A description of the local noise and vibration guidelines and standards
- An analysis of traffic noise impacts to and from the project site
- An analysis of stationary noise impacts to and from the project site
- An analysis of construction noise impacts
- An analysis of ground-borne vibration impacts to and from the project site
- Suggested mitigation measures to reduce impacts

1.2 Site Location and Planning Area

The city of Lomita is located in the South Bay area of Los Angeles County, approximately 16 miles southwest of downtown Los Angeles. The city is approximately 1,228 acres (1.92 square miles) and is bounded by the jurisdictions of the city of Torrance to the north and west, the city of Los Angeles (Harbor City neighborhood) to the east, the city of Rolling Hills Estates on the southwest, and the city of Rancho Palos Verdes on the southeast. Interstate 110 via Pacific Coast Highway provides access to Lomita and the greater Los Angeles region.

The General Plan Update Planning Area, as shown in Exhibit A, includes the entire city limits (approximately 1,228 acres).

1.3 Proposed Project Description

The City of Lomita is preparing a comprehensive update to its existing General Plan. The updated Lomita General Plan is expected to be adopted in 2024 and will guide the city's development, growth, and sustainability through land use objectives and policy guidance. The General Plan Update is intended to be an expression of the community's vision for the city and constitutes the policy and regulatory framework by which the City will review future development projects and implement public improvements. The City will apply the General Plan Update by requiring policy consistency from development, infrastructure improvements, and other projects and by implementing the actions included in the General Plan Update.

The Lomita General Plan Update includes a comprehensive set of goals, policies, and actions (implementation measures), organized into elements, as well as a revised Land Use Map (see Exhibit C). This report will aid in developing the Noise Element of the General Plan Update. The Noise Element addresses the required noise-related topics, including standards and policies to protect the community from the harmful and annoying effects of exposure to excessive noise levels. This element includes strategies to reduce land use conflicts that may result in exposure to unacceptable noise levels.

1.4 General Plan Update Buildout Assumptions

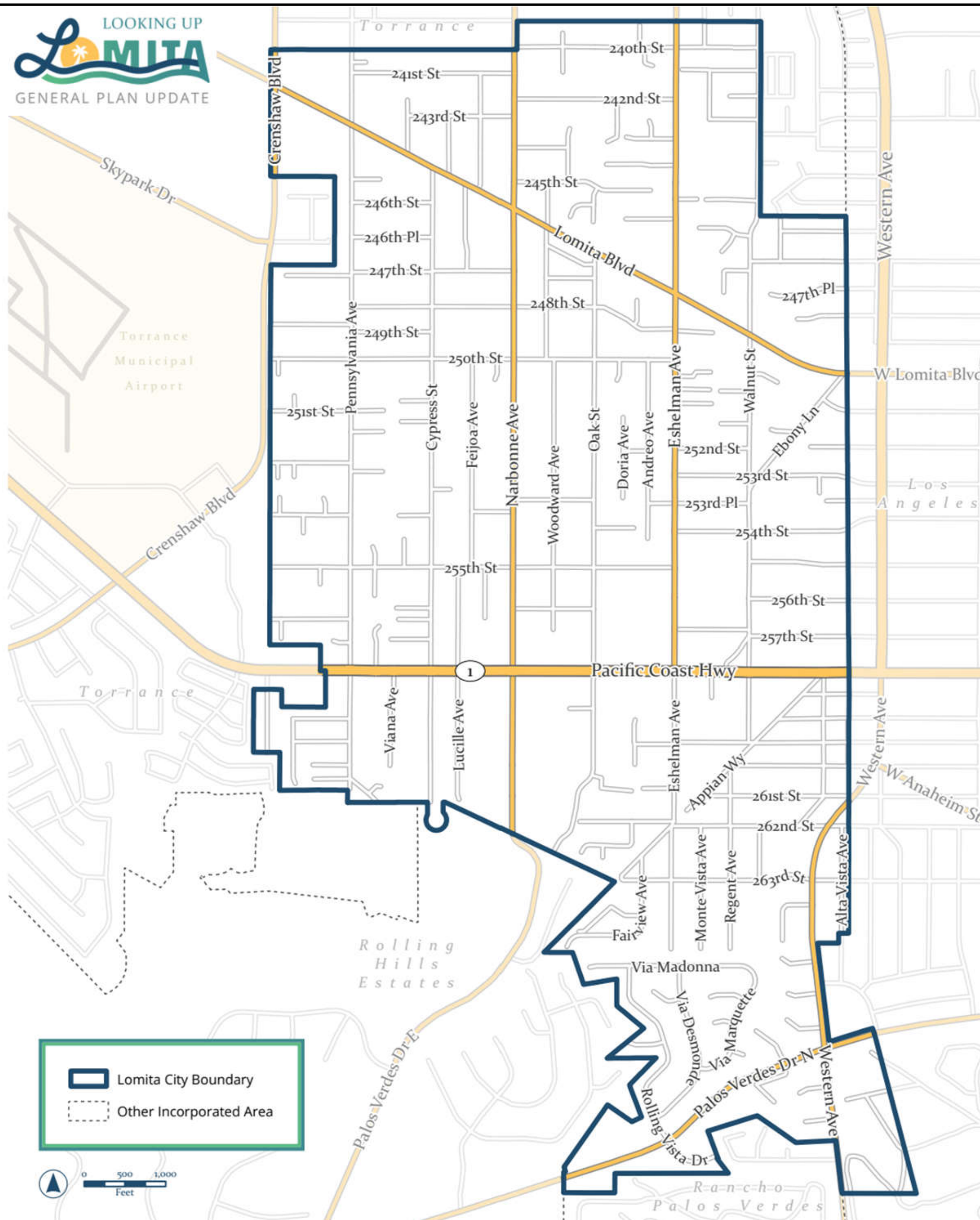
Buildout of the General Plan could yield a total of up to 11,159 housing units, a population of 29,459 people, approximately 3.1 million square feet of non-residential building square footage, and 3,888 jobs within the Planning Area. As shown in Table 1, this represents development growth over existing conditions of up to approximately 2,885 new housing units, 7,616 people, 583,431 square feet of new non-residential building square footage, and 853 jobs.

The analysis of the General Plan Update is based on various assumptions regarding existing and future conditions in Lomita. Unless otherwise stated, the assumptions are as specified in Table 1, which are based on the General Plan 2045 Buildout.

Table 1: General Plan Update Growth Assumptions

Description	Housing Units	Population	Non-Residential Development (Square Feet)	Jobs
Existing Conditions (2023)	8,274	21,843	2,527,297	3,035
2045 General Plan	11,159	29,459	3,110,728	3,888
Net Change	+2,885	+7,616	+583,431	+853

Exhibit A
Plan Area



De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Prepared for the City of Lomita by De Novo Planning Group, June 26, 2023.
Sources: Los Angeles County GIS.

Figure 3-2. General Plan Planning Area

Exhibit B

Existing General Plan Land Use Map

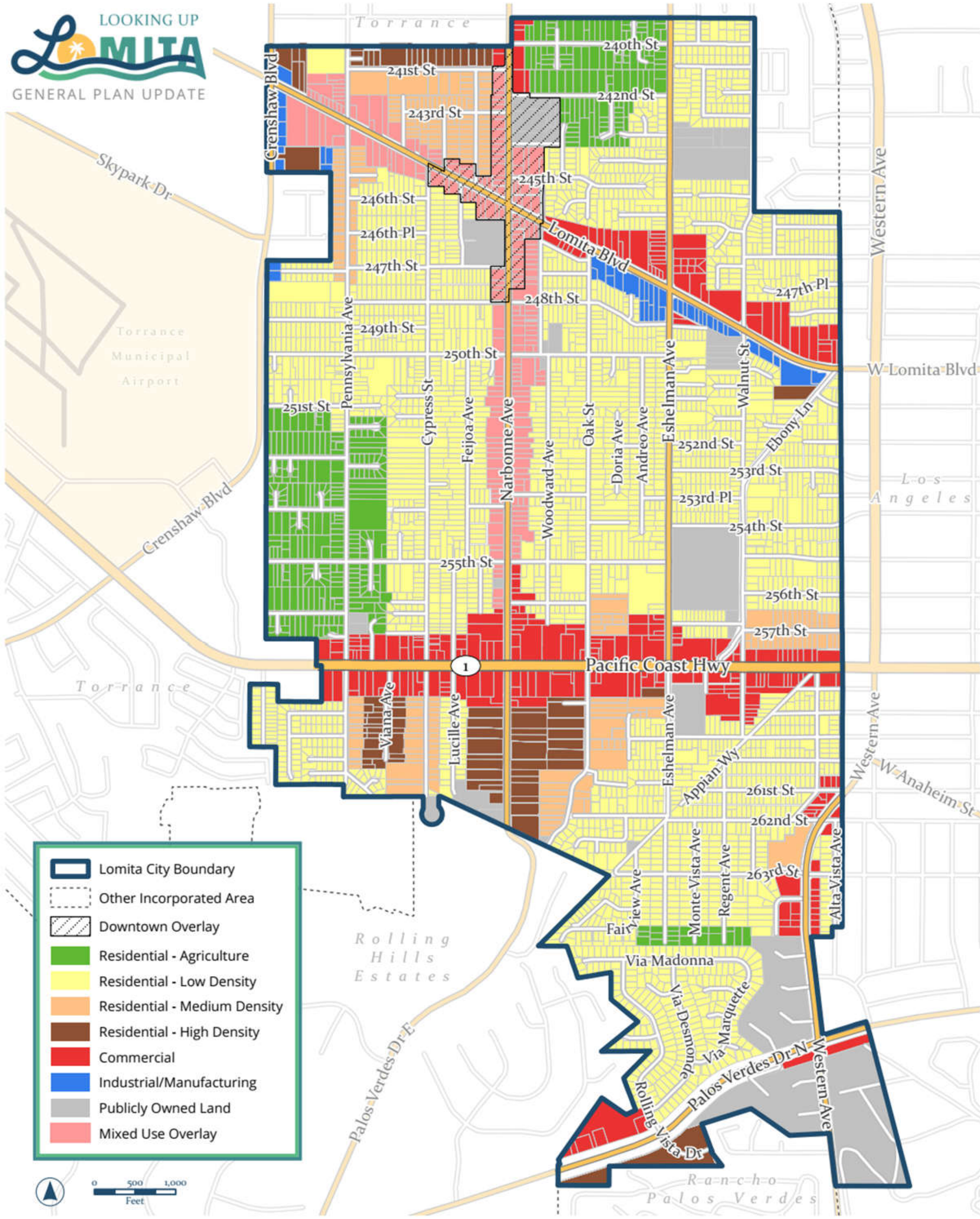


Figure 3-3. Existing General Plan Land Use Map

Exhibit C

Proposed General Plan Land Use Map

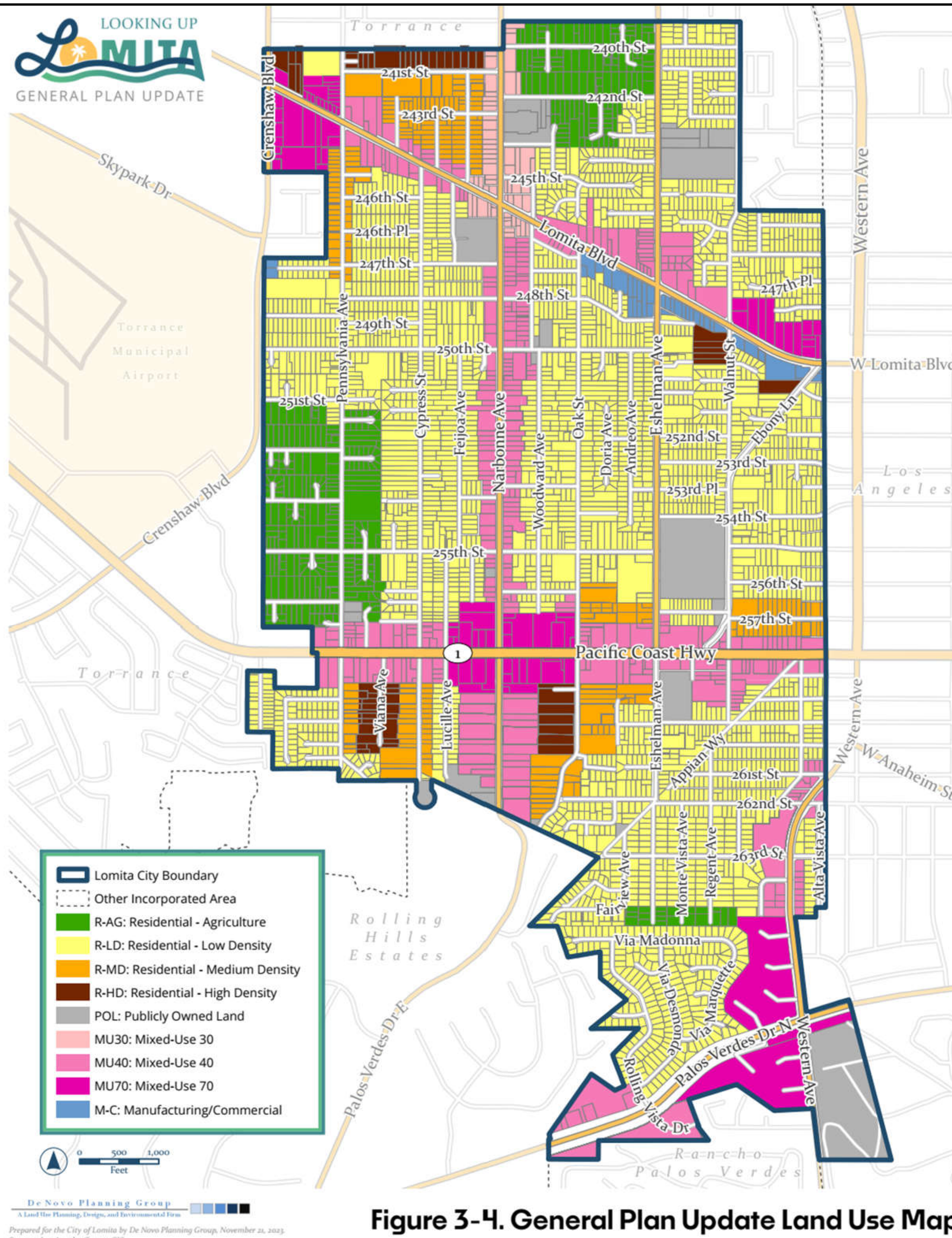


Figure 3-4. General Plan Update Land Use Map

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and can be detected by the hearing organs. Sound may be thought of as the mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding), and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting at 20 Hz to the high pitch of 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square meter ($\mu N/m^2$), also called micro-Pascal (μPa). One μPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels, abbreviated dB.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds of equal SPL are combined, they will produce an SPL 3 dB greater than the single SPL. In other words, sound energy that is doubled produces a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound. When combining sound levels, estimates shown in Table 2 may be utilized.

Table 2: Decibel Addition

When Two Decibel Values Differ by:	Add This Amount to Higher Value	Example
0 or 1 dB	3 dB	70+69=73 dB
2 or 3 dB	2 dB	74+71=76 dB
4 to 9 dB	1 dB	66+60=67 dB
10 dB or more	0 dB	65+55=65 dB
Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013		

2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, A-scale weighting is typically used and is reported in terms of the A-weighted decibel (dBA). The A-scale was designed to account for the frequency-dependent sensitivity of the human ear. Typical A-weighted noise levels are shown in Table 3.

Table 3: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor
	110	Rock Band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large Business Office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcasting/recording studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013.

In general, the human ear can barely perceive a change in the noise level of 3 dB. As shown in Table 4, a change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Table 4: Perceived Changes in Noise Levels

Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud
Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013.	

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, and others are random. Some noise levels are constant, while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night between 10:00 PM and 7:00 AM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dBA: A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the California Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking, or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90, L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dBA level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

2.7 Tonal Sounds

A pure tone sound is a sound produced at or near a single frequency. Laboratory tests have shown that humans are more perceptible to changes in sound levels of a pure tone. For a noise source to contain a "pure tone," there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to "stand out" against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contagious one-third octave bands by 5 dB for center frequencies of 500 Hertz (Hz) and above; by 8 dB for center frequencies between 160 and 400 Hz; and by 15 dB for center frequencies of 125 Hz or less.

2.8 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet or more from a noise source. Wind, temperature, air humidity, and turbulence can further impact have far sound can travel.

2.9 Ground Absorption

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt, or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

2.10 Sound Attenuation

Noise-related land use issues are typically composed of three basic elements: (1) the noise source, (2) a transmission path, and (3) a receiver.

The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receiver. When the potential for a noise-related problem is present, either avoidance of the noise-related problem or noise control techniques should be selected to provide an acceptable noise environment for the receiver while remaining consistent with local aesthetic standards and practical structural and economic limits. Fundamental noise control options are described below.

2.10.1 Noise Barriers

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. To achieve that reduction, the barrier must be high enough and long enough to block the line-of-sight of the vehicles on the road. A noise barrier can still achieve a 5 dBA noise level reduction when it is tall enough to barely allow a line-of-sight of the vehicles. A noise barrier is most effective when placed close to the noise source or receiver. When the noise barrier is an earthen berm instead of a wall, the noise attenuation can be increased by another 3 dBA.

2.10.2 Setbacks

Noise exposure may be reduced by increasing the setback distance between the noise source and the receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, and storage yards. The available noise attenuation from this technique is limited by the characteristics of the noise source but generally ranges between 4 and 6 dBA.

2.10.3 Site Design

Buildings can be placed on a property to shield other structures or areas affected by noise and to prevent an increase in noise levels caused by reflections. The use of one building to shield another can significantly reduce overall noise control costs, particularly if the shielding structure is insensitive to noise. An example would be placing a detached garage nearest the noise source to shield the house or backyard. Site design should guard against creating reflecting surfaces that may increase onsite noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dBA. The open end of U-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise to a noise-sensitive area unless carefully located.

2.10.4 Building Facades

When interior noise levels are of concern in a noisy environment, noise reduction may be obtained through the acoustical design of building facades. Standard construction practices provide a noise reduction of 10–15 dBA for building facades with open windows and a noise reduction of approximately 25 dBA when windows are closed (Table 5). An exterior-to-interior noise reduction of 25 dBA can be obtained by requiring that building design include adequate ventilation systems, which would allow windows facing a noise source to remain closed, even during periods of excessively warm weather.

Where greater noise reduction is required, acoustical treatment of the building facade may be necessary. Reducing relative window area is the most effective control technique, followed by providing acoustical glazing (e.g., thicker glass or increased air space between panes) within frames with low air infiltration rates, using fixed (i.e., non-movable) acoustical glazing, or eliminating windows. Noise transmitted through walls can be reduced by increasing wall mass (e.g., using stucco or brick in lieu of wood siding), or isolating wall members by using double or staggered stud walls, while noise transmitted through doorways can be lessened by reducing door area, using solid-core doors, or sealing door perimeters with suitable gaskets. Noise-reducing roof treatments include using plywood sheathing under roofing materials.

Table 5: Noise Reduction Afforded by Common Building Construction

Construction Type	Typical Occupancy	General Description	Range of Noise Reduction (dB)[1]
1	Residential, Commercial, Schools	Wood frame, stucco, or wood sheathing exterior. Interior drywall or plaster. Sliding glass windows, with windows partially open.	15-20
2	Same as 1 above	Same as 1 above, but with windows closed.	25-30
3	Commercial, Schools	Same as 1 above, but with fixed 0.25-inch plate glass windows.	30-35
4	Commercial, Industrial	Steel or concrete frame, curtain wall, or masonry exterior wall. Fixed 0.25-inch plate glass windows.	35-40
Source: California Airport Land Use Planning Handbook, 2002.			

2.10.5 Landscaping

While the use of trees and other vegetation is often thought to provide significant noise attenuation, approximately 100 feet of dense foliage – with no visual path extending through the foliage – is required to achieve a 5 dBA attenuation of traffic noise. Thus, the use of vegetation as a noise barrier is not considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used, however, to acoustically “soften” intervening ground between a noise source and a receiver, increasing ground absorption of sound, and thus, increasing the attenuation of sound with distance. Planting trees and shrubs also offers aesthetic and psychological value, and it may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels would be largely unaffected.

3.0 Ground-Borne Vibration Fundamentals

3.1 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors, where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and mainly exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves. Several different methods are used to quantify vibration amplitude. Typical human reaction and effect on buildings due to ground-borne vibration is shown in Table 6. Exhibit E illustrates common vibration sources and the human and structural responses to ground-borne vibration.

PPV – Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS – Known as root mean squared (RMS) can be used to denote vibration amplitude

VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

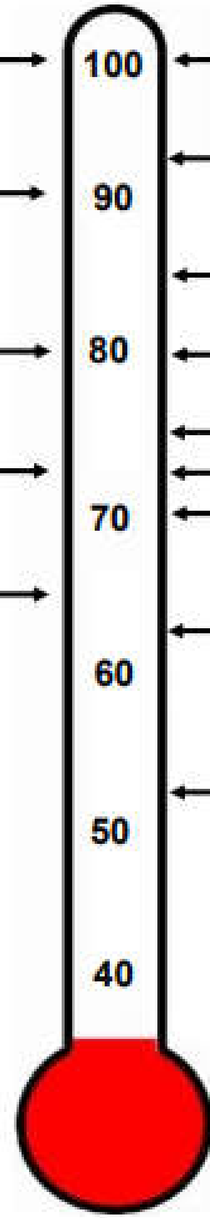
Table 6: Typical Human Reaction and Effect on Buildings Due to Ground-Borne Vibration

Vibration Level Peak Particle Velocity (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

Exhibit D

Typical Ground-Borne Vibration Levels



Descriptor Conversion

PPV	dVB
0.4000	100
0.1265	90
0.0400	80
0.0127	70
0.0040	60
0.0013	50
0.0004	40

Typical Vibration Levels
Federal

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration.

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the Project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts. (California Department of Transportation, 2020).

3.3 Vibration Propagation

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation. As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. This drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 Regulatory Setting

The proposed Project is located in the City of Lomita, and noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

4.1.1 Noise Control Act of 1972

The Federal Office of Noise Abatement and Control (ONAC) was originally tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows:

- The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies.
- The Federal Aviation Agency (FAA) regulates noise from aircraft and airports.
- The Federal Highway Administration (FHWA) regulates noise from the interstate highway system.
- The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway or that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement Codes and land use planning.

The intent of a General Plan Noise Element or Section is to set goals to limit and reduce the effects of noise intrusion and to set acceptable noise levels for varying types of land uses. To this end, the City has the authority to set land use noise standards and restrict private activities that generate excessive or intrusive noise. However, it should be recognized that the City does not have the authority to regulate all sources of noise within the City and various other agencies may supersede City authority. The following is a summary of some federal agency requirements that apply to noise within the Planning Area.

4.1.2 Federal Highway Administration

Federal Highway Administration State routes and freeways that run through the City are subject to Federal funding and, as such, are under the purview of the Federal Highway Administration (FHWA). The FHWA has developed noise standards that are typically used for Federally funded roadway projects or projects that require either Federal or Caltrans review. These noise standards are based on Leq and L10 values and are included in Table 7, FHWA Design Noise Levels.

Table 7: FHWA Design Noise Levels

Activity Category	Description of Category	Design Noise Levels[1]	
		Leq (dBA)	L10 (dBA)
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Examples include natural parks or wildlife habitats.	57 (exterior)	60 (exterior)
B	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (exterior)	70 (exterior)
C	Developed lands, properties, or activities not included in Categories A or B, above.	72 (exterior)	75 (exterior)
D	Undeveloped lands.		
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.	52 (interior)	55 (interior)

Source: FHWA Noise Standard. 23 Code of Federal Regulations 772.
Notes: Either Leq or L10 (but not both) design noise levels may be used on a project.

U.S. Department of Housing and Urban Development
The Department of Housing and Urban Development (HUD) issues formal requirements related specifically to standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established three zones. These include:

- 65 dBA Ldn or less - an acceptable zone where all projects could be approved,
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required, and each Project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area, and
- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

4.1.3 The Federal Interagency Committee on Noise

The Federal Interagency Committee on Noise (FICON) developed guidance for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies of the percentage of persons highly annoyed by aircraft noise. These recommendations are often used for different types of environmental noise such as traffic noise. A readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. In areas where the existing noise levels range from 60 to 65 dBA Ldn, a 3 dBA barely perceptible noise level increase is considered significant. When the existing noise levels already exceed 65 dBA Ldn, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact since it likely contributes to an existing noise exposure exceedance.

4.2 State Regulations

4.2.1 California Department of Health Services

The California Department of Health Services (DHS) Office of Noise Control studied the correlation between noise levels and their effects on various land uses. As a result, the DHS established four categories for judging the severity of noise intrusion on specified land uses. These categories are presented in the State Land Use Compatibility for Community Noise Exposure table (California Office of Noise Control, 2017).

4.2.2 The California Building Code

Section 1206.4 of the 2022 California Building Code (Cal. Code Regs., Title 24, Part 2), Chapter 12 (Interior Environment), establishes an interior noise criterion of 45 dBA CNEL in any habitable room. Per California Building Code, Chapter 2 (Definitions), a habitable space is A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces. This section applies to dwelling and sleeping units.

4.2.3 California Green Building Standards Code

California Green Building Standards Code (2022), Chapter 5 (Non-residential Mandatory Measures) Section 5.507.4 (Acoustical Control), applies to all proposed buildings that people may occupy but are not residential dwelling units, with the exception of factories, stadiums, storage, enclosed parking structures, and utility buildings.

Buildings must comply with Section 5.507.4.1 or Section 5.507.4.2. Section 5.507.4.1 requires wall and roof-ceiling assemblies exposed to the noise source making up the building, or addition envelope or altered envelope, shall meet a composite Sound Transmission Class (STC) rating of at least 50 or a composite Outdoor to Indoor Transmission Class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when within the 65 CNEL noise contour of an airport, freeway, expressway, railroad, industrial source, or fixed-guideway source. If contours are not available, buildings exposed to 65 dB Leq(h) must meet a composite STC rating of at least 45 or OITC of 35 with exterior windows of at least STC 40 or OITC 30. Section 5.507.4.2 requires that the interior noise attributable to exterior sources must not exceed 50 dBA Leq(h) during any hour of operation. Section 5.507.4.3 requires that assemblies separating tenant spaces from tenant spaces or public places must have an STC of at least 40.

4.3 City of Lomita

Existing planning policies and noise regulations applicable to noise within the City of Lomita are presented in the Noise Element of the City of Lomita General Plan 1998 and within the City of Lomita Municipal Code. Applicable goals, policies, and regulations are presented below.

4.3.1 City of Lomita General Plan 1998

General Plan Goals and Policies
The 1998 General Plan Noise Plan includes the following goals and policies that are intended to avoid or reduce noise impacts related to transportation, stationary, and construction related noise sources.

Goals:

- To promote development and land use patterns which will be compatible in terms of land use and noise exposure;
- To consider the health effects of long-term exposure to excessive noise levels in the planning and review of future development or activities that typically generate high noise levels;
- To remain vigilant regarding those developments and activities located beyond the City's boundaries which may affect the noise environment in Lomita; and
- To continue to implement those noise control standards and regulations which will be effective in reducing "noise pollution."

Policies:

Noise Policy 1: Lomita, through implementation of the General Plan, will seek to locate noise sensitive land uses in areas subject to noise levels consistent with City established noise standards.

Noise Policy 2: Lomita will adhere to planning guidelines which include noise control for the interior space of new residential, commercial and industrial developments in areas of the City subject to high ambient noise levels. Noise levels for all residential units should be attenuated to a maximum interior noise level of 45 dB.

Noise Policy 3: In planning future development, the City will adhere to planning guidelines and regulations concerning noise control and mitigation of outdoor noise in residential developments.

Noise Policy 4: Noise control requirements will be considered in all new City equipment purchases.

Noise Policy 5: Lomita will continue to work with other agencies to enforce the state and federal occupational health and safety regulations concerning exposure to noise.

Noise Policy 6: Lomita will seek to reduce or eliminate unnecessary noise near noise sensitive areas, such as parks, residential areas, hospitals, libraries, convalescent homes, etc.

Noise Policy 7: Lomita will continue to monitor noise throughout Lomita and enforce the standards and regulations of the City's Noise Control Ordinance.

Noise Policy 8: Lomita will continue to review its policies and regulations regarding noise control and abatement.

Noise Policy 9: Lomita will continue to encourage the enforcement of noise control regulations such as the State Vehicle Code Noise Standards for automobiles, trucks, and motorcycles operating within the City, as well as any contractual agreements pertaining to noise control.

Noise Policy 10: Lomita will continue to support implementation and enforcement of noise control procedures for the Torrance Airport, including supporting those actions which minimize noise exposure associated with aircraft flyovers within the City.

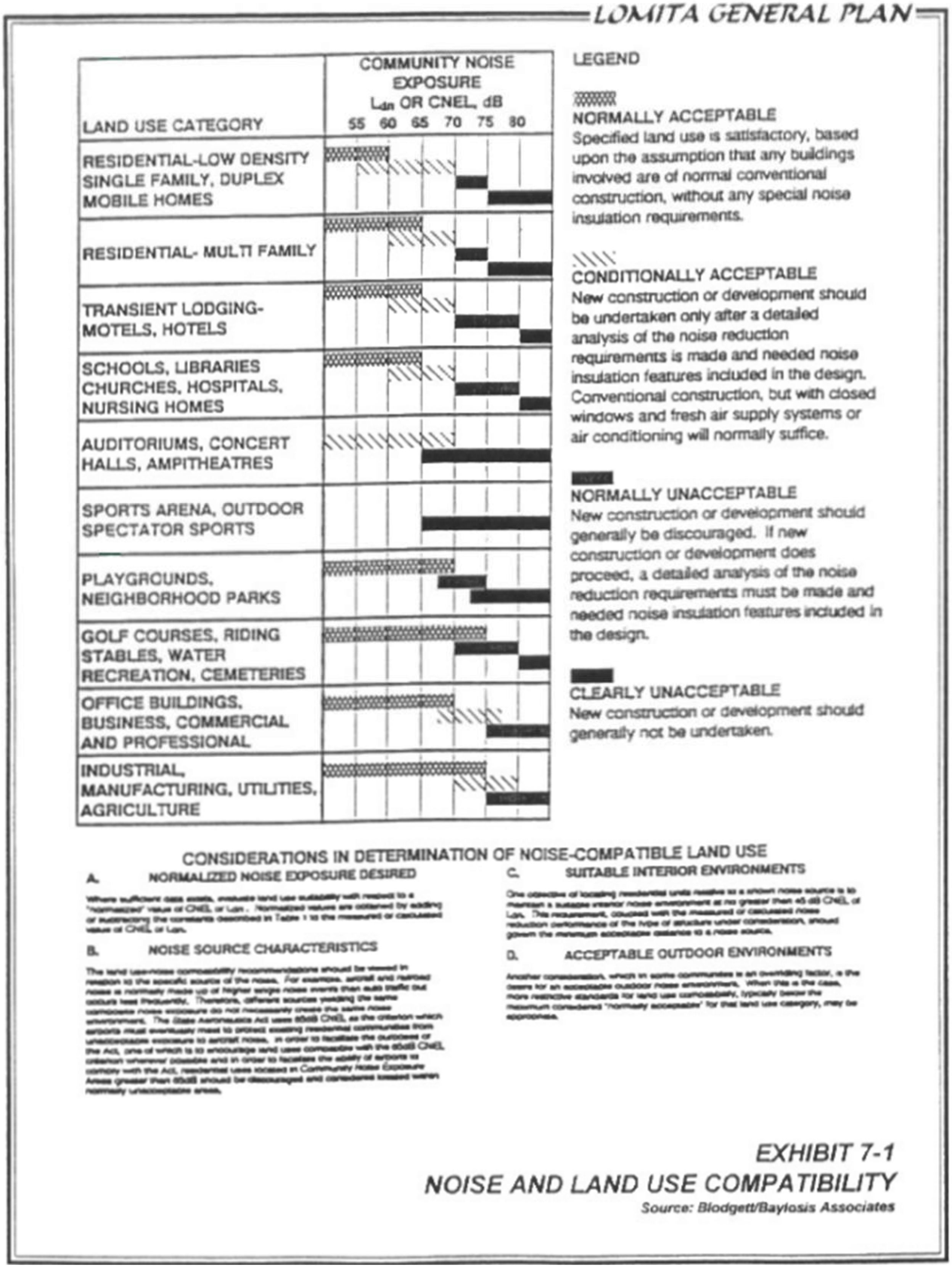
Noise Policy 11: Lomita will work to ensure that noise attenuation standards set forth in the Airport Environs Land Use Plan for residential, commercial, and industrial development, within the planning boundaries for the Torrance Airport are adhered to.

Noise Policy 12: Lomita will work with surrounding cities to control noise created by current and/or future development along the City's boundaries.

Noise/Land Use Compatibility

Exhibit F, Noise and Land Use Compatibility presents a land use compatibility chart for community noise originally prepared by the California Office of Noise Control (1987). The table identifies “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable” exterior noise levels for various land uses. A “conditionally acceptable” designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a “normally acceptable” designation indicates that standard construction can occur with no special noise reduction requirements. This land use compatibility chart is based on the 24-hour descriptor CNEL.

Exhibit E: Existing Land Use Compatibility



4.3.2 City of Lomita General Plan 2024

The following Goal, Policies, and Actions are proposed for the 2024 City of Lomita General Plan.

Goal N-1: Noise Compatibility. Ensure compatibility between new development projects, existing adjacent land uses, and envisioned future noise conditions.

Noise levels within the community can affect the everyday quality of life for people who live, work, and visit Lomita. Detrimental noise impacts can be minimized or avoided by considering the relationship between land uses and ensuring potential conflicts are addressed early in the planning and design process.

N-1 Policies:

N-1.1 **Sensitive Uses.** Protect noise sensitive land uses from excessive, unsafe, or otherwise disruptive noise levels.

N-1.2 **Noise Standards.** Adopt, maintain, and enforce regulations that establish the acceptable noise standards identified in Table N-1 (Exhibit G in this report).

N-1.3 **Noise Exposure.** Consider the noise compatibility of existing and future development when making land use planning decisions. Require development and infrastructure projects to be consistent with the land use compatibility standards contained in Table N-1 and the Lomita Municipal Code to facilitate acceptable noise exposure levels for existing and future development.

N-1.4 **Noise Mitigation.** Require new development to mitigate excessive noise to the standards indicated in Table N-1 and the Lomita Municipal Code.

N-1.5 **Acoustical Studies.** Consider requiring acoustical studies for new discretionary developments and transportation improvements that have the potential to affect existing noise-sensitive uses such as residential areas, schools, libraries, and healthcare facilities; and for projects that would introduce new noise-sensitive uses into an area where existing noise levels may exceed the thresholds identified in this element. For projects that are required to prepare an acoustical study, the following mobile and stationary noise source criteria shall be used to determine the significance of those impacts.

A. Mobile Noise Sources:

- Where existing traffic noise levels are within or below the “normally acceptable” noise criteria at the affected land use (see Table N-1), a readily perceptible 5 dBA CNEL or greater increase in roadway noise will be considered significant;
- Where existing traffic noise levels fall within the “conditionally acceptable” noise criteria at a sensitive land use, a +3 dBA CNEL or greater increase in roadway noise levels will be considered significant; and
- Where existing traffic noise levels exceed the “conditionally acceptable” noise criteria at a sensitive land use, a +1.5 dBA CNEL or greater increase in roadway noise levels will be considered significant.

B. Stationary and Non-Transportation Noise Sources:

- A significant impact will occur if a project results in an exceedance of the noise level standards contained in this element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

N-1.6 **Mixed-Use Development.** Ensure that mixed-use structures and projects are designed to prevent transfer of noise and vibration from non-residential areas to residential areas.

N-1.7 **Roadway Noise.** Encourage nonmotorized transportation alternatives for local trips and the implementation of noise sensitivity measures in the public realm, including traffic-calming road design, natural buffers, and setbacks to decrease excessive motor vehicle noise.

N-1.8 **Enforcement.** In cases where the City's noise standards are exceeded, dedicate code enforcement resources to ensure compliance.

N-1.9 **Regional Noise Impacts.** Coordinate with neighboring cities and transportation providers such as Caltrans to minimize regional traffic noise and noise conflicts between land uses along the city's boundaries.

N-1 Actions:

N-1a Monitor changes in the California Building Code and other federal and state laws and regulations related to noise and incorporate necessary changes into the Municipal Code and building codes as required.

N-1b Review the Lomita Municipal Code and update as necessary so that the noise standards are consistent with this General Plan, including Table N-1, and to require new residential, mixed-use with a residential component, and other noise-sensitive development to be designed to minimize noise exposure to noise sensitive uses through incorporation of site planning and architectural techniques. Any update shall also include noise standards for residential uses within a mixed-use development, which may differ from other adopted residential noise standards.

N-1c Review new development and transportation projects for compliance with the noise requirements established in this General Plan, including the standards established in Table N-1 and the Lomita Municipal Code. Where necessary, require new development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials.

N-1d For discretionary projects with the potential to generate noise impacts which exceed the standards identified in this General Plan, require acoustical studies to be prepared. The studies shall include representative noise measurements, estimates of existing and projected noise levels, and mitigation measures necessary to facilitate compliance with this element.

N-1e Review the locations of proposed projects with the potential to generate stationary noise in relation to sensitive receptors through the discretionary project review process. Limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, border, or gain access on driveways next to residential and other noise sensitive areas. Only approve exceptions if full compliance with the nighttime limits of the noise regulations is achieved.

Goal N-1: Noise Generators. Minimize noise and vibration from stationary and mobile sources.

Certain activities and types of uses are known to generate high levels of noise and vibration that can negatively impact surrounding areas. These include: stationary sources, such as heating, ventilation, and air conditioning (HVAC) systems, loading docks, and machinery; mobile sources, such as cars and airplanes; and construction noise. The following policies and actions address specific sources of excessive noise and vibration through strategies designed to reduce and limit community noise exposure.

N-2 Policies:

N-2.1 **Stationary Noise.** Minimize noise impacts from stationary sources, including commercial and industrial facilities adjacent to residential uses or zones where residential uses are permitted.

N-2.2 **Transportation Related Noise.** Reduce noise generated from traffic and transit to the extent feasible.

N-2.3 **Torrance Municipal Airport.** Work with the Airport Land Use Commission to ensure that local noise concerns are proactively addressed.

N-2.4 **Construction Noise.** Require construction activities to minimize noise and vibration impacts to reduce the disturbance from new development and enforce limits on construction hours as included in the Lomita Municipal Code.

N-2.5 **Temporary Emergency Operations and Emergency Equipment Usage.** Temporary emergency operations or emergency equipment usage are exempt from noise standard criteria set by this element.

N-2.6 **Special Events.** Temporary special events which generate noise in excess of local noise standards including, but not limited to, festivals, concerts, parades, and other similar activities may be considered on a case-by-case basis through issuance of a temporary use permit.

N-2.7 **Vibration Studies.** Require vibration impact studies when warranted for new discretionary development and transportation improvements whose construction utilizes pile drivers or vibratory rollers near existing buildings.

N-2.8 **Community Education.** Provide education to the community regarding potential noise sources and how to reduce them or report violations.

N-2 Actions:

N-2a Actively enforce the noise standards identified within the Lomita Municipal Code to reduce impacts to the extent feasible. Update and amend the Lomita Municipal Code as appropriate, including the construction noise standards.

N-2b Continue to monitor development projects in adjacent jurisdictions and comment on projects with the potential for noise impacts in Lomita.

N-2c Dedicate code enforcement resources to ensuring all construction activity complies with the limits (i.e., maximum noise levels, hours and days of allowed activity) established in the Lomita Municipal Code in order to reduce impacts associated with temporary construction noise to the extent feasible.

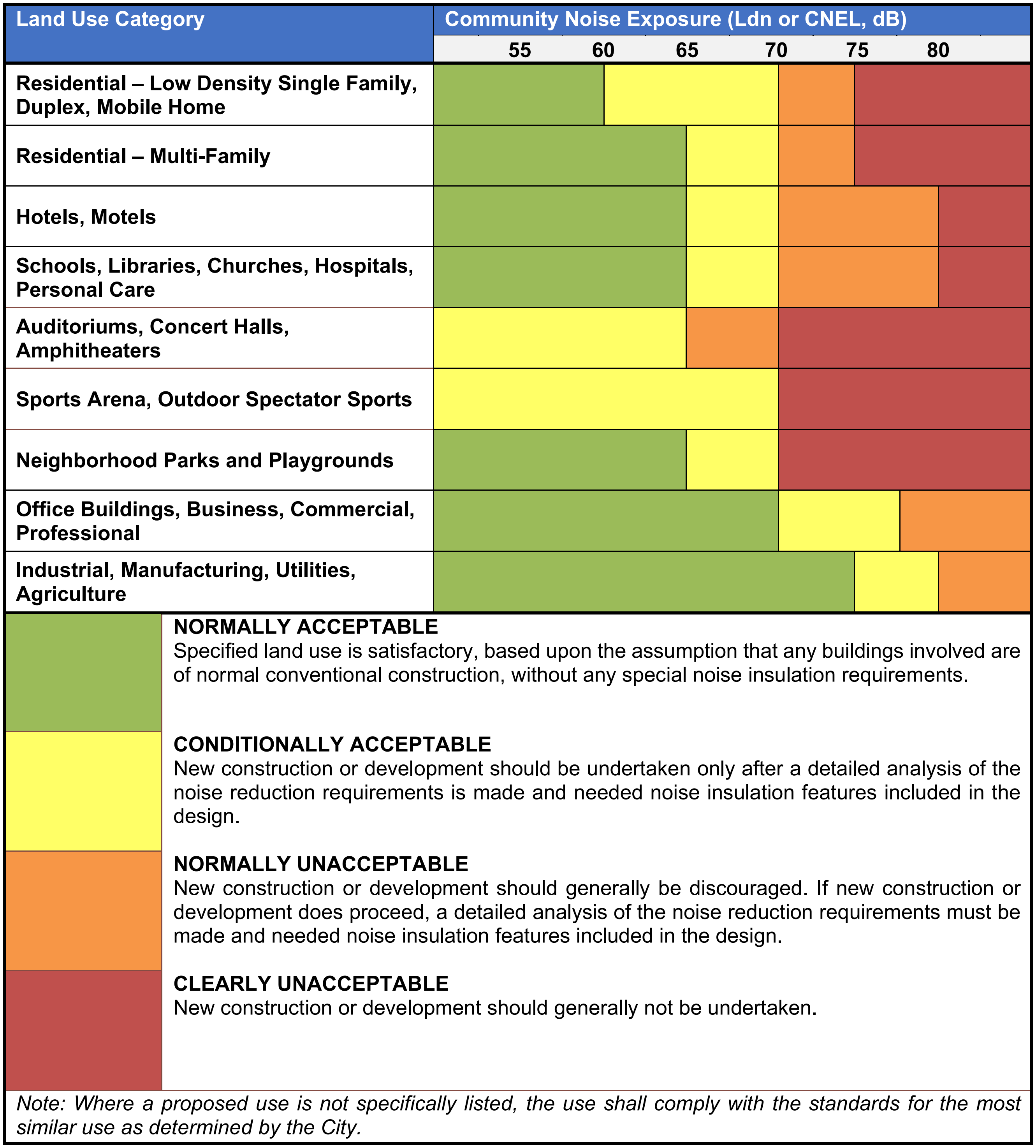
N-2d Enforce the provisions of the most current California Motor Vehicle Code regarding muffler maintenance and exhaust systems.

N-2e Evaluate the City's noise complaint and response process. Consider developing a procedure for residents to file noise complaints online against activities and uses that may be violating the Municipal Code.

N-2f Require vibration impact studies for all new discretionary projects, including those related to development and transportation, whose construction utilizes pile drivers within 200 feet of existing buildings or vibratory rollers within 50 feet of existing buildings. The studies shall include a detailed mitigation plan to avoid any potential significant impacts to existing structures due to groundborne vibrations, based on the California Department of Transportation's Construction Vibration Guidance Manual.

Exhibit G presents the proposed Land Use Compatibilities Guidelines, Table N-1 in the proposed Noise Element.

Exhibit F: Proposed Land Use Compatibility



4.3.3 City of Lomita Municipal Code

The Noise Ordinance of the Municipal Code is designed to protect people from non-transportation noise sources such as construction activity; commercial, industrial, and agricultural operations; machinery and pumps; and air conditioners. Enforcement of the ordinance ensures that adjacent properties are not exposed to excessive noise from stationary sources. Enforcing the ordinance includes requiring proposed development projects to show compliance with the ordinance, including operating in accordance with noise levels and hours of operations limits placed on the project site. The City also requires construction activity to comply with established work schedule limits. The ordinance is reviewed periodically for adequacy and amended as needed to address community needs and development patterns.

The City of Lomita's Noise Ordinance consists of Chapter 4 of the Lomita Municipal Code.

Section 4-4.01 prohibits unnecessary, excessive, and annoying noises.

Sections 4-4.02 outlines definitions regarding the chapter.

Section 4-4.03 outlines the required sound level meter settings for sound level measurements.

Section 4-4.04 defines noise level limits for different land uses, as shown in Table 8. This section also outlines corrections for various types and lengths of noise.

Table 8: Noise Level Limits

Designated Region	Sound Level (dBA)	
	Day	Night
Residential area	65	55
Commercial	75	70
Manufacturing	80	75

Section 4-4.05 defines noise characteristics to consider when determining whether or not noise is in violation of the chapter.

Section 4-4.06, 4-4.07, and 4-4.08 outline policies regarding special noise sources. The section prohibits noise that exceeds the ambient noise level of a residential area by 5 dB or more.

Section 4-4.09 states that parades and emergency work are exempt from the chapter.

Section 4-4.11 defines allowable hours for construction as follows:

> It shall be unlawful and a misdemeanor, subject to punishment in accordance with section 1-2.01 *et seq.* of this Code, for any person within the City of Lomita to operate construction equipment or power tools in the performance of any outside construction or repair work on buildings, structures, or projects in or adjacent to a residential area, except between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, except Holidays, and 9:00 a.m. to 5:00 p.m.

Saturday, Sunday, and Holidays, unless performing emergency work as defined in this chapter. During the lawful times of use, such construction equipment and power tools shall not reach a dB level of more than thirty-five (35) dB for a cumulative period of fifteen (15) minutes in any given hour at any receiving property line. It shall be unlawful and a misdemeanor, subject to punishment in accordance with section 1-2.01 *et seq.* of this Code, for any such equipment or tools to be delivered or removed from the construction site at any time other than the hours and days specified above.

Sections 4-4.12 and 4-4.13 outline policies related to residential power tools, maintenance equipment, and leaf-blowers.

Sections 4-4.14, 4-4.15, and 4-4.16 outline enforcement policies regarding violations of the chapter.

5.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

5.1 Noise Measurement Procedure and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as the first row of houses
- Locations that are acoustically representative and equivalent to the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance with the City and Caltrans technical noise specifications. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphones for sound level meters were placed 5 feet above the ground for all measurements
- Sound level meters were calibrated before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Results of the long-term noise measurements were recorded on field data sheets
- During any short-term noise measurements, any noise contaminations such as barking dogs, local traffic, lawnmowers, or aircraft flyovers were noted
- Temperature and sky conditions were observed and documented

5.2 SoundPLAN Noise Modeling

SoundPLAN acoustical modeling software was utilized to create existing (2023) and future (2045) with Project (Proposed General Plan) traffic noise level contours for the 10 segments analyzed in the Project's traffic impact analysis provided by Counts Unlimited, Inc. and Kittelson & Associates, Inc. Model parameters included average daily traffic volumes, day/evening/night split, roadway classification, width, speed, and truck mix. All modeled roadways were assumed to have a "hard site", as the majority of analysis occurs within 50 feet from the centerline of the road. Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis. Roadway modeling assumptions utilized for the technical study are provided in Table 9, Table 10, and in Appendix C. A summary of the model parameters and REMEL adjustments is presented below. For roadway segments where data is not available, the data from the adjacent segment was used to model the complete roadway. In addition, Caltrans traffic census data was used to model Western Avenue. See Appendix C.

- Roadway classification – (e.g., freeway, major arterial, arterial, secondary, collector, etc.),
- Roadway Active Width – (distance between the center of the outermost travel lanes on each side of the roadway)
- Average Daily Traffic Volumes (ADT), Travel Speeds, Percentages of automobiles, medium trucks, and heavy trucks
- Roadway grade and angle of view
- Site Conditions (e.g., soft vs. hard)
- Percentage of total ADT which flows each hour throughout a 24-hour period

5.3 FHWA Traffic Noise Prediction Model

The FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) was utilized to model and compare existing traffic noise levels to 2045 Future noise levels. The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Roadway modeling assumptions utilized for the technical study are provided in Table 9 and Table 10.

Table 9: Roadway Noise Modeling Parameters

Roadway	Segment	Existing ADT[1]	2045 With Project ADT[2]	Speed[3]	Vehicle Mix[4]
Lomita Blvd	Crenshaw to Pennsylvania	37,333	38,514	40	Arterial
Lomita Blvd	Narbonne to Eshelman	33,696	36,702	40	Arterial
Lomita Blvd	Walnut to Ebony	35,345	35,822	40	Arterial
Pacific Coast Hwy	Pennsylvania to Narbonne	51,338	55,535	40	Pacific Coast Hwy
Pacific Coast Hwy	Ebony to eastern City boundary	48,591	51,614	35	Pacific Coast Hwy
Pennsylvania Ave	Lomita to 250th	6,486	7,389	25	Arterial
Narbonne Ave	Northern City limits to Lomita	11,630	12,396	35	Arterial
Narbonne Ave	Lomita to 250th	13,377	13,395	35	Arterial
262nd St	East of Eshelman Ave	264	264	25	Arterial
Eshelman Ave	250th to 255th	6,354	8,578	30	Arterial

Notes:
1) Counts Unlimited, Inc.
2) Kittelson Associates, Inc.
3) Speed was modeled as posted.
4) See Table 9

Table 10: Vehicle Mix Data

Motor-Vehicle Type[1]	Daytime % (7AM to 7 PM)	Evening % (7 PM to 10 PM)	Night % (10 PM to 7 AM)	Total % of Traffic Flow
Arterial[2]				
Automobiles	77.5%	12.9%	9.6%	96.9%
Medium Trucks	84.8%	4.9%	10.3%	2.4%
Heavy Trucks	86.5%	2.7%	10.8%	0.7%
Pacific Coast Highway[2]				
Automobiles	77.5%	12.9%	9.6%	97.0%
Medium Trucks	84.8%	4.9%	10.3%	2.4%
Heavy Trucks	86.5%	2.7%	10.8%	0.6%
Western Ave[2]				
Automobiles	77.5%	12.9%	9.6%	95.3%
Medium Trucks	84.8%	4.9%	10.3%	3.0%
Heavy Trucks	86.5%	2.7%	10.8%	1.7%

Notes:
[1] Unlimited Counts, Inc. and Kittelson & Associates, Inc.
[2] Mix data obtained by VMT analysis, hourly existing counts, and Caltrans census data.

6.0 Existing Noise Environment

6.1 General Land Use Noise

Existing land uses within the Planning Area include single- and multiple-family residential development, as well as commercial, industrial, open space, and public facility land uses. Noise sources associated with existing land uses include residential maintenance, parking lot noise, heating and cooling system (HVAC) noise, property maintenance noise, trash truck noise, loading and unloading noise, and recreational noise.

6.2 Noise Measurements

Three (3) long-term 24-hour noise measurements and five (5) short-term 15-minute noise measurements were conducted throughout the Planning Area to document the existing noise environment. Noise measurement locations are in Exhibit H.

6.2.1 Short-Term Noise Measurements

Five (5) short-term noise measurements (15-minute) were taken on November 15th, 2023, in order to document the daytime Leq level at different locations throughout the Planning Area. Measured noise levels ranged between 57.4 and 72.3 dBA Leq. Vehicle noise along Lomita Boulevard and Pacific Coast Highway were the primary sources of ambient noise. Noise measurement results are in Table 11. Field notes and meter output are in Appendix B.

Table 11: Short-Term Noise Measurement Summary

Noise Measurement Location	Approximate Location	Start Time	A-Weighted Sound Level (dBA)							
			Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)
ST2	2210 Lomita Blvd	10:07 AM	64.3	77.1	48.9	70.7	68.2	65.4	62.4	53.0
ST4	2413 Pacific Coast Hwy	9:27 AM	74.0	92.6	57.2	79.2	76.5	74.5	72.6	62.6
ST5	25425 Walnut St	8:31 AM	62.1	82.0	54.6	66.8	63.4	60.5	58.8	56.0
ST6	2211 Pacific Coast Hwy	9:04 AM	72.0	82.9	60.9	78.7	75.3	73.1	70.5	64.2
ST8	25202 Crenshaw Blvd	10:51 AM	63.1	82.8	44.8	74.0	65.8	54.5	49.9	47.3

6.2.2 Long-Term Noise Measurements

Three (3) long-term noise measurements (24 consecutive hours) were taken in order to document the Community Noise Equivalent Level (CNEL) at different locations throughout the Planning Area. As shown in Table 12, the measured CNEL was 74.7 dBA CNEL at 65 feet from the centerline of Lomita Boulevard, 67.4 dBA CNEL at 30 feet from the centerline of Eshelman Avenue, and 76.8 dBA CNEL at 70 feet from S Western Avenue and 80 feet from the centerline of Palos Verdes Drive. The primary noise source was vehicle traffic. Table 12 also outlines the daytime (7 AM to 7 PM), evening (7 PM to 10 PM), and nighttime (10 PM to 7 AM) Leq levels at each location. These represent the average level over each time period (day/evening/night). Field notes and meter output are provided in Appendix B.

Table 12: Long-Term Noise Measurement Summary

Noise Measurement Location	Approximate Location	Date	Description	A-Weighted Sound Level (dBA)			
				Daytime Leq	Evening Leq	Nighttime Leq	CNEL
LT1	2343 Lomita Blvd	11/15/23-11/16/23	Lomita Blvd traffic noise	70.9	70.9	67.0	74.7
LT3	24373 Walnut St	11/15/23-11/16/23	Eshelman Ave traffic noise	67.1	62.9	57.8	67.4
LT7	1740 Palos Verdes Dr	11/15/23-11/16/23	Western Ave and Palos Verdes Dr traffic noise	73.7	71.1	69.2	76.8

Notes:
dBA = A-weighted decibels
Leq = equivalent noise level
Lmax = maximum noise level
Lmin = minimum noise level
Ln = noise level exceeded n percent of the measurement period
24-hour duration

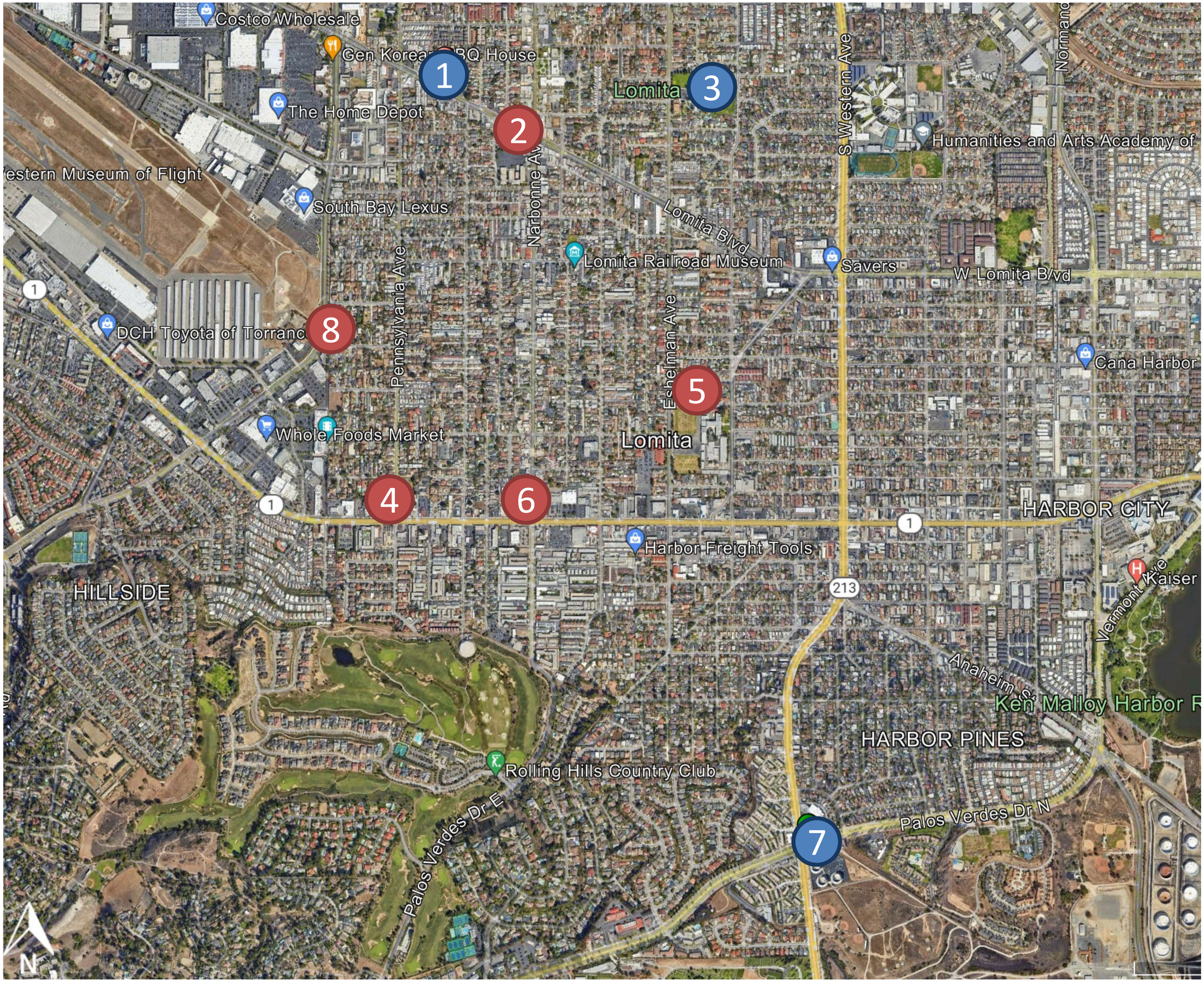


Exhibit G

Measurement Location Map

= Short-Term Monitoring Location

= Long-Term Monitoring Location

6.3 Existing Noise Modeling

The primary sources of noise in Lomita are transportation-related noises. Major roadways create ambient noise levels that affect the overall quality of life in the community. Modeled existing noise levels provided in Table 13 and on Exhibit H confirm that there are currently sensitive land uses in the Planning Area that are exposed to noise levels above 65 dBA CNEL.

The modeled noise contours do not take into account factors such as existing buildings, walls, etc., that may reduce or, in some cases, amplify or reduce noise sources. The model also assumes hard site, when in reality, some of the City has soft site ground such as grass or dirt, which will reduce the noise levels. Measured noise levels provided in Tables 11 and 12 do take into account existing structures as well as other noise sources.

Those areas in the City that currently experience sound levels greater than 65 dBA CNEL are typically near major vehicular traffic corridors. Traffic noise levels typically depend on three factors: (1) the volume of traffic, (2) the average speed of traffic, and (3) the vehicle mix (i.e., the percentage of trucks versus automobiles in the traffic flow). Vehicle noise includes noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include the distance from the highway, terrain, heavy vegetation, and natural and structural obstacles. While tire noise from automobiles is generally located at ground level, some truck noise sources may emanate from 12 feet or more above the ground.

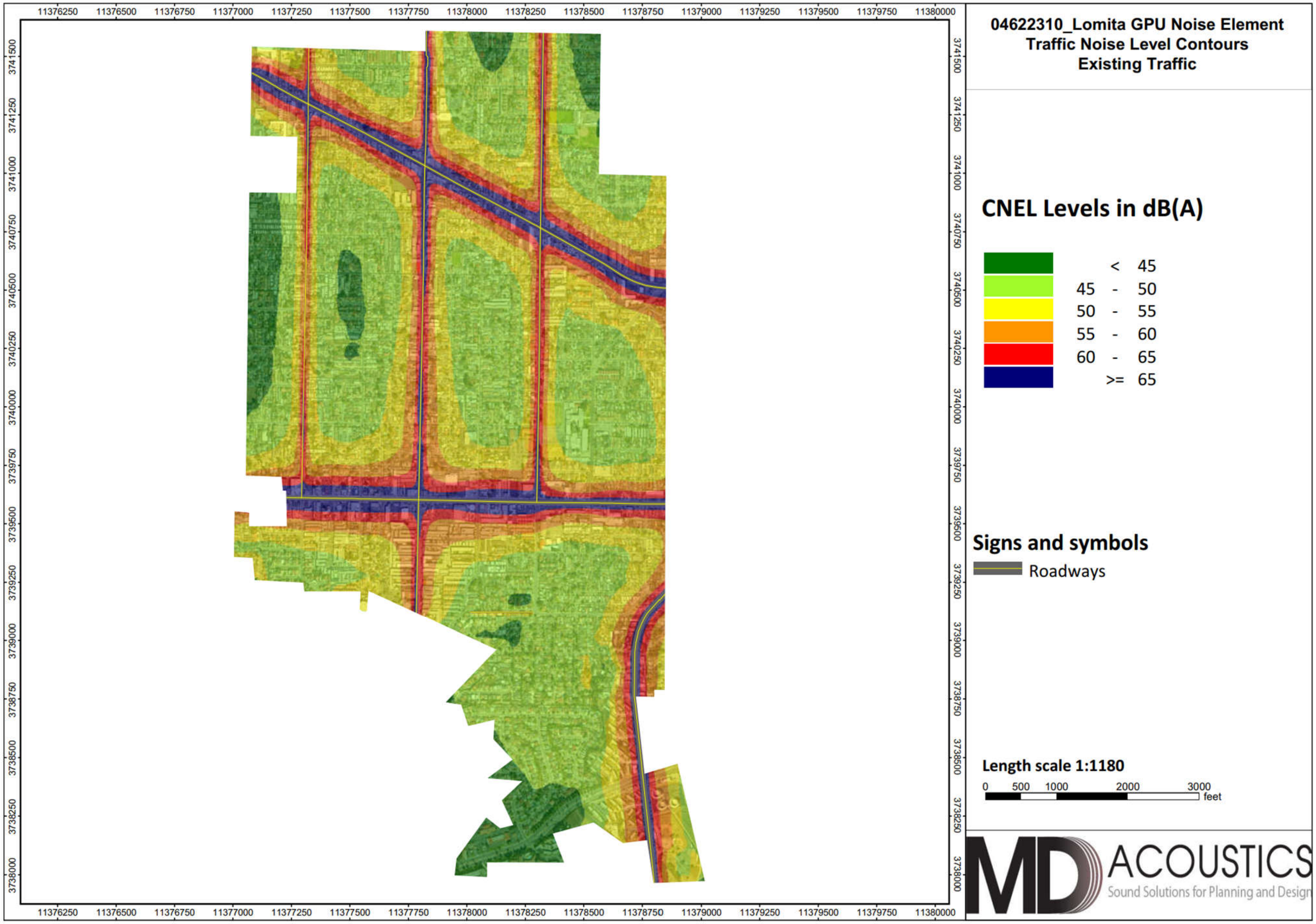
Table 13: Existing Exterior Noise Levels Along Roadways

Roadway	Segment Limits	CNEL, dBA[4]	Distance to Contour (feet)			
			70 dBA	65 dBA	60 dBA	55 dBA
Lomita Blvd	Crenshaw to Pennsylvania	77.9	227	717	2,267	7,169
Lomita Blvd	Narbonne to Eshelman	76.2	188	594	1,880	5,944
Lomita Blvd	Walnut to Ebony	75.8	191	605	1,913	6,050
Pacific Coast Hwy	Pennsylvania to Narbonne	77.9	310	980	3,100	9,805
Pacific Coast Hwy	Ebony to eastern City boundary	76.7	233	737	2,330	7,368
Pennsylvania Ave	Lomita to 250th	66.1	15	48	151	476
Narbonne Ave	Northern City limits to Lomita	71.8	45	144	454	1,437
Narbonne Ave	Lomita to 250th	71.3	54	170	538	1,701
262nd St	East of Eshelman Ave	50.9	1	2	6	20
Eshelman Ave	250th to 255th	67.4	20	64	201	636

Notes:
1) Exterior noise levels calculated at 5-feet above ground.
2) Noise levels calculated from centerline of subject roadway.
3) Contour distances do not take into account potential noise reduction from existing barriers such as buildings, walls or berms as a worst-case scenario for planning screening purposes. Overall levels are likely lower at sensitive receptors.
4) Noise levels calculated at the distance from the centerline to the nearest residential property line or the nearest commercial building façade.

Exhibit H

Existing Roadway Noise Level Contours (CNEL)



6.3 Existing Airport/Aircraft Noise

The closest airport to the Planning Area is Torrance Municipal Airport located adjacent to the City of Lomita's western boundary. Figure N-3 of the City of Torrance General Plan provides existing (2006) noise contours. These contours show that the planning area is outside of the 60 dBA CNEL contour. The Torrance Airport currently has a Noise Abatement Guide and monitors the airport's noise levels. The City of Torrance establishes limits of 82 dBA Lmax and 88 dBA SENEL during the daytime and 76 dBA Lmax and 82 dBA SENEL at night. Two of these monitors are in the City of Lomita.

6.4 Existing Vibration Sources in the Planning Area

The main sources of vibration in the Planning Area are related to vehicles and construction. Typical roadway traffic, including heavy trucks, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents. These types of issues typically can be resolved by smoothing the roadway surface (Caltrans 2020).

Construction activities that produce vibration that adjacent land uses can feel include the use of vibratory equipment, large bulldozers, and pile drivers. The primary source of vibration during construction is usually from a bulldozer. A large bulldozer has a peak particle velocity of 0.089 inches per second (87 VdB) at 25 feet.

7.0 Future Noise Environment, Impacts, and Mitigation

This assessment analyzes future noise impacts to and from the proposed Project and compares the results to the City of Lomita General Plan Policies and Noise Standards. The analysis details the estimated noise levels associated with traffic from adjacent roadways and on-site stationary noise sources. Each future noise source related to the Project was evaluated in light of applicable City of Lomita General Plan policies and ordinances, and programmatic mitigation measures are provided as applicable.

7.1 Transportation Noise and Vibration

Transportation noise includes noise from aircraft, railways, and roadways. There are no significant railways within the Planning Area and therefore, there is no railway impact.

7.1.1 Aircraft Noise

The Torrance Municipal Airport is located adjacent to the City of Lomita's western boundary. No additional noise-sensitive uses are anticipated to be developed within the 65 dBA CNEL contour as a result of the Project. There is therefore no significant aircraft impact.

7.1.2 Vehicle Traffic Noise

The primary noise source in the Planning Area will continue to be vehicle traffic. Future traffic noise level contours are presented in Exhibit I. Table 14 shows the future noise levels at a distance of 50 feet from the centerline of studied roadways by the year 2045 With Project. The distances to the 55, 60, 65, and 70 dBA CNEL noise contours are also provided.

Table 14: 2045 Plus Project Traffic Noise Levels (dBA, CNEL)

Roadway	Segment Limits	CNEL, dBA[4]	Distance to Contour (feet)			
			70 dBA	65 dBA	60 dBA	55 dBA
Lomita Blvd	Crenshaw to Pennsylvania	78.0	234	740	2,339	7,395
Lomita Blvd	Narbonne to Eshelman	76.6	205	647	2,047	6,474
Lomita Blvd	Walnut to Ebony	75.9	194	613	1,939	6,132
Pacific Coast Hwy	Pennsylvania to Narbonne	78.3	335	1,061	3,354	10,606
Pacific Coast Hwy	Ebony to eastern City boundary	76.9	248	783	2,475	7,827
Pennsylvania Ave	Lomita to 250th	66.7	17	54	171	542
Narbonne Ave	Northern City limits to Lomita	72.1	48	153	484	1,531
Narbonne Ave	Lomita to 250th	71.3	54	170	539	1,703
262nd St	East of Eshelman Ave	50.9	1	2	6	20
Eshelman Ave	250th to 255th	68.7	27	86	271	859

Notes:
1) Exterior noise levels calculated at 5 feet above ground.
2) Noise levels calculated from centerline of subject roadway.
3) Contour Distances do not take into account potential noise reduction from existing barriers such as buildings, walls, or berms as a worst-case scenario for planning screening purposes. Overall levels are likely lower at sensitive receptors.
4) Noise levels calculated at the distance from the centerline to the nearest residential property line or the nearest commercial building façade.

As shown in Table 14 and Exhibit I, by the year 2045, existing land uses adjacent to the studied roadways will be exposed to noise levels that exceed the City's exterior standards of 65 dBA CNEL for sensitive uses. A significant impact would occur if the Project resulted in increases higher than those outlined in proposed Policy N-1.5.

Compared to existing traffic noise levels, 2045 with Project traffic volumes are expected to be up to 1.3 dBA CNEL louder than existing ambient noise levels at existing land uses and will result in inaudible increases in ambient noise. Implementation of the Project will therefore result in a less than significant impact to roadway noise levels.

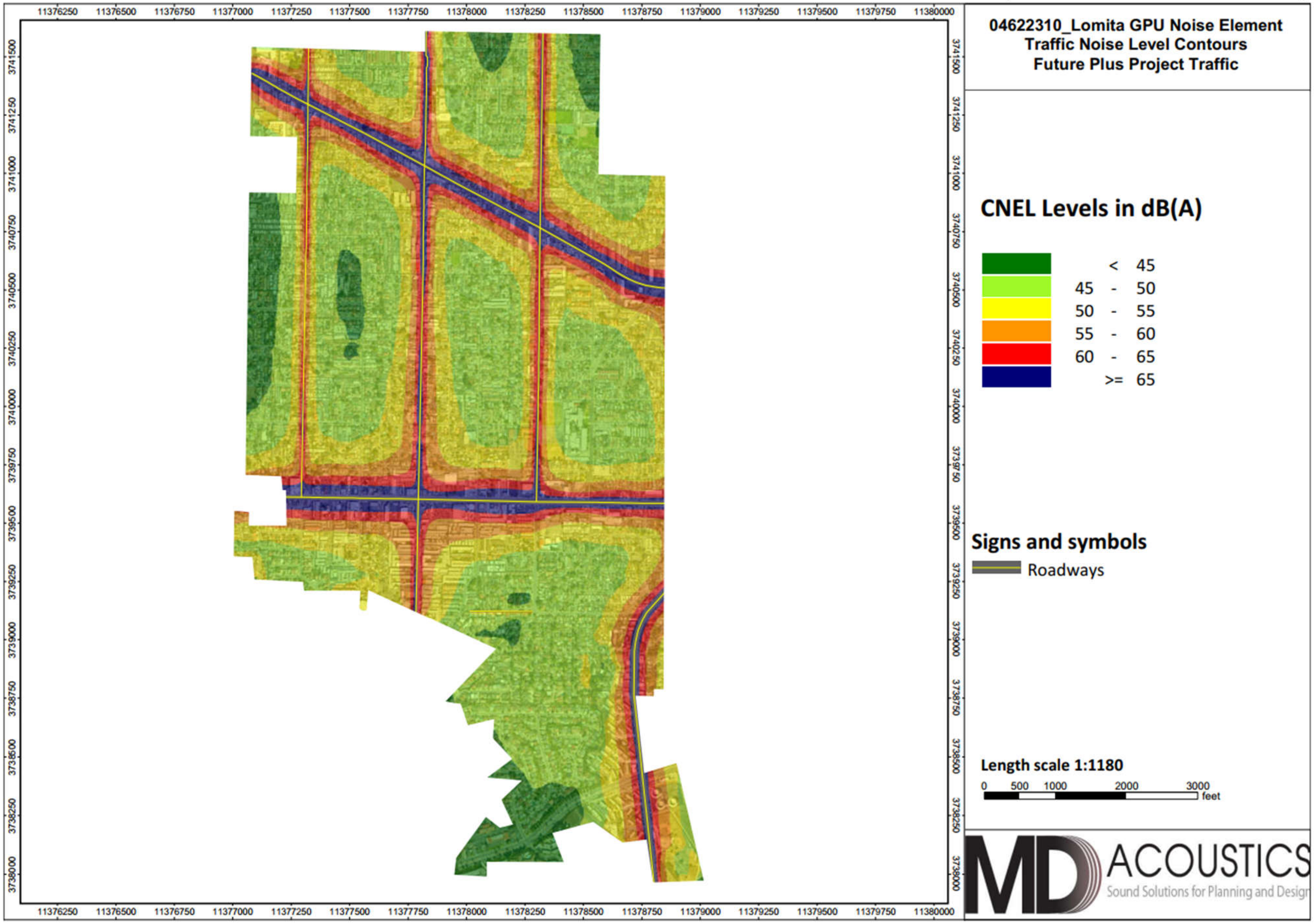
Table 15: Change in Noise Along Roadways (dBA, CNEL)

Roadway	Segment	Existing	2045 With Project	
		CNEL dBA[3]	CNEL dBA	Change in Noise Level
Lomita Blvd	Crenshaw to Pennsylvania	77.9	78.0	0.1
Lomita Blvd	Narbonne to Eshelman	76.2	76.6	0.4
Lomita Blvd	Walnut to Ebony	75.8	75.9	0.1
Pacific Coast Hwy	Pennsylvania to Narbonne	77.9	78.3	0.4
Pacific Coast Hwy	Ebony to eastern City boundary	76.7	76.9	0.2
Pennsylvania Ave	Lomita to 250th	66.1	66.7	0.6
Narbonne Ave	Northern City limits to Lomita	71.8	72.1	0.3
Narbonne Ave	Lomita to 250th	71.3	71.3	0.0
262nd St	East of Eshelman Ave	50.9	50.9	0.0
Eshelman Ave	250th to 255th	67.4	68.7	1.3

Notes:
1) Existing and Future traffic volumes compiled by Kittelson & Associates, Inc. 2023.
2) An impact would occur if the Project increased the roadway segment level by 3 dB or more (an audible difference) and resulting in a future level above 65 dBA CNEL.
3) Noise levels calculated at the distance from the centerline to the nearest residential property line or the nearest commercial building façade.

Exhibit I

2045 With Project Noise Contours (CNEL)



Where proposed land uses are expected to be exposed to noise levels that exceed the land use compatibility criteria in Exhibit F, impacts can be mitigated to a level that is less than significant with the implementation of noise control measures, such as relocating residential outdoor recreational areas away from 65 dBA CNEL or greater areas or shielding outdoor areas using noise barriers. Per the General Plan, future development associated with implementation of the proposed Project requires a noise study prior to issuance of a grading permit and mitigation implemented if noise levels exceed normally acceptable levels as outlined in Exhibit F. For residential developments, the study must ensure that interior levels in livable areas do not exceed 45 dBA CNEL. The impact is less than significant with proposed policies N-1.3, N-1.5, N-1.7, N-2.2, and proposed action N-1c.

7.2 Stationary Noise

Implementation of the Project could result in the future development of land uses that generate noise levels in excess of applicable City noise standards for non-transportation noise sources as outlined in Section 4.3.3. While the Project does not explicitly propose any new noise-generating uses, Project implementation would allow for the development of mixed-uses, increased residential development at higher densities, and new commercial development, which may result in new noise sources. Specific development projects and the details of future noise-generating land uses that may be located in the Planning Area in the future are not known at this time. Additionally, noise from existing stationary sources, as identified in the Existing Settings Section, would continue to impact noise-sensitive land uses in the vicinity of the noise sources.

While no specific projects are proposed under the Project, changes in land use may allow for more intensive noise-generating uses in closer proximity to noise-sensitive uses. Where this occurs, detailed noise studies would be required to ensure that noise control measures are implemented into the project design. Such measures could include the redesign of stationary noise sources away from sensitive uses, construction of sound walls or berms between noise generating uses and sensitive uses, using buildings to create additional buffer distance and screening, or other site design measures to ensure that non-transportation (stationary) noise sources do not cause exterior and interior noise levels to exceed allowable standards at sensitive receptors.

The impact is less than significant with the implementation of the Municipal Code and proposed policies N-1.3 through N-1.6, N-2.1, and proposed actions N-1c, N-1d, N-1e, and N-2a.

7.3 Construction Noise

The degree of construction noise may vary for different projects within the scope of the proposed Project and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction. Construction must not occur between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, or between the hours of 5:00 p.m. and 9:00 a.m. on Saturdays, Sundays, and Holidays, per Section 4-4.11 of the Lomita Municipal Code. The Municipal Code also states that construction equipment and power tools must not increase the ambient noise level by more than thirty-five (35) dB for a cumulative period of fifteen (15) minutes in any given hour at the receiving property line.

The Environmental Protection Agency (EPA) has compiled data regarding the noise-generated characteristics of typical construction activities. The data is presented in Table 16. These noise levels would diminish rapidly with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured 50 feet from the noise source would reduce to 80 dBA at 100 feet. At 200 feet from the noise source, the noise level would reduce to 74 dBA. At 400 feet, the noise source would reduce by another 6 dBA to 68 dBA.

Table 16: Typical Construction Noise Levels

Equipment Powered by Internal Combustion Engines	
Type	**Noise Levels (dBA) at 50 Feet**
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
Impact Equipment	
Saws	71 - 82
Vibrators	68 - 82
Notes: Source: Reference Noise Levels from the Environmental Protection Agency (EPA)	

7.3.1 Construction Related Traffic

Individual projects within the scope of the Project would result in short-term noise impacts associated with construction activities. Two types of short-term noise impacts could occur during construction activities. First, construction crew commute and the transport of construction equipment and materials to the site for the proposed Project would incrementally increase noise levels on access roads leading to the site. Truck traffic associated with project construction should be limited to within the permitted construction hours and noise levels, as listed in the City's Municipal Code Section 4-4.11. Although there would be a relatively high single-event noise exposure potential at a maximum of 87 dBA Lmax at 50 ft from passing trucks, causing possible short-term intermittent annoyances, the effect on ambient noise levels would be less than 1 dBA when averaged over one hour or 24 hours. In other words, the changes in noise levels over 1 hour or 24 hours attributable to passing trucks would not be perceptible to the normal human ear. The impact is less than significant with the implementation of Section 4-4.11 of the Municipal Code, proposed policy N-2.4, and proposed action N-2c.

7.3.2 On-Site Construction Activities

Site preparation phase, which includes grading and paving, tends to generate the highest noise levels since the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Site-specific construction activities associated with future development is expected to require the use of scrapers, bulldozers, motor graders, and water and pickup trucks. The maximum noise level generated by each scraper is assumed to be approximately 87 dBA Lmax at 50 ft from the scraper in operation. Each bulldozer would also generate approximately 85 dBA Lmax at 50 ft. The maximum noise level generated by the sound sources with equal strength increases the noise level by 3 dBA. Noise reduction potential will be project and site-specific. Construction noise would be an impact if construction occurred outside of the hours or noise level outlined in Section 4-4.11 of the Lomita Municipal Code. Potential impacts would be site-specific, depending on the equipment used, the existing noise environment, and the distance to sensitive receptors. The impact is less than significant with the implementation of Section 4-4.11 of the Municipal Code, proposed policy N-2.4, and proposed action N-2c.

7.4 Groundborne Vibration

The main sources of vibration in the Planning Area are related to vehicles and construction. Typical roadway traffic, including heavy trucks, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents. These types of issues typically can be resolved by smoothing the roadway surface (Caltrans 2020).

7.4.1 On-Site Construction Activities

Construction activities that produce vibration that can be felt by adjacent land uses include the use of vibratory equipment, large bulldozers, and pile drivers. The primary sources of vibration during construction are usually vibratory rollers and large bulldozers. As shown in Table 17, a vibratory roller has a peak particle velocity (inches/second) of 0.21 and a large bulldozer has a peak particle velocity of 0.089 (inches per second) at 25 feet. The use of pile driving equipment can generate a peak particle velocity of 1.5 (inches per second) depending on the size and model.

Table 17: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (VdB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112

Table 17: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (VdB) at 25 feet
	0.644 (typical)	104
	0.734 upper range	105
Pile driver (sonic)	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.		

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and, although the Project is not subject to these regulations, it serves as a useful tool to evaluate vibration impacts (California Department of Transportation, 2013). Table 18 provides maximum PPV levels (inches/second) to be used to determine if groundborne vibration may result in damage, depending on the type of structure. When evaluated in light of the estimated groundborne vibration levels presented in Table 17, it can be determined that construction activities in the Planning Area have the potential to result in significant impacts related to groundborne vibration associated with construction activities. These impacts can be avoided by requiring vibration impact studies when construction utilizes pile drivers within 200 feet of existing buildings or vibratory rollers within 50 feet of existing buildings as required in proposed policy N-2.7 and proposed action N-2f.

Table 18: Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Source
Extremely fragile historic buildings, ruins, ancient monuments	0.1	0.1
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.3
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation and Construction Vibration Guidance Manual. April 2020. Note: transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

8.0 CEQA Analysis

The California Environmental Quality Act Guidelines establishes thresholds for noise impact analysis as presented below:

(a) Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise Code, or applicable standards of other agencies?

Transportation Noise Impacts

The Project would not result in noise-sensitive uses within the 65 dBA CNEL contours of an airport or railway. Traffic noise will be significant if the Project resulted in increases higher than those outlined in proposed Policy N-1.5. Compared to existing traffic noise levels, 2045 plus Project traffic volumes are expected to be up to 1.3 dBA CNEL louder than existing ambient noise levels at existing land uses and will not result in substantial increases in ambient noise along the analyzed roadways (see Table 16).

Implementation of the proposed Project will result in less than significant impacts related to exceedances of the land use compatibility criteria. ***Where existing land uses will be impacted, the impact would be less than significant. Where proposed land uses are expected to be exposed to noise levels that exceed the land use compatibility criteria, impacts can be mitigated to "less than significant" with implementation of proposed policies N-1.3, N-1.5, N-1.7, N-2.2, and proposed action N-1c.***

Stationary Noise Sources

Stationary noise will be significant if it exceeds the levels outlined in the Lomita Municipal Code as outlined in Section 4.3.3. Implementation of the Project may result in stationary noise impacts from future uses. Implementation of good land use planning and policies and actions can minimize noise impacts related to these sources by avoiding the placement of noise generating equipment near noise-sensitive land uses and where unavoidable, include design measures to the degree practical to avoid violating the noise criteria presented in Section 4.3.3. ***Stationary noise impacts can be mitigated to "less than significant" with implementation of the Lomita Noise Ordinance, proposed policies N-1.3 through N-1.6, N-2.1, and proposed actions N-1c, N-1d, N-1e, and N-2a.***

Construction Noise and Vibration

Construction noise will be significant if construction occurs outside of the hours or noise level specified in Section 4-4.11 of the Lomita Municipal Code. The potential impact is site-specific and depends on the construction equipment used and distance to adjacent sensitive receptors. Implementation of the proposed Project could result in short-term noise impacts associated with construction activities. Two types of short-term noise impacts could occur during construction activities, on-site and off-site.

Construction crew commute and the transport of construction equipment and materials to the site for the proposed Project would incrementally increase noise levels on access roads leading to the site. Truck traffic associated with project construction must be limited to within the permitted construction hours, as listed in the City's Municipal Code. Although there would be a relatively high single-event noise exposure potential at a maximum of 87 dBA Lmax at 50 ft from passing trucks, causing possible short-term intermittent annoyances, the effect on ambient noise levels would be less than 1 dBA when averaged over one hour or 24 hours. In other words, the changes in noise levels over 1 hour or 24 hours attributable to passing trucks would not be perceptible to the normal human ear. ***Therefore, short-term construction-related impacts associated with worker commute and equipment transport on local streets leading to the project site would result in a less than significant impact on noise-sensitive receptors along the access routes. No mitigation is required.***

The site preparation phase of on-site construction activities, which includes grading and paving, tends to generate the highest noise levels since the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Site-specific construction activities associated with future development are expected to require the use of scrapers, bulldozers, motor graders, and water and pickup trucks. The maximum noise level generated by each scraper is assumed to be approximately 87 dBA Lmax at 50 ft from the scraper in operation. Each bulldozer would also generate approximately 85 dBA Lmax at 50 ft. The maximum noise level generated by the sound sources with equal strength increases the noise level by 3 dBA. Noise reduction potential will be Project and site-specific. ***Implementation of Section 4-4.11 of the Municipal Code, proposed policy N-2.4, and proposed action N-2c during site-specific projects will reduce the impact to less than significant.***

b) Generate excessive ground-borne vibration or ground-borne noise levels?
Construction vibration within the Planning Area is not anticipated to be significant unless an individual development uses pile driving or vibratory rollers. These impacts can be avoided by requiring vibration impact studies when construction utilizes pile drivers within 200 feet of existing buildings or vibratory rollers within 50 feet of existing buildings. ***This impact would be less than significant with the implementation of proposed policy N-2.7 and proposed action N-2f.***

9.0 References

American National Standards Institute (ANSI)
Specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

California, State of, Building Standards Commission
2019 California Uniform Building Code (UBC), Title 24.
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2017 Guidelines for the Preparation and Content of Noise Elements of the General Plan. February.

Environmental Protection Agency (EPA)
1974 Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Prepared by the EPA, Office of Noise Abatement and Control.

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1992 Federal Agency Review of Selected Airport Noise Analysis Issues. August.

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2006 Transit Noise and Vibration Impact Assessment. Typical Construction Equipment Vibration Emissions. FTAVA-90-1003-06.

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1998 General Plan.
City of Lomita Municipal Code.

Office of Planning and Research, State of California
2017 Office of Planning and Research, General Plan Guidelines.

Appendix A:

SoundPLAN Data

ID	Selected	Geo-File	Name	Left ...	Righ...	ADT	One-w...	Road type ID	Traffic flow direction (O...	pAutomo...	pMediu...	pHeavy...	pAutomo...	pMediu...	pHeavy...	pAutomo...	pMediu...	pHeavy...	Spe...	Spe...	Spe...	Control device	Pavement type	3D-dim [m/m²]
				m	m	Veh/24h				%	%	%	%	%	%	%	%	%	km/h	km/h	km/h			
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
26760;1	☐	001 - Lomita GP...	001 - Lomita Blvd - Crenshaw to Pennsylvania	6.86	6.86	37333	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	545.
26755;1	☐	001 - Lomita GP...	002 - Lomita Blvd - Narbonne to Eshelman	6.86	6.86	33696	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	855.
26757;1	☐	001 - Lomita GP...	003 - Lomita Blvd - Walnut to Ebony	6.86	6.86	35345	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	714.
26753;1	☐	001 - Lomita GP...	004 - Pacific Coast Hwy - Pennsylvania to Narbonne	9.14	9.14	51338	☑	PCH	in entry direction	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	64.37	64.37	64.37	none	OGAC (open-grad...	1347.
26752;1	☐	001 - Lomita GP...	005 - Pacific Coast Hwy - Ebony to eastern City boundary	9.14	9.14	48591	☑	PCH	in entry direction	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	40.23	40.23	40.23	none	OGAC (open-grad...	651.
26756;1	☐	001 - Lomita GP...	006 - Pennsylvania Ave - Lomita to 250th	1.83	1.83	6486	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	40.23	40.23	40.23	none	OGAC (open-grad...	2298.
26758;1	☐	001 - Lomita GP...	007 - Narbonne Ave - northern City limits to Lomita	1.83	1.83	11630	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	56.33	56.33	56.33	none	OGAC (open-grad...	870.
26754;1	☐	001 - Lomita GP...	008 - Narbonne Ave - Lomita to 250th	3.66	3.66	13377	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	56.33	56.33	56.33	none	OGAC (open-grad...	1922.
26751;1	☐	001 - Lomita GP...	009 - 262nd St - East of Eshelman Ave	3.05	3.05	264	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	40.23	40.23	40.23	none	OGAC (open-grad...	269.
26759;1	☐	001 - Lomita GP...	010 - Eshelman Ave - 250th to 255th	3.66	3.66	6354	☑	Arterial	in entry direction	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	48.28	48.28	48.28	none	OGAC (open-grad...	2304.
26750;1	☐	001 - Lomita GP...	011 - S Western Ave	12.19	12.19	21000	☑	Western Ave	in entry direction	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	56.30	56.33	56.33	none	OGAC (open-grad...	4229.

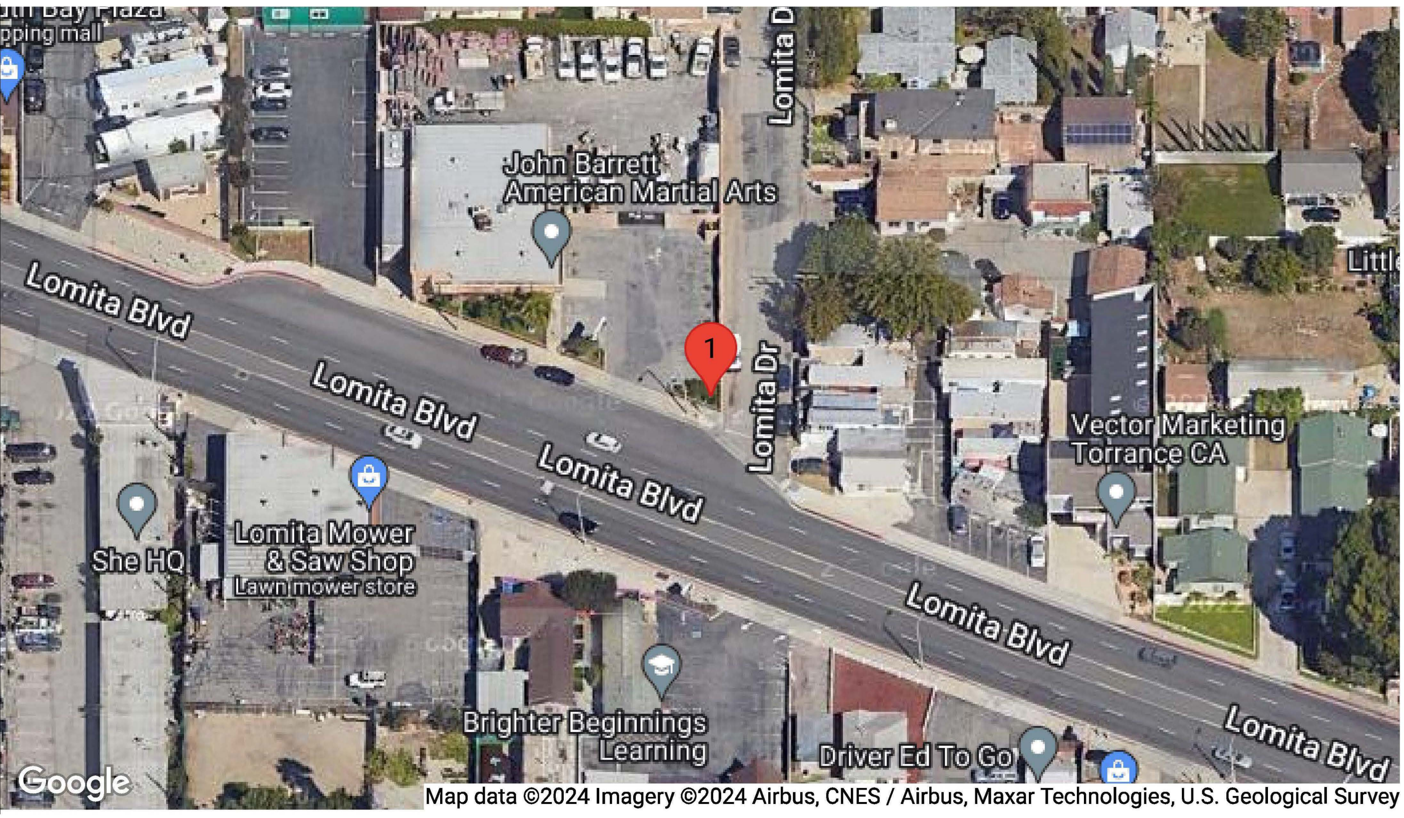
ID	Selected	Geo-File	Name	Left ...	Righ...	ADT	One-w...	Road type ID	Traffic flow directio...	pAutomo...	pMediu...	pHeavy...	pAutomo...	pMediu...	pHeavy...	pAutomo...	pMediu...	pHeavy...	Spe...	Spe...	Spe...	Control device	Pavement type	3D-dim [m/m²]
				m	m	Veh/24h				%	%	%	%	%	%	%	%	%	km/h	km/h	km/h			
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
26734;1	☐	001 - Lomita GP...	001 - Lomita Blvd - Crenshaw to Pennsylvania	6.86	6.86	38514	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	545.87
26728;1	☐	001 - Lomita GP...	002 - Lomita Blvd - Narbonne to Eshelman	6.86	6.86	36702	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	855.80
26730;1	☐	001 - Lomita GP...	003 - Lomita Blvd - Walnut to Ebony	6.86	6.86	35822	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	64.37	64.37	64.37	none	OGAC (open-grad...	714.67
26726;1	☐	001 - Lomita GP...	004 - Pacific Coast Hwy - Pennsylvania to Narbon...	9.14	9.14	55535	☑	PCH	in entry dire...	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	64.37	64.37	64.37	none	OGAC (open-grad...	1347.60
26725;1	☐	001 - Lomita GP...	005 - Pacific Coast Hwy - Ebony to eastern City b...	9.14	9.14	51614	☑	PCH	in entry dire...	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	40.23	40.23	40.23	none	OGAC (open-grad...	651.27
26729;1	☐	001 - Lomita GP...	006 - Pennsylvania Ave - Lomita to 250th	1.83	1.83	7389	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	40.23	40.23	40.23	none	OGAC (open-grad...	2298.79
26731;1	☐	001 - Lomita GP...	007 - Narbonne Ave - northern City limits to Lom...	1.83	1.83	12396	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	56.33	56.33	56.33	none	OGAC (open-grad...	870.71
26727;1	☐	001 - Lomita GP...	008 - Narbonne Ave - Lomita to 250th	3.66	3.66	13395	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	56.33	56.33	56.33	none	OGAC (open-grad...	1922.31
26735;1	☐	001 - Lomita GP...	009 - 262nd St - East of Eshelman Ave	3.05	3.05	264	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	40.23	40.23	40.23	none	OGAC (open-grad...	269.44
26732;1	☐	001 - Lomita GP...	010 - Eshelman Ave - 250th to 255th	3.66	3.66	8578	☑	Arterial	in entry dire...	96.6	2.6	0.8	98.1	1.5	0.4	96.6	2.6	0.8	48.28	48.28	48.28	none	OGAC (open-grad...	2304.22
26746;1	☐	001 - Lomita GP...	011 - S Western Ave	12.19	12.19	21000	☑	Western ...	in entry dire...	96.7	2.6	0.7	98.2	1.5	0.3	96.8	2.5	0.7	56.30	56.33	56.33	none	OGAC (open-grad...	4229.15

Appendix B:

Noise Measurement Data and Field Sheets

24-Hour Continuous Noise Measurement Datasheet

Project Name:	Lomita GPU Noise	**Site Observations:**	
Project: #/Name:	0462-2023-010		
Site Address/Location:	2343 Lomita Blvd Lomita, CA 9071		
Date:	11/15/2023		
Field Tech/Engineer:	Jason Schuyler/Claire Pincock		
Sound Meter:	Piccolo 2, Soft dB	**SN:** P0220030907	
Settings:	A-weighted, slow, 1-min, 24-hour duration		
Site Id:	NM1		



MD ACOUSTICS

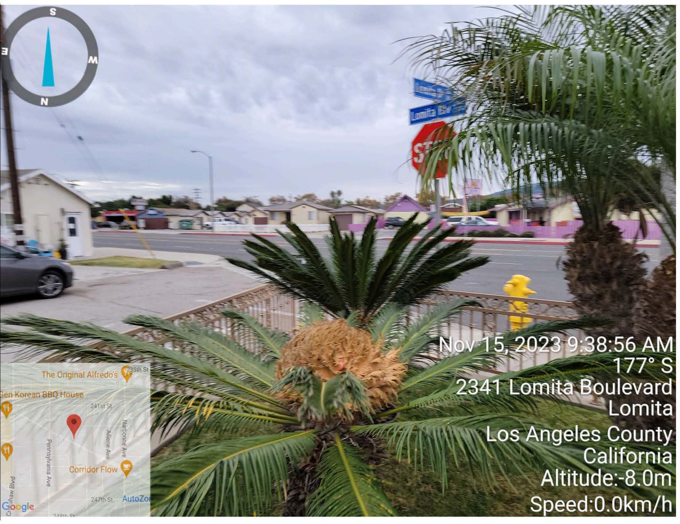
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: 2343 Lomita Blvd Lomita, CA 9071

Site Id: NM1

Figure 1: NM1



MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise
Site Address/Location: 2343 Lomita Blvd Lomita, CA 9071
Site Id: NM1

Site Topo: Flat
Meteorological Cond.:
Ground Type: Hard

Day: 1 of 1
Noise Source(s) w/ Distance:
65' to CL of Lomita Blvd

Table 1: Baseline Noise Measurement Summary

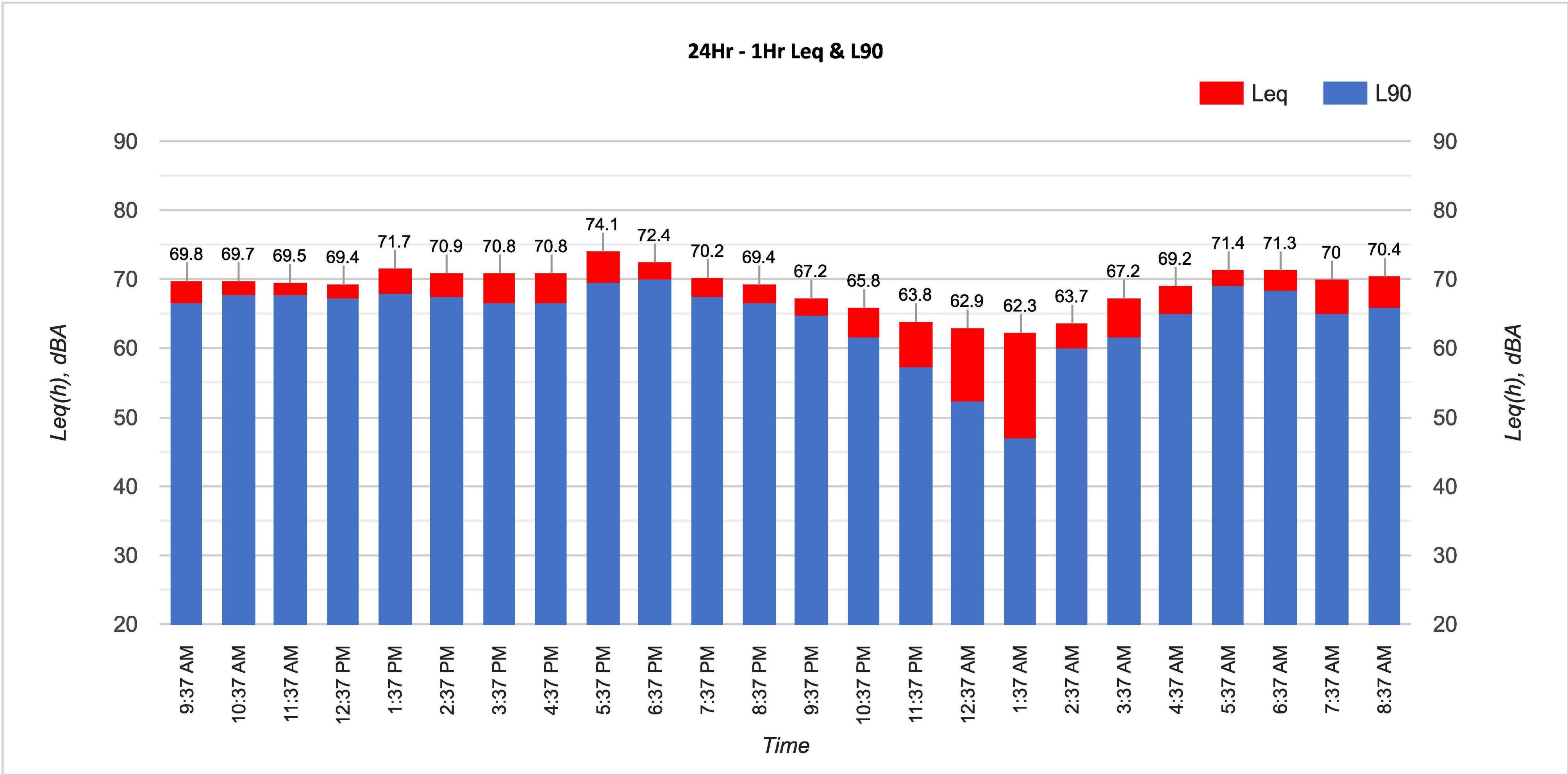
Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
11/15/2023	9:37 AM	10:37 AM	69.8	87.5	49.3	73.2	71.9	70.3	69	66.7
11/15/2023	10:37 AM	11:37 AM	69.7	76.9	50.6	72.2	71.5	70.3	69.4	67.7
11/15/2023	11:37 AM	12:37 PM	69.5	82.9	44.5	72	71.3	70	69.3	67.8
11/15/2023	12:37 PM	1:37 PM	69.4	80.6	47.4	71.7	71.2	70.1	69.3	67.3
11/15/2023	1:37 PM	2:37 PM	71.7	97.3	53.0	73.5	72.4	71.2	69.9	68
11/15/2023	2:37 PM	3:37 PM	70.9	89.7	45.3	75.5	73	71.8	70.1	67.6
11/15/2023	3:37 PM	4:37 PM	70.8	81.7	49.0	74.3	72.8	71.8	71	66.6
11/15/2023	4:37 PM	5:37 PM	70.8	80.6	49.1	73.4	72.8	71.9	71	66.5
11/15/2023	5:37 PM	6:37 PM	74.1	102.3	48.7	74.7	73.8	73	72.3	69.5
11/15/2023	6:37 PM	7:37 PM	72.4	88.9	47.2	75.7	74.3	73.4	72	70.1
11/15/2023	7:37 PM	8:37 PM	70.2	84.1	42.2	73	72.1	71	70.1	67.5
11/15/2023	8:37 PM	9:37 PM	69.4	92.5	42.3	71.6	70.9	69.6	68.9	66.7
11/15/2023	9:37 PM	10:37 PM	67.2	77.1	39.5	69.5	69.2	68.4	66.9	64.8
11/15/2023	10:37 PM	11:37 PM	65.8	79.8	40.5	69.4	68.1	67	65.4	61.6
11/15/2023	11:37 PM	12:37 AM	63.8	78.5	37.1	68.4	67	65.2	63.1	57.2
11/16/2023	12:37 AM	1:37 AM	62.9	77.9	36.7	67	66.4	65	62.2	52.2
11/16/2023	1:37 AM	2:37 AM	62.3	80.2	35.8	67.8	66.1	64	61.1	47
11/16/2023	2:37 AM	3:37 AM	63.7	78.2	38.3	67.9	66.3	65	62.8	60.1
11/16/2023	3:37 AM	4:37 AM	67.2	82.1	38.8	71.1	69.8	68.2	66.9	61.7
11/16/2023	4:37 AM	5:37 AM	69.2	81.5	40.4	72.3	71.6	70.5	69.3	65
11/16/2023	5:37 AM	6:37 AM	71.4	83.8	42.9	74.7	73.1	72.6	71	69
11/16/2023	6:37 AM	7:37 AM	71.3	80.4	47.7	74.3	73.9	72.1	71	68.5
11/16/2023	7:37 AM	8:37 AM	70	84.0	48.8	73.3	72.5	71.1	69.6	64.9
11/16/2023	8:37 AM	9:27 AM	70.4	92.5	47.6	73.9	72.6	71.1	68.9	66

DNL	74.2

MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

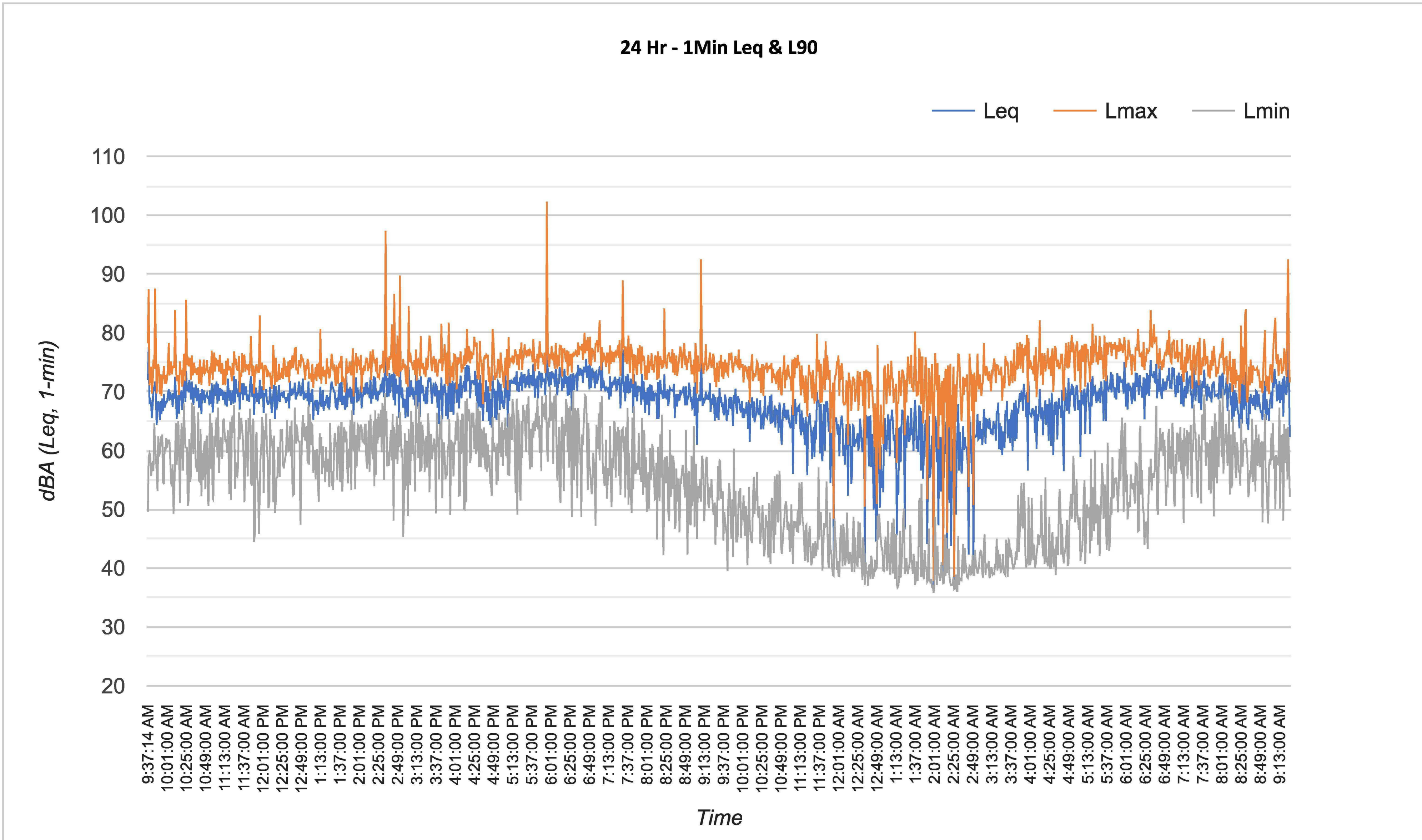
Project Name: Lomita GPU Noise
Site Address/Location: 2343 Lomita Blvd Lomita, CA 9071
Site Id: NM1
Site Topo: Flat
Meteorological Cond.:
Ground Type: Hard
Day: 1 of 1
Noise Source(s) w/ Distance:
65' to CL of Lomita Blvd

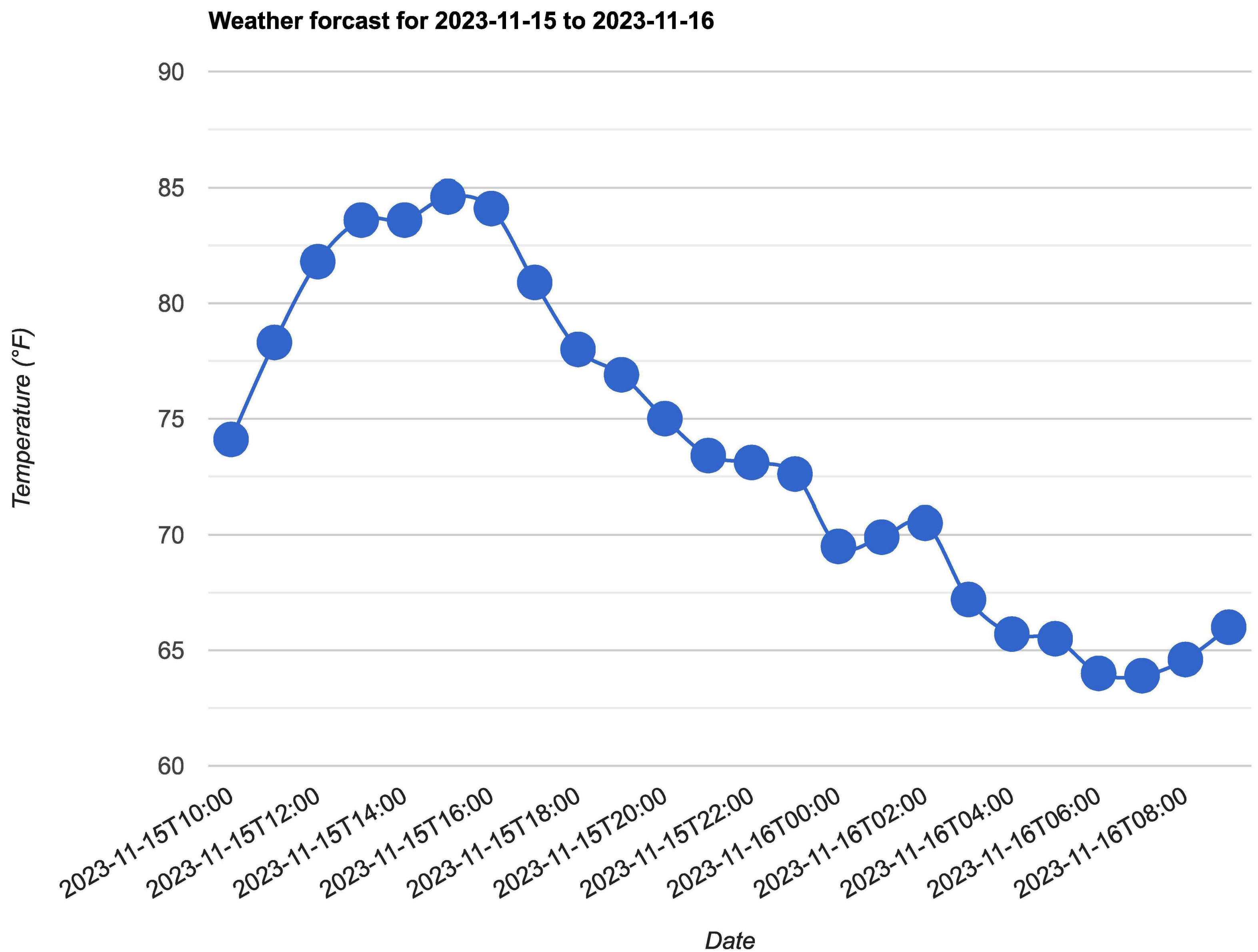


MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Day:** 1 of 1	
Site Address/Location:	2343 Lomita Blvd Lomita, CA 9071	**Meteorological Cond.:**		**Noise Source(s) w/ Distance:**	
Site Id:	NM1	**Ground Type:**	Hard	65' to CL of Lomita Blvd	




Weather forcast for 2023-11-15 to 2023-11-16
Temperature (°F)
90
85
80
75
70
65
60
2023-11-15T10:00
2023-11-15T12:00
2023-11-15T14:00
2023-11-15T16:00
2023-11-15T18:00
2023-11-15T20:00
2023-11-15T22:00
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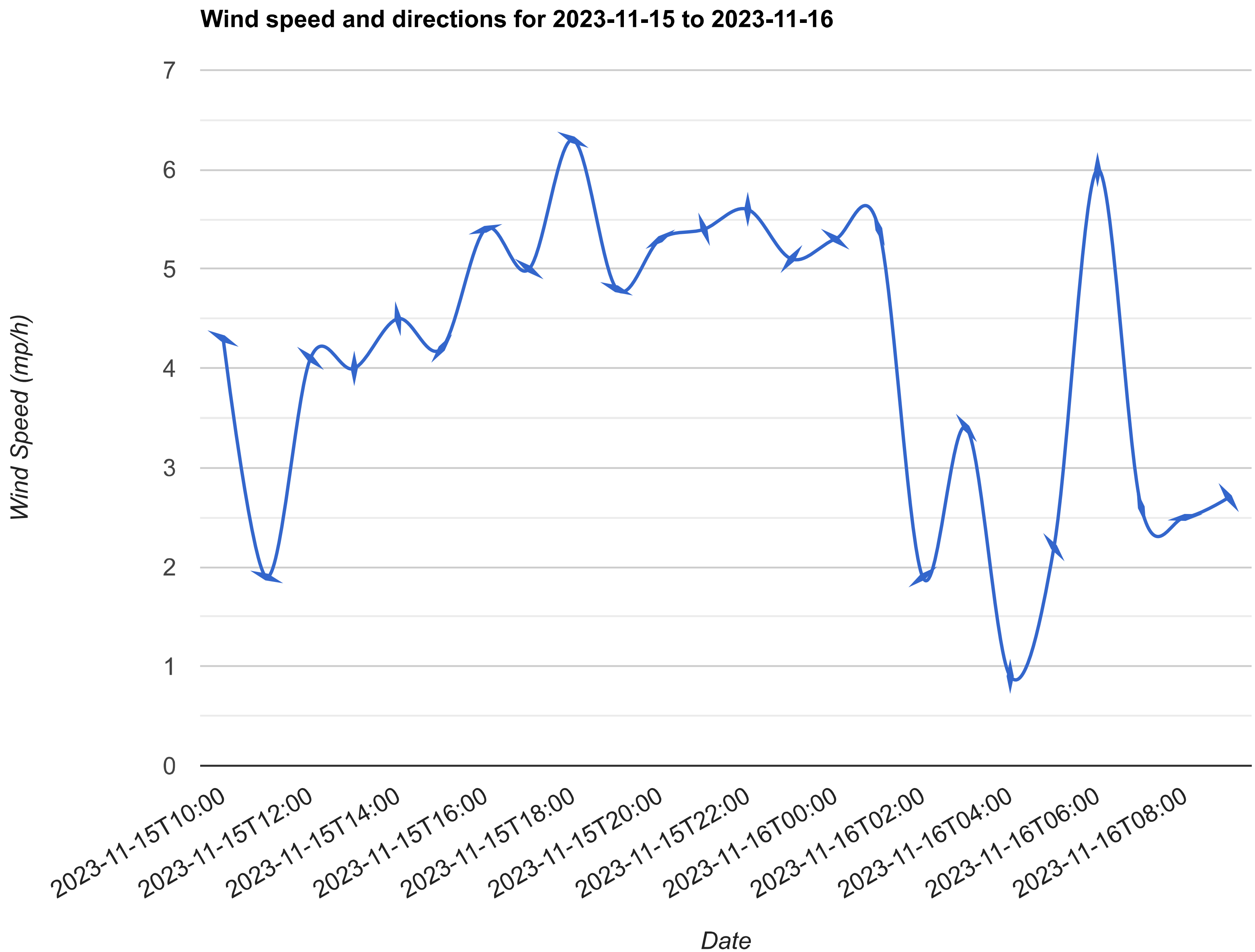
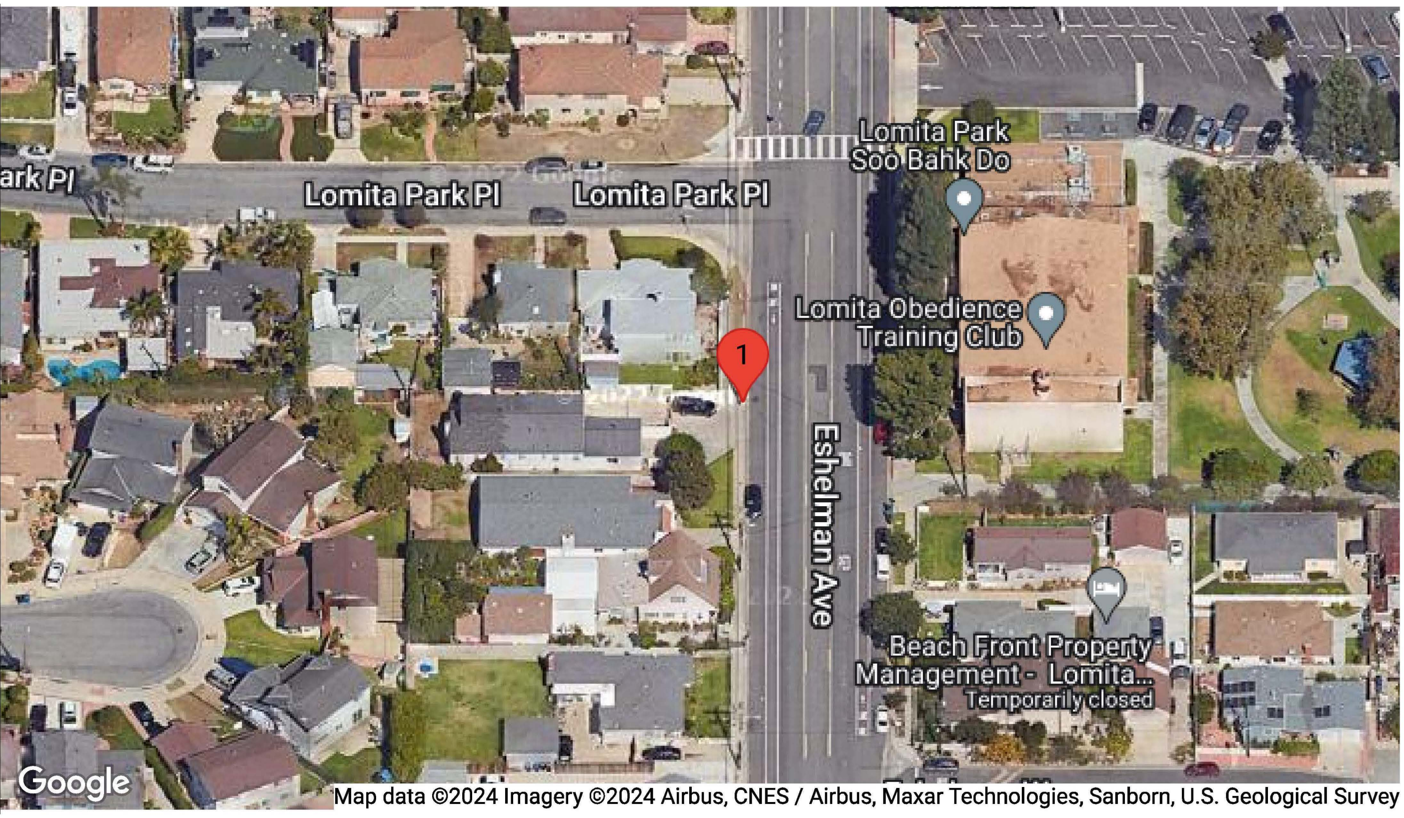
2023-11-16T08:00
Date



Source: Global Forecast System (GFS) weather forcast model

24-Hour Continuous Noise Measurement Datasheet

Project Name:	Lomita GPU Noise		**Site Observations:**
Project: #/Name:	0462-2023-010		
Site Address/Location:	24428 Eshelman Ave Lomita, CA 90		
Date:	11/15/2023		
Field Tech/Engineer:	Jason Schuyler/Claire Pincock		
Sound Meter:	Piccolo 2, Soft dB	**SN:** P0220030906	
Settings:	A-weighted, slow, 1-min, 24-hour duration		
Site Id:	NM3		



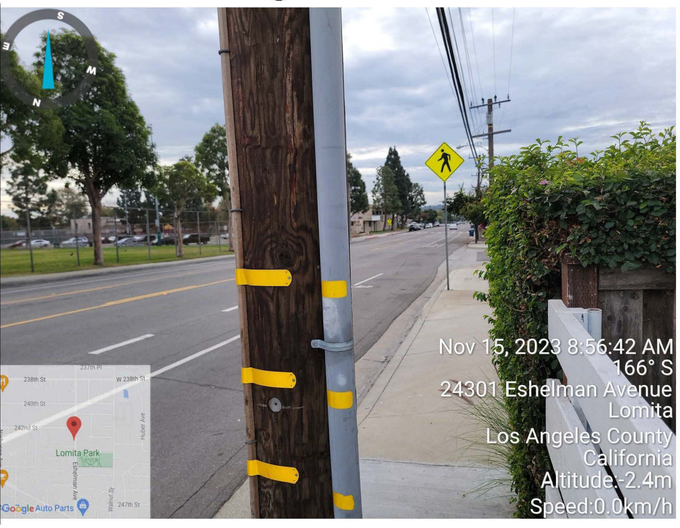
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: 24428 Eshelman Ave Lomita, CA 90

Site Id: NM3

Figure 1: NM3



MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise
Site Address/Location: 24428 Eshelman Ave Lomita, CA 90
Site Id: NM3

Site Topo: Flat
Meteorological Cond.:
Ground Type: Hard

Day: 1 of 1
Noise Source(s) w/ Distance:
30' from CL of Eshelman Ave.

Table 1: Baseline Noise Measurement Summary

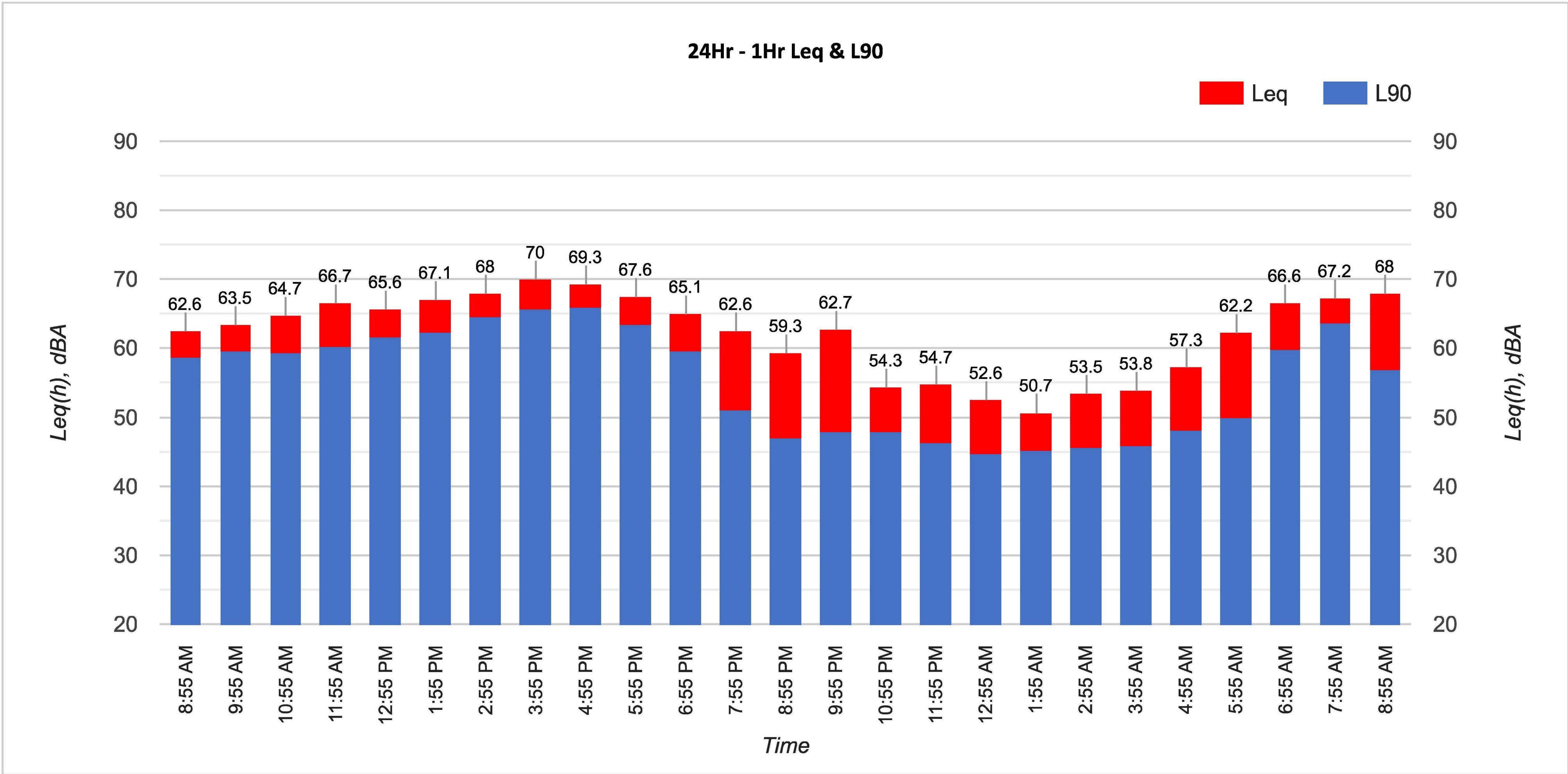
Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
11/15/2023	8:55 AM	9:55 AM	62.6	77.9	50.4	66.9	64.3	63.6	62.4	58.7
11/15/2023	9:55 AM	10:55 AM	63.5	76.5	49.3	67	66.3	64.6	63.3	59.5
11/15/2023	10:55 AM	11:55 AM	64.7	79.9	48.5	68.5	67.9	65.9	64.1	59.3
11/15/2023	11:55 AM	12:55 PM	66.7	89.2	48.9	70.5	68.7	67.1	64.6	60.3
11/15/2023	12:55 PM	1:55 PM	65.6	77.7	49.6	68.8	68.2	66.6	65.3	61.6
11/15/2023	1:55 PM	2:55 PM	67.1	79.5	50.3	70.4	69.6	68.5	66.8	62.3
11/15/2023	2:55 PM	3:55 PM	68	81.3	46.2	71.3	70.4	68.9	67.9	64.5
11/15/2023	3:55 PM	4:55 PM	70	91.4	50.5	75.3	71.9	70.3	69.2	65.7
11/15/2023	4:55 PM	5:55 PM	69.3	80.8	47.4	72	71.7	70.3	69.4	66
11/15/2023	5:55 PM	6:55 PM	67.6	79.4	49.7	70.7	70.2	68.9	67	63.5
11/15/2023	6:55 PM	7:55 PM	65.1	78.2	49.1	69.1	68	66.2	64.7	59.6
11/15/2023	7:55 PM	8:55 PM	62.6	79.5	47.1	67.6	66.6	64.3	61.7	51.1
11/15/2023	8:55 PM	9:55 PM	59.3	78.7	44.8	65.2	63.8	60.7	57	47
11/15/2023	9:55 PM	10:55 PM	62.7	91.7	45.3	67	65	60.7	57	47.9
11/15/2023	10:55 PM	11:55 PM	54.3	74.8	45.5	59.8	58.8	55.9	49.3	47.9
11/15/2023	11:55 PM	12:55 AM	54.7	76.8	44.6	62.7	60.6	53.7	47.2	46.4
11/16/2023	12:55 AM	1:55 AM	52.6	74.5	42.9	60.6	59.2	48	46.5	44.8
11/16/2023	1:55 AM	2:55 AM	50.7	74.7	43.5	61.3	49	47.2	46.4	45.2
11/16/2023	2:55 AM	3:55 AM	53.5	76.5	44.2	62.1	60	47.5	46.7	45.7
11/16/2023	3:55 AM	4:55 AM	53.8	77.4	44.5	62.7	59.3	49.6	48.5	45.9
11/16/2023	4:55 AM	5:55 AM	57.3	79.7	46.0	65.5	61.7	57.8	50.5	48.1
11/16/2023	5:55 AM	6:55 AM	62.2	80.8	46.2	68.1	66.8	63	60.4	50.1
11/16/2023	6:55 AM	7:55 AM	66.6	86.5	48.1	70.5	69	67.7	65.4	59.7
11/16/2023	7:55 AM	8:55 AM	67.2	86.6	44.9	70.1	69.1	68.3	66.7	63.6
11/16/2023	8:55 AM	9:21 AM	68	91.1	39.3	73.8	66.2	65.4	63.7	56.8

	DNL	67.1

MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

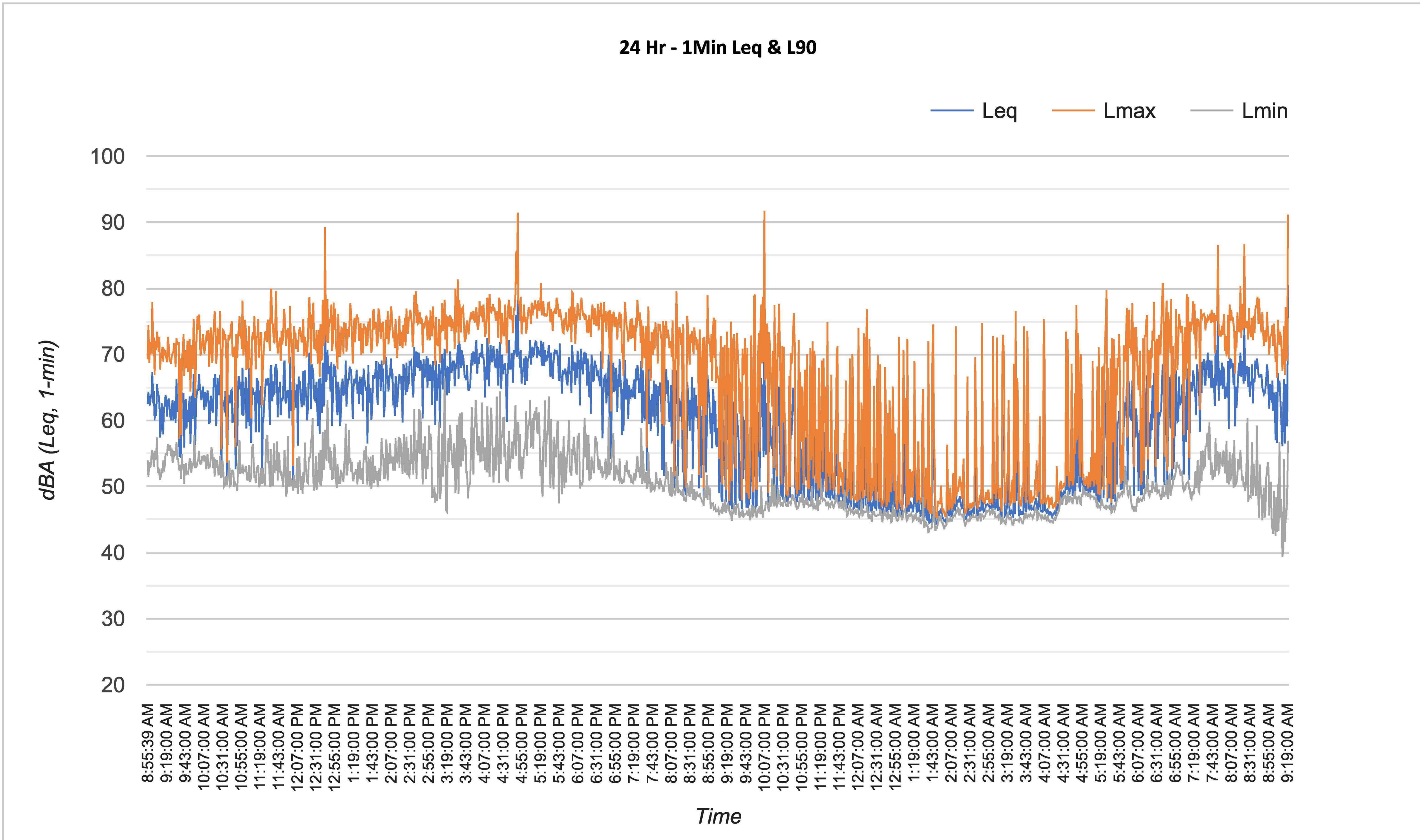
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Day:** 1 of 1
Site Address/Location:	24428 Eshelman Ave Lomita, CA 90	**Meteorological Cond.:**		**Noise Source(s) w/ Distance:**
Site Id:	NM3	**Ground Type:**	Hard	30' from CL of Eshelman Ave.

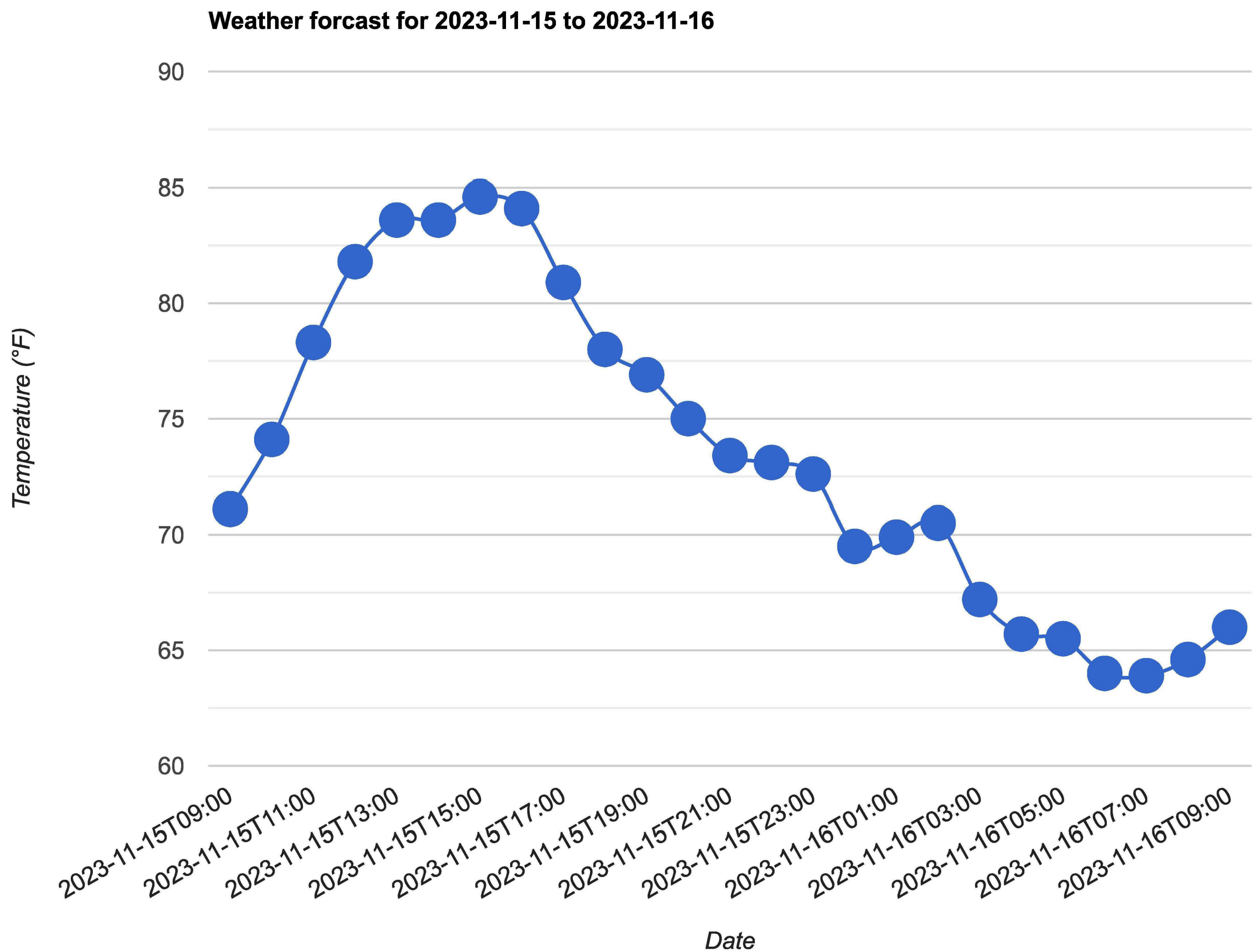


MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Day:** 1 of 1
Site Address/Location:	24428 Eshelman Ave Lomita, CA 90	**Meteorological Cond.:**		**Noise Source(s) w/ Distance:**
Site Id:	NM3	**Ground Type:**	Hard	30' from CL of Eshelman Ave.




Weather forcast for 2023-11-15 to 2023-11-16
90
85
80
75
70
65
60
Temperature (°F)
2023-11-15T09:00
2023-11-15T11:00
2023-11-15T13:00
2023-11-15T15:00
2023-11-15T17:00
2023-11-15T19:00
2023-11-15T21:00
2023-11-15T23:00
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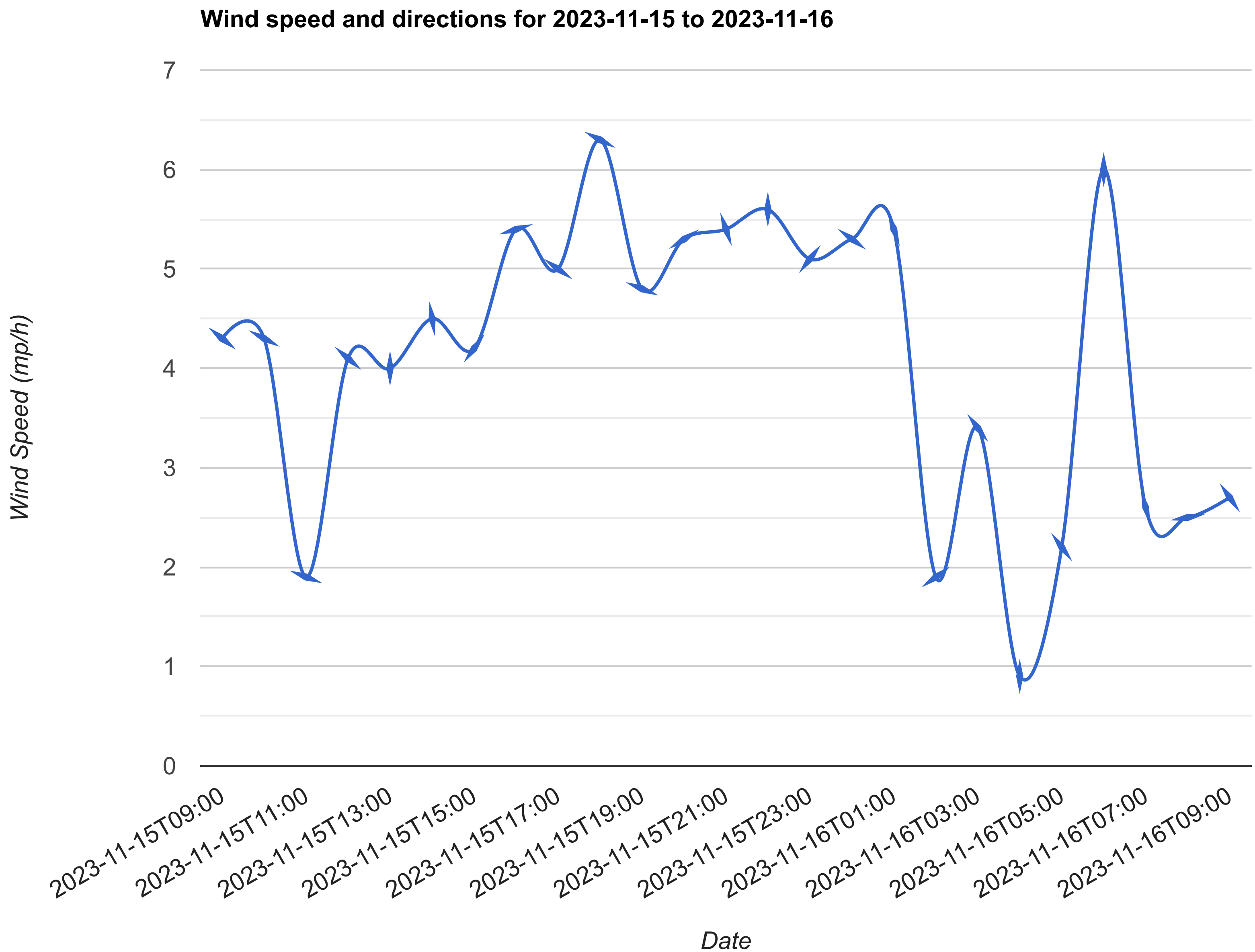
2023-11-16T09:00
Date



Source: Global Forecast System (GFS) weather forcast model

24-Hour Continuous Noise Measurement Datasheet

Project Name: Lomita GPU Noise

Project: #/Name: 0462-2023-010

Site Address/Location: 26715 Western Ave Lomita, CA 907

Date: 11/15/2023

Field Tech/Engineer: Jason Schuyler/Claire Pincock

Site Observations:

Sound Meter: Piccolo 2, Soft dB **SN:** P02019080208

Settings: A-weighted, slow, 1-min, 24-hour duration

Site Id: NM7

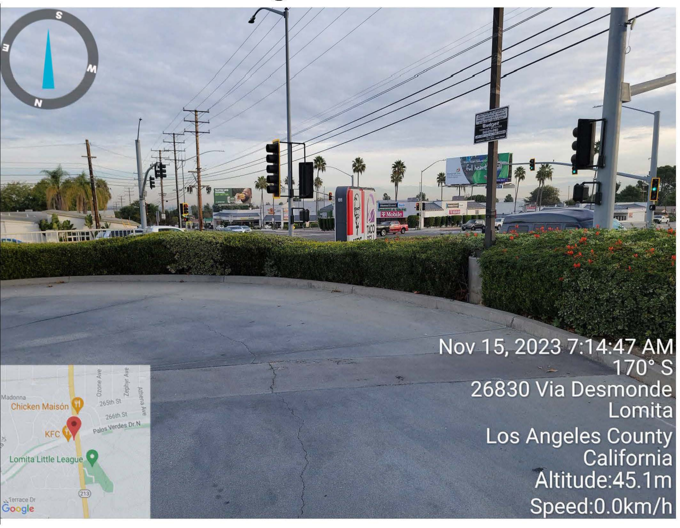
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: 26715 Western Ave Lomita, CA 907

Site Id: NM7

Figure 1: NM7



MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise
Site Address/Location: 26715 Western Ave Lomita, CA 907
Site Id: NM7

Site Topo: Flat
Meteorological Cond.:
Ground Type: Hard

Day: 1 of 1
Noise Source(s) w/ Distance:
80' from CL of Palos Verdes, 70' from CL of SR213

Table 1: Baseline Noise Measurement Summary

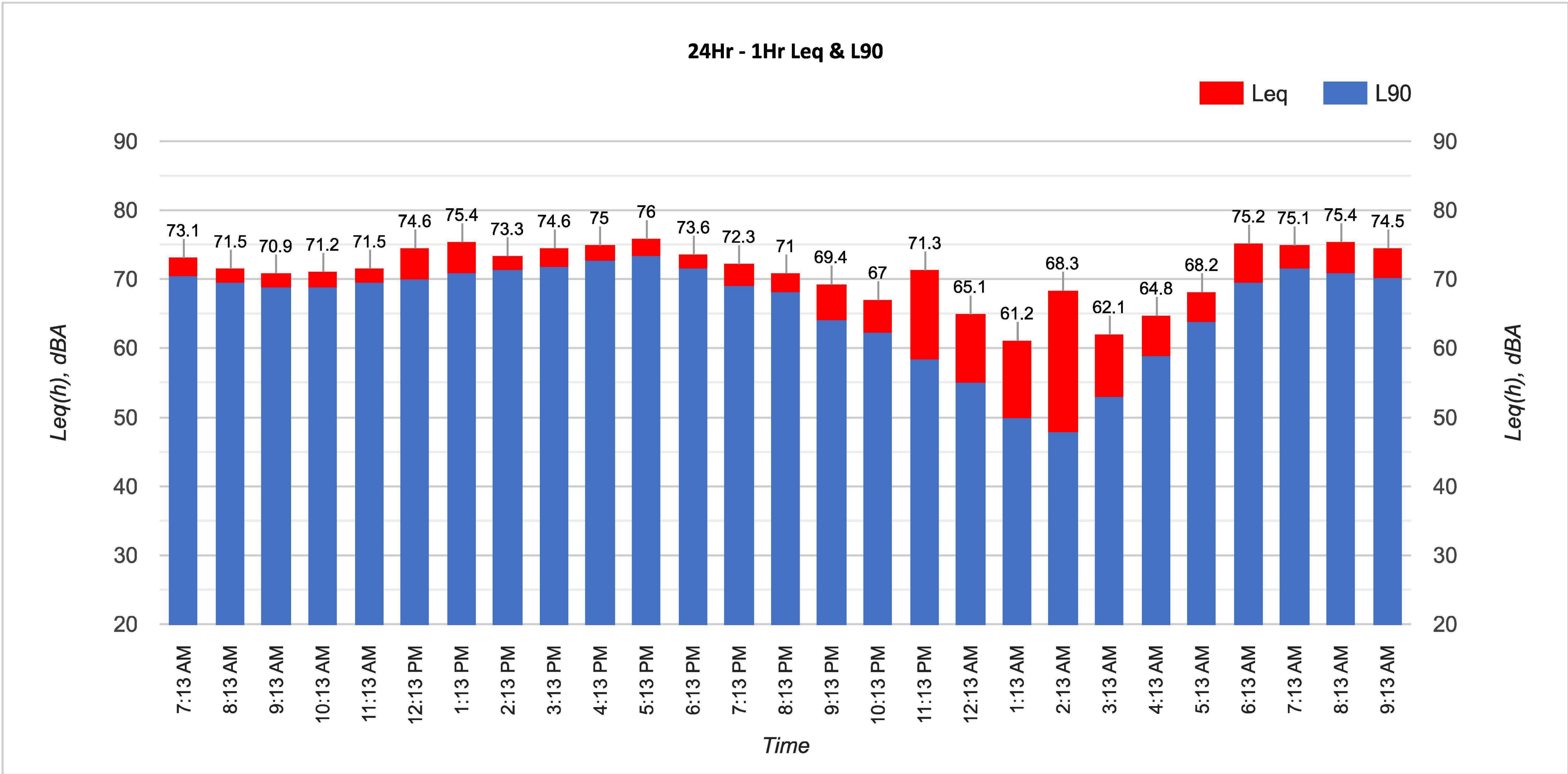
Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
11/15/2023	7:13 AM	8:13 AM	73.1	90.3	56.1	77.3	76	73.4	72.5	70.5
11/15/2023	8:13 AM	9:13 AM	71.5	89.2	55.9	75.6	73	72	70.7	69.5
11/15/2023	9:13 AM	10:13 AM	70.9	88.9	59.6	74.3	72.6	71.5	70.7	68.9
11/15/2023	10:13 AM	11:13 AM	71.2	84.5	61.7	74.6	73.3	71.6	70.9	68.8
11/15/2023	11:13 AM	12:13 PM	71.5	84.4	59.8	73.6	73.3	72.2	71.4	69.6
11/15/2023	12:13 PM	1:13 PM	74.6	99.6	59.7	75.5	73.9	72.3	71.6	69.9
11/15/2023	1:13 PM	2:13 PM	75.4	98.7	59.7	83.3	79.3	73.4	72.3	70.8
11/15/2023	2:13 PM	3:13 PM	73.3	85.4	62.5	76.1	75	73.7	73	71.3
11/15/2023	3:13 PM	4:13 PM	74.6	90.4	63.2	76.9	76.3	75.2	74.5	71.9
11/15/2023	4:13 PM	5:13 PM	75	91.1	63.7	78.6	76.8	75.5	74.6	72.8
11/15/2023	5:13 PM	6:13 PM	76	94.8	62.7	79.4	77.9	76.4	75.4	73.5
11/15/2023	6:13 PM	7:13 PM	73.6	83.4	60.3	75.7	75.3	74.5	73.6	71.7
11/15/2023	7:13 PM	8:13 PM	72.3	87.5	57.3	76.1	74.8	73.2	71.8	69.1
11/15/2023	8:13 PM	9:13 PM	71	89.3	55.8	73.5	72.7	71.7	70.4	68.1
11/15/2023	9:13 PM	10:13 PM	69.4	88.8	52.9	75.5	71.2	69.7	68.3	64.1
11/15/2023	10:13 PM	11:13 PM	67	81.4	50.4	72	69.9	67.9	66.4	62.3
11/15/2023	11:13 PM	12:13 AM	71.3	100.1	47.1	73.6	68.3	66.1	63.1	58.4
11/16/2023	12:13 AM	1:13 AM	65.1	91.6	45.2	70.3	66.2	63.4	60.5	55
11/16/2023	1:13 AM	2:13 AM	61.2	82.4	44.8	67.4	65	62	58.2	50.1
11/16/2023	2:13 AM	3:13 AM	68.3	97.9	44.6	75.8	68	61.2	59.2	48
11/16/2023	3:13 AM	4:13 AM	62.1	80.3	44.0	68.1	66.6	63.3	60.4	53
11/16/2023	4:13 AM	5:13 AM	64.8	82.3	44.2	69.5	67.9	65.9	63.9	58.9
11/16/2023	5:13 AM	6:13 AM	68.2	83.5	49.9	71.6	70.9	68.8	67.8	63.9
11/16/2023	6:13 AM	7:13 AM	75.2	98.9	55.7	81.5	75.2	73	71.6	69.6
11/16/2023	7:13 AM	8:13 AM	75.1	100.3	60.0	77.6	76.9	74.7	73.6	71.5
11/16/2023	8:13 AM	9:13 AM	75.4	100.4	56.6	78.3	75.3	73.5	72.6	70.9
11/16/2023	9:13 AM	9:43 AM	74.5	96.5	57.7	80	77	74.2	72.6	70.3

	DNL	75.4

MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

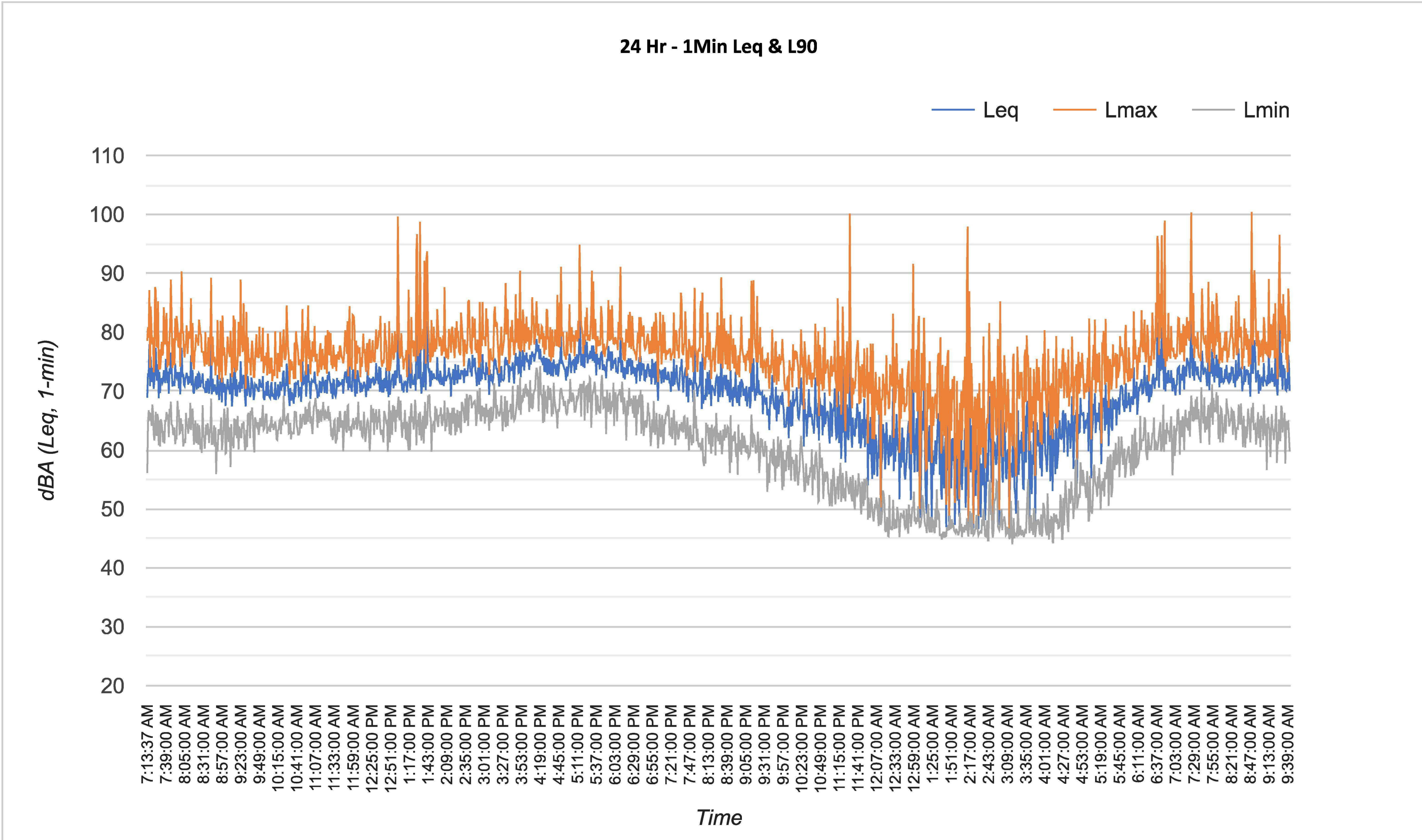
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Day:** 1 of 1
Site Address/Location:	26715 Western Ave Lomita, CA 907	**Meteorological Cond.:**		**Noise Source(s) w/ Distance:**
Site Id:	NM7	**Ground Type:**	Hard	80' from CL of Palos Verdes, 70' from CL of SR213

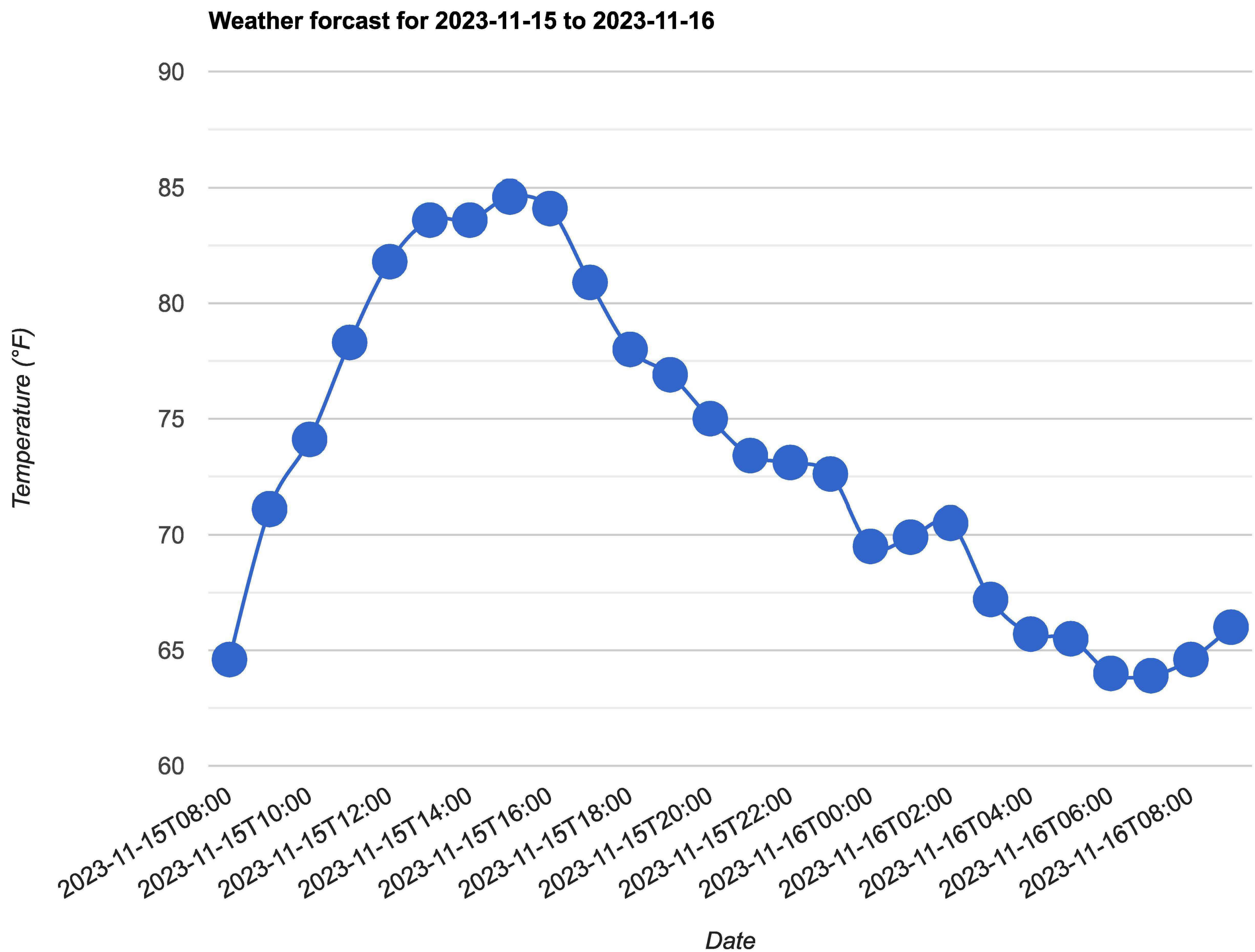


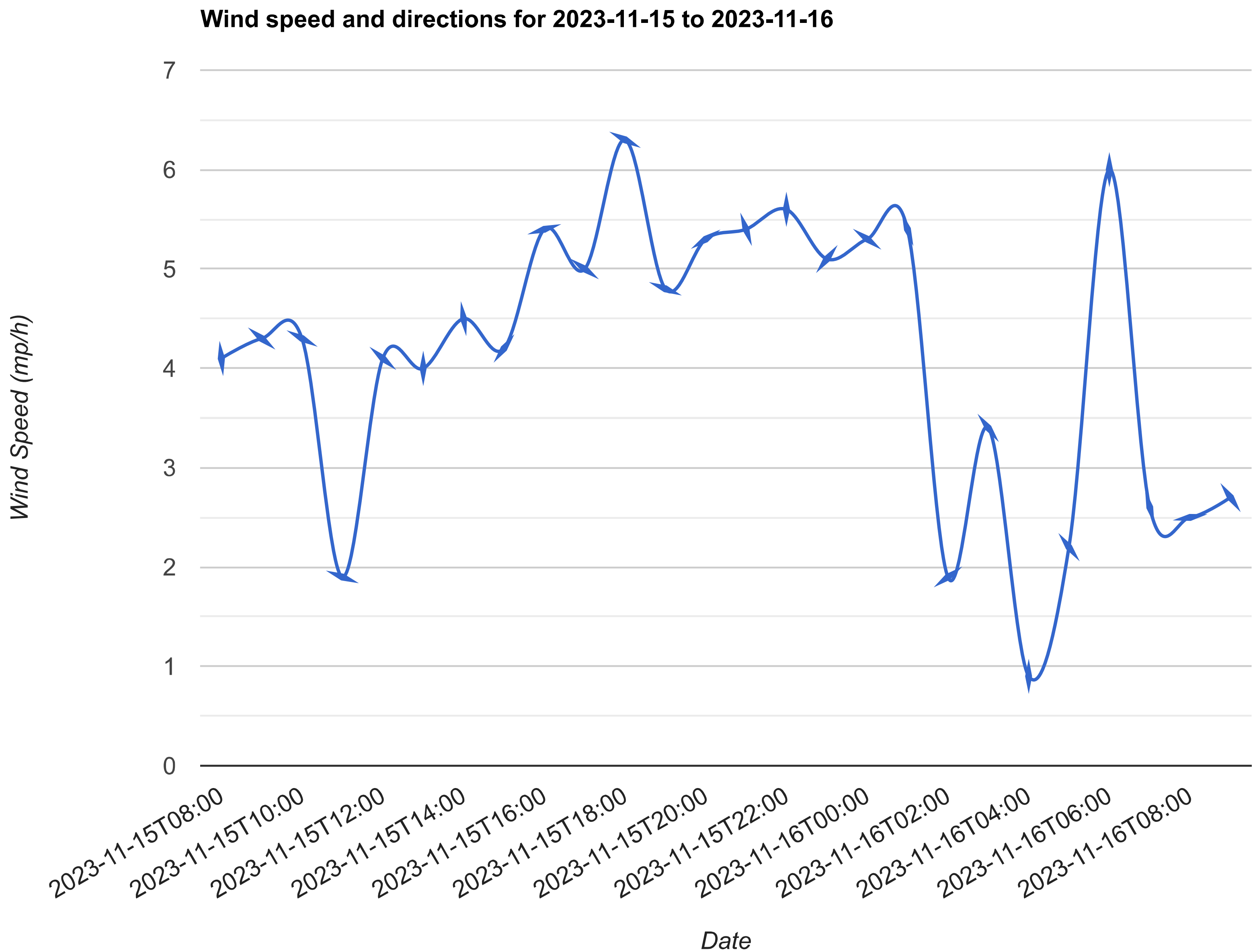
MD ACOUSTICS

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Day:** 1 of 1
Site Address/Location:	26715 Western Ave Lomita, CA 907	**Meteorological Cond.:**		**Noise Source(s) w/ Distance:**
Site Id:	NM7	**Ground Type:**	Hard	80' from CL of Palos Verdes, 70' from CL of SR213



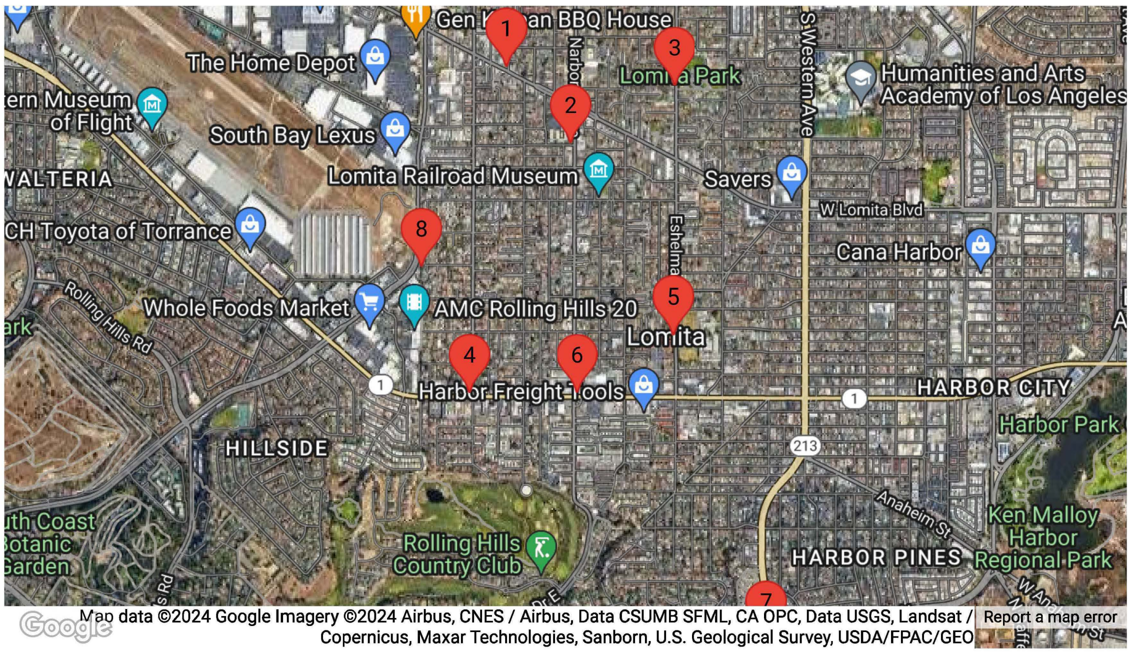

Weather forcast for 2023-11-15 to 2023-11-16
Temperature (°F)
90
85
80
75
70
65
60
2023-11-15T08:00
2023-11-15T10:00
2023-11-15T12:00
2023-11-15T14:00
2023-11-15T16:00
2023-11-15T18:00
2023-11-15T20:00
2023-11-15T22:00
2023-11-16T00:00
2023-11-16T02:00
2023-11-16T04:00
2023-11-16T06:00
2023-11-16T08:00
Date



Source: Global Forecast System (GFS) weather forcast model

15-Minute Continuous Noise Measurement Datasheet

Project Name:	Lomita GPU Noise		**Site Observations:**
Project: #/Name:	0462-2023-010		
Site Address/Location:	Lomita, CA		
Date:	11/15/2023		
Field Tech/Engineer:	Jason Schuyler/Claire Pincock		
Sound Meter:	XL2, NTI	**SN:** A2A-07095-E0	
Settings:	A-weighted, slow, 1-sec, 15-minute interval		
Site Id:	NM2, NM4, NM5, NM6, NM8		



MD ACOUSTICS

15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: Lomita, CA

Site Id: NM2, NM4, NM5, NM6, NM8

Figure 1: NM2

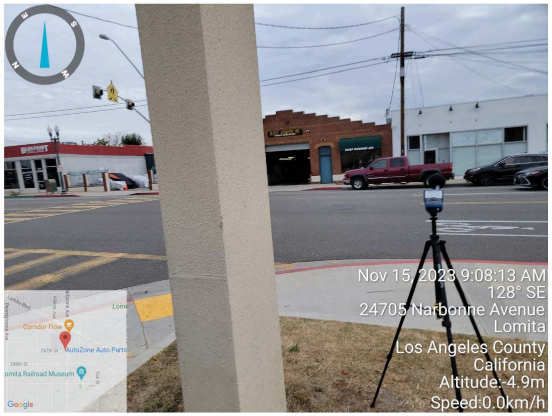


Figure 2: NM4

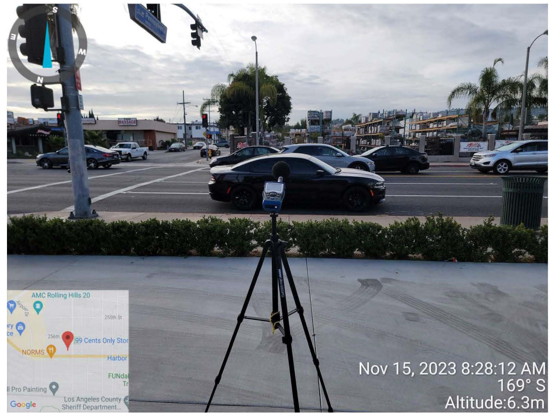


Figure 3: NM5

15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: Lomita, CA

Site Id: NM2, NM4, NM5, NM6, NM8

Figure 4: NM6

Figure 5: NM7

15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Lomita GPU Noise

Site Address/Location: Lomita, CA

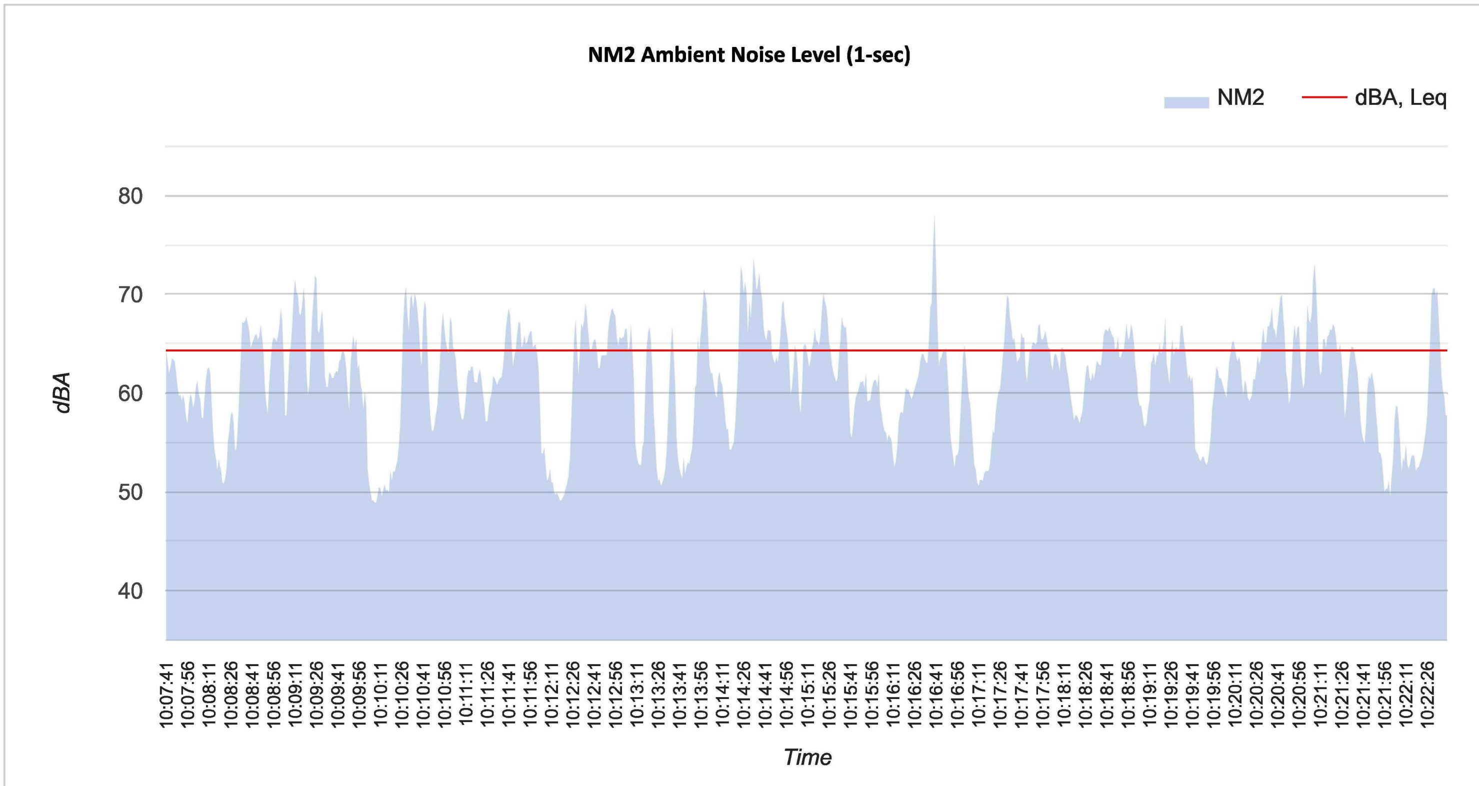
Site Id: NM2, NM4, NM5, NM6, NM8

Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM2	10:07 AM	10:22 AM	64.3	77.1	48.9	70.7	68.2	65.4	62.4	53
NM4	9:27 AM	9:42 AM	74	92.6	57.2	79.2	76.5	74.5	72.6	62.6
NM5	8:31 AM	8:46 AM	62.1	82.0	54.6	66.8	63.4	60.5	58.8	56
NM6	9:04 AM	9:19 AM	72	82.9	60.9	78.7	75.3	73.1	70.5	64.2
NM8	10:51 AM	11:06 AM	63.1	82.8	44.8	74	65.8	54.5	49.9	47.3

15-Minute Continuous Noise Measurement Datasheet - Cont.

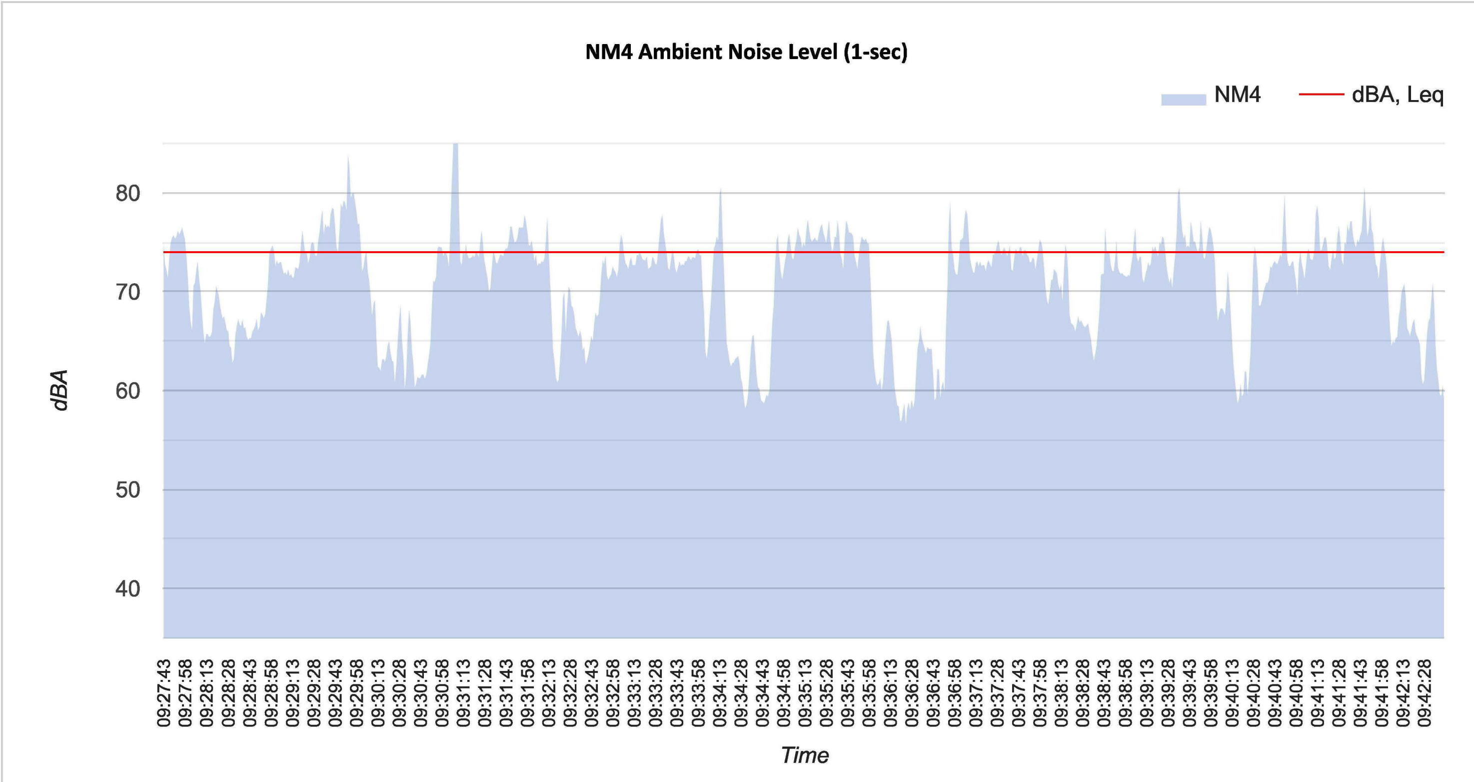
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Noise Source(s) w/ Distance:**
Site Address/Location:	Lomita, CA	**Meteorological Cond.:**		40' from Narbonne Ave CL
Site Id:	NM2	**Ground Type:**	Hard	



MD ACOUSTICS

15-Minute Continuous Noise Measurement Datasheet - Cont.

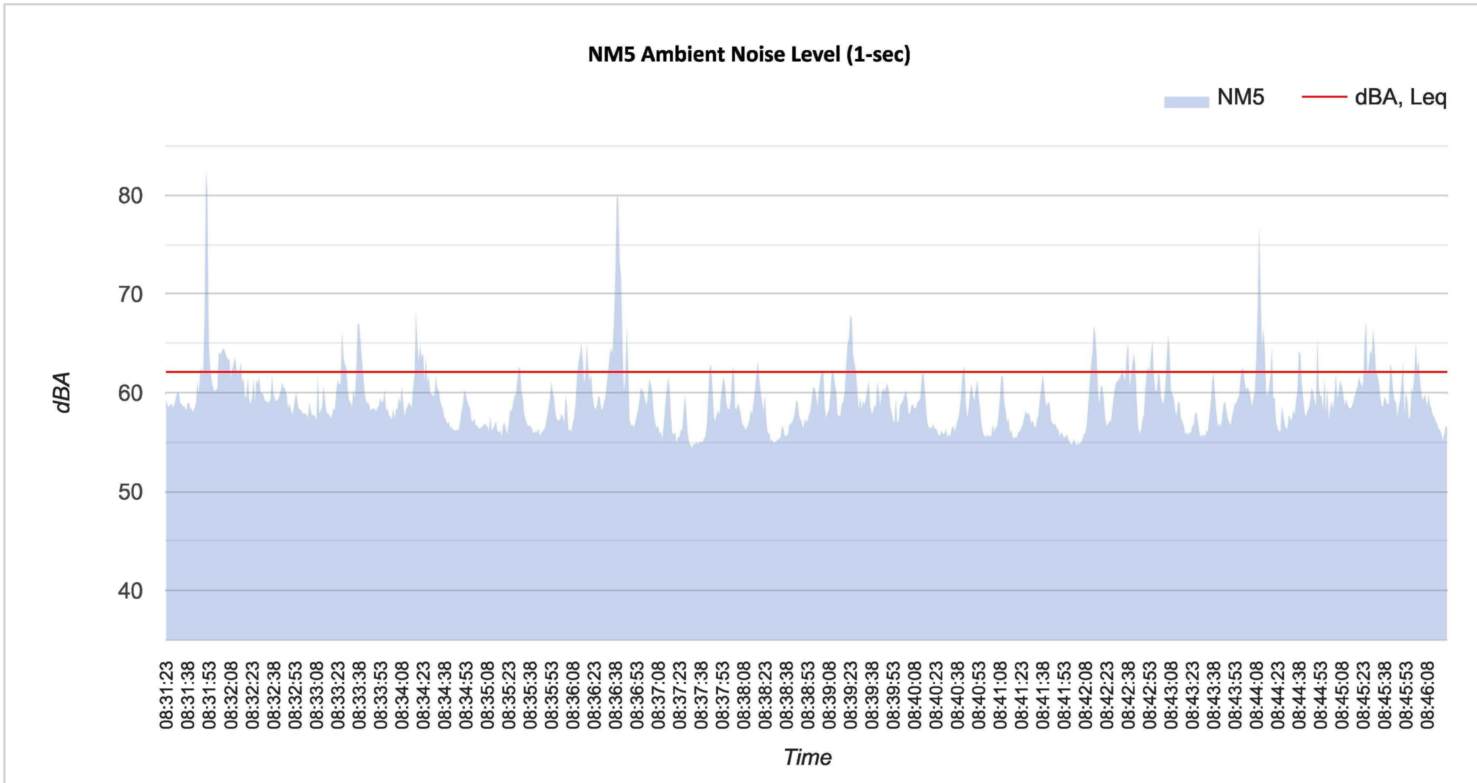
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Noise Source(s) w/ Distance:**
Site Address/Location:	Lomita, CA	**Meteorological Cond.:**		55' from CL of PCH
Site Id:	NM4	**Ground Type:**	Hard	



MD ACOUSTICS

15-Minute Continuous Noise Measurement Datasheet - Cont.

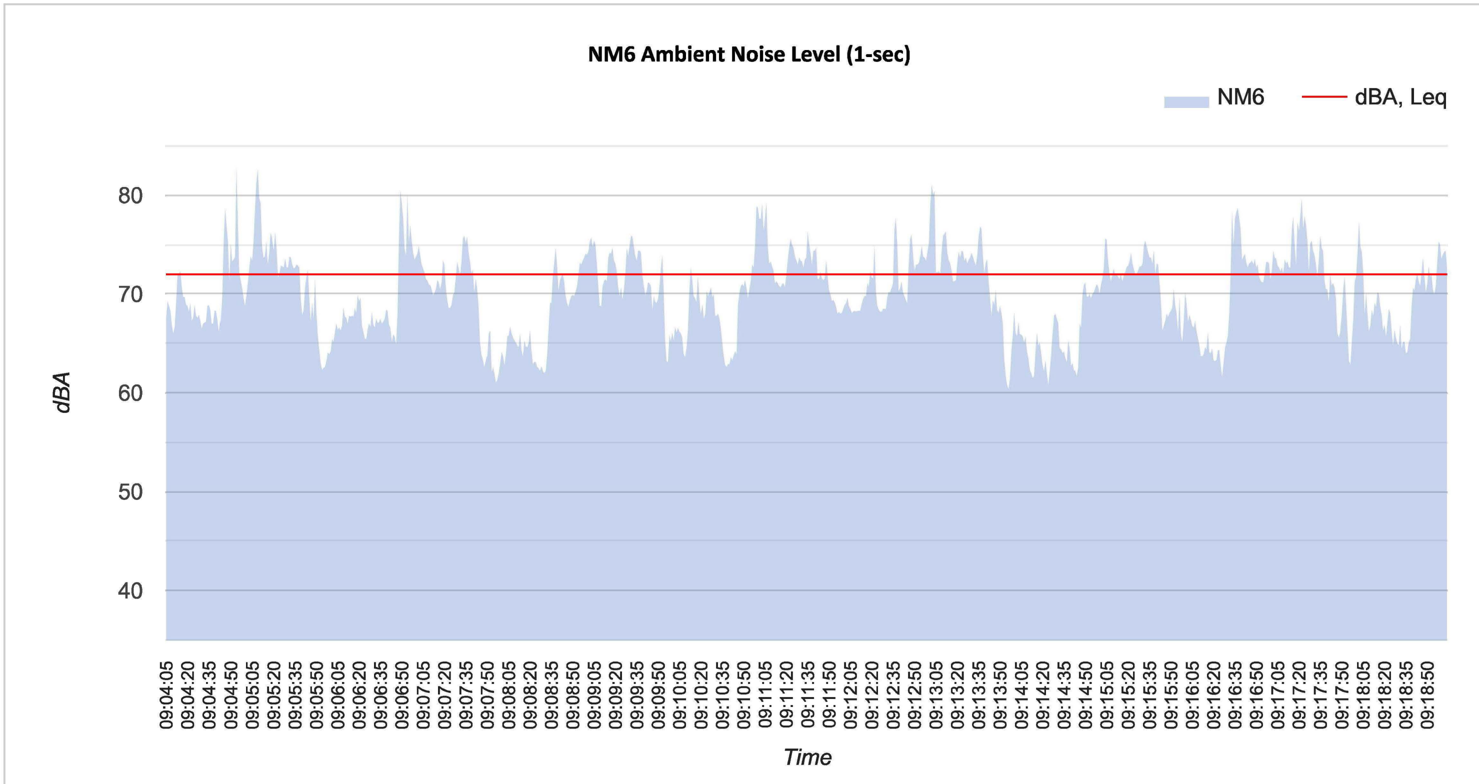
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Noise Source(s) w/ Distance:**
Site Address/Location:	Lomita, CA	**Meteorological Cond.:**		30' from CL of Eshelman Ave.
Site Id:	NM5	**Ground Type:**	Hard	



MD ACOUSTICS

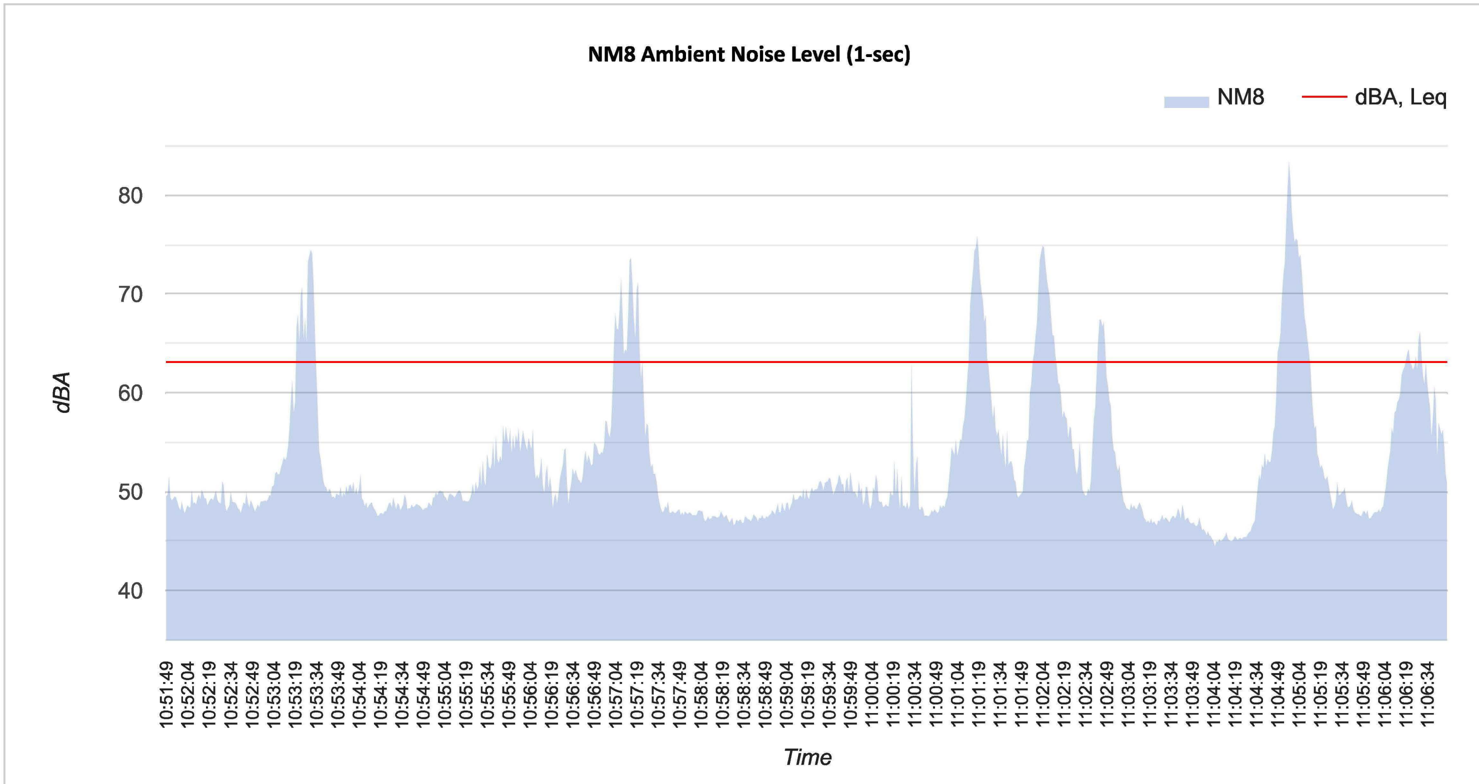
15-Minute Continuous Noise Measurement Datasheet - Cont.

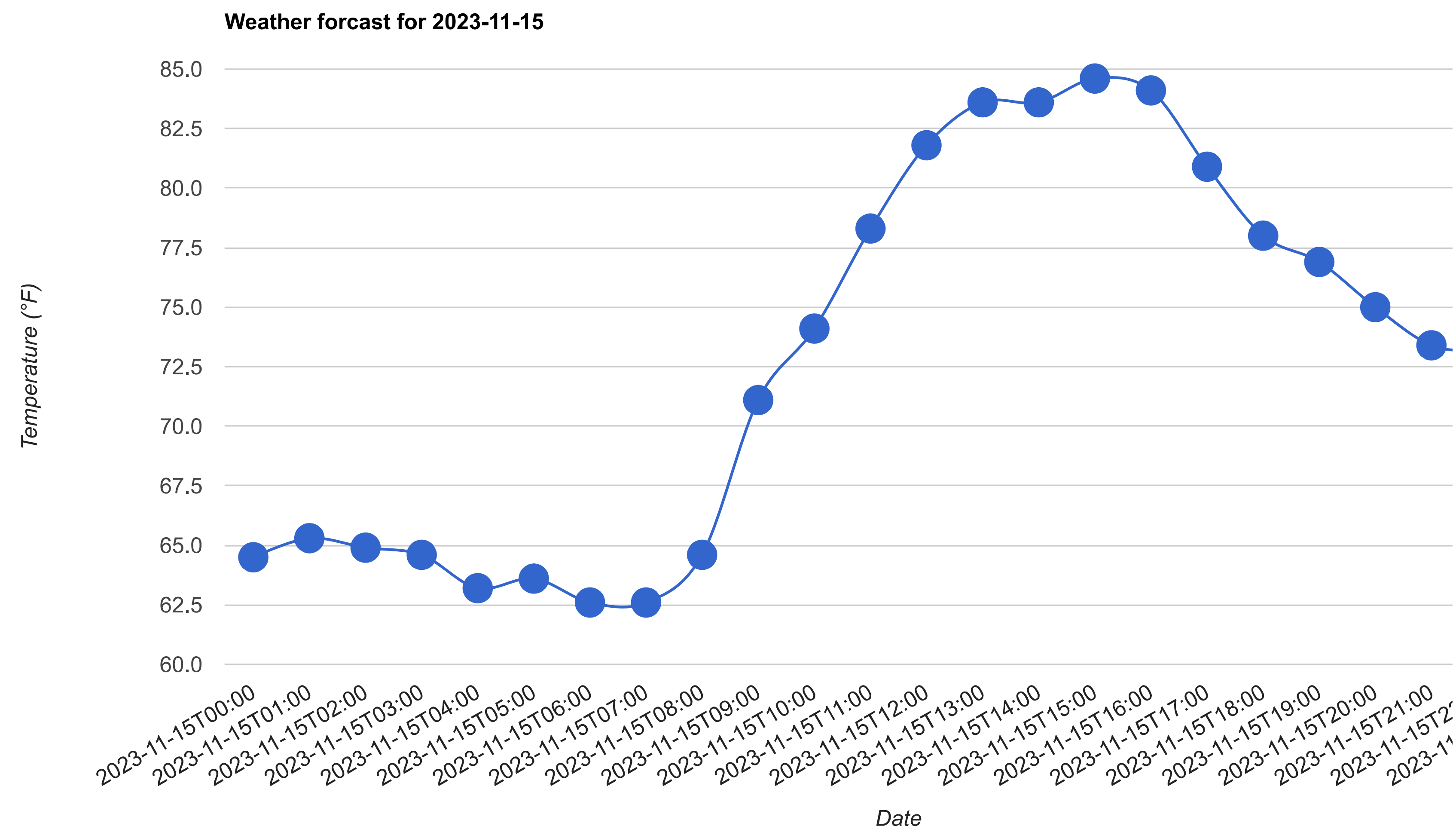
Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Noise Source(s) w/ Distance:**
Site Address/Location:	Lomita, CA	**Meteorological Cond.:**		55' from CL of PCH
Site Id:	NM6	**Ground Type:**	Hard	



15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	Lomita GPU Noise	**Site Topo:**	Flat	**Noise Source(s) w/ Distance:**
Site Address/Location:	Lomita, CA	**Meteorological Cond.:**		130' from CL of Crenshaw Blvd
Site Id:	NM8	**Ground Type:**	Hard	




Weather forcast for 2023-11-15
85.0
82.5
80.0
77.5
75.0
72.5
70.0
67.5
65.0
62.5
60.0
Temperature (°F)
2023-11-15T00:00
2023-11-15T01:00
2023-11-15T02:00
2023-11-15T03:00
2023-11-15T04:00
2023-11-15T05:00
2023-11-15T06:00
2023-11-15T07:00
2023-11-15T08:00
2023-11-15T09:00
2023-11-15T10:00
2023-11-15T11:00
2023-11-15T12:00
2023-11-15T13:00
2023-11-15T14:00
2023-11-15T15:00
2023-11-15T16:00
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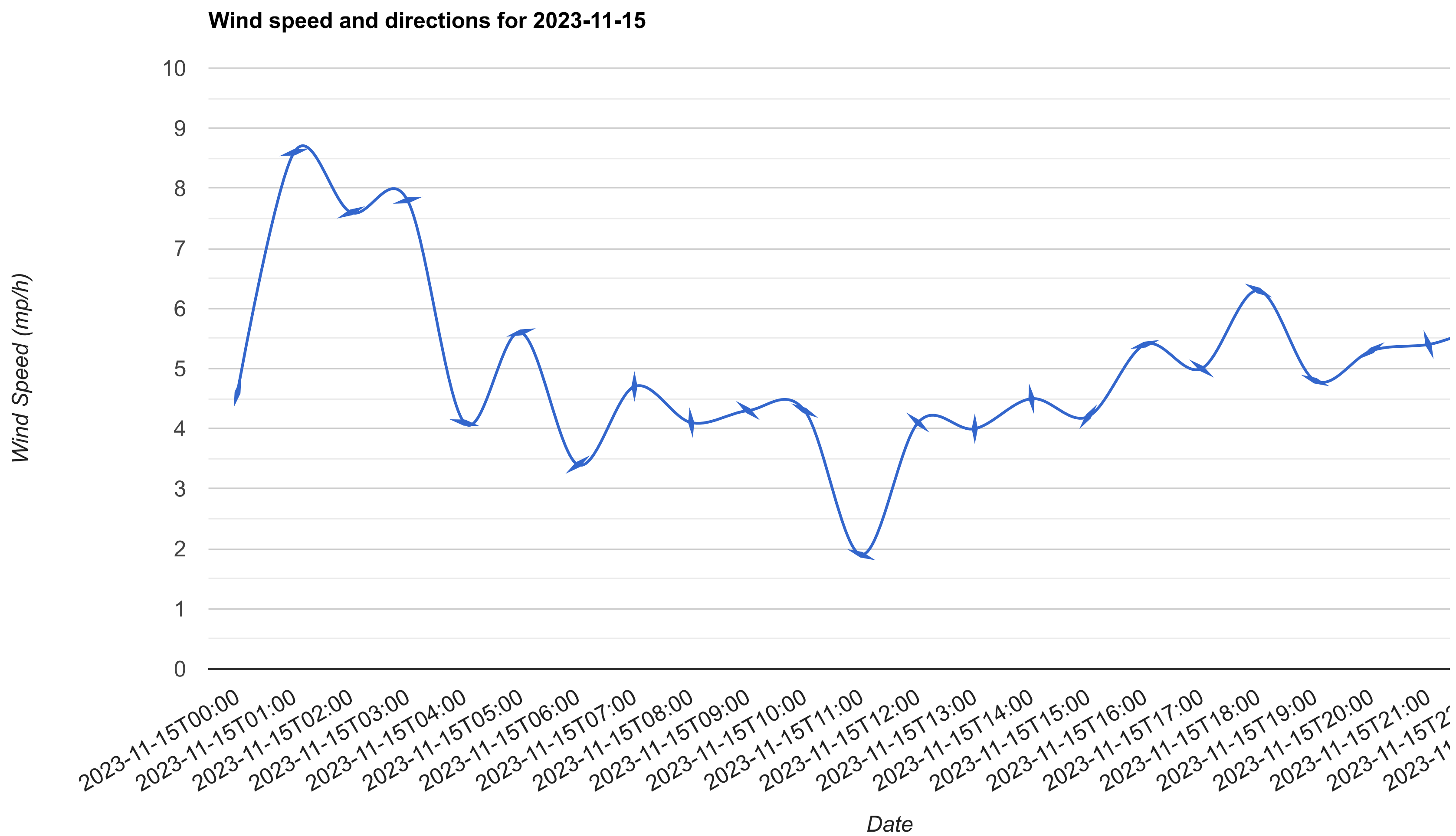
2023-11-15T21:00
Date



Source: Global Forecast System (GFS) weather forcast model

Appendix C:

FHWA Roadway Noise Worksheets

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Lomita Blvd	DATE:	29-Mar-24
SEGMENT	Crenshaw to Pennsylvania	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Existing

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	37,333
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,733

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	29.5	- -
MEDIUM TRUCKS=	4.00	29.4	- -
HEAVY TRUCKS =	8.01	29.5	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.8	71.5	70.7	65.9	73.6	74.2
MEDIUM TRUCKS	63.2	60.9	57.4	57.0	64.1	64.4
HEAVY TRUCKS	72.7	69.5	67.5	68.4	74.9	75.1
VEHICULAR NOISE	76.5	73.9	72.5	70.5	77.5	**77.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	227	717	2267	7169
LDN	209	661	2089	6607

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan		JOB #:	0462-2023-010
ROADWAY	Lomita Blvd		DATE:	29-Mar-24
SEGMENT	Narbonne to Eshelman		ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO: Existing		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	33,696
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,370

RECEIVER INPUT DATA

RECEIVER DISTANCE =		45
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		45
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	39.1	- -
MEDIUM TRUCKS=	4.00	39.0	- -
HEAVY TRUCKS =	8.01	39.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.1	69.8	69.0	64.2	72.0	72.5
MEDIUM TRUCKS	61.6	59.2	55.8	55.4	62.5	62.7
HEAVY TRUCKS	71.0	67.8	65.8	66.7	73.2	73.4
VEHICULAR NOISE	74.8	72.2	70.8	68.8	75.9	**76.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	188	594	1880	5944
LDN	173	548	1732	5479

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	Lomita Blvd			DATE:	29-Mar-24
SEGMENT	Walnut to Ebony			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Existing		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	35,345
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,535

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	44.8	- -
MEDIUM TRUCKS=	4.00	44.7	- -
HEAVY TRUCKS =	8.01	44.8	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.7	69.5	68.6	63.8	71.6	72.1
MEDIUM TRUCKS	61.2	58.9	55.4	55.0	62.1	62.3
HEAVY TRUCKS	70.6	67.5	65.4	66.3	72.8	73.1
VEHICULAR NOISE	74.4	71.8	70.4	68.5	75.5	**75.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	191	605	1913	6050
LDN	176	558	1763	5577

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Pacific Coast Hwy	DATE:	29-Mar-24
SEGMENT	Pennsylvania to Narbonne	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Existing

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	51,338
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	60
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,134

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	40.1	- -
MEDIUM TRUCKS=	4.00	40.0	- -
HEAVY TRUCKS =	8.01	40.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.8	71.6	70.7	65.9	73.7	74.2
MEDIUM TRUCKS	63.3	61.0	57.5	57.1	64.2	64.4
HEAVY TRUCKS	72.7	69.6	67.5	68.4	74.9	75.1
VEHICULAR NOISE	76.5	73.9	72.5	70.6	77.6	**77.9**

NOISE CONTOUR (FT)

NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	310	980	3100	9805
LDN	286	904	2858	9037

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Lomita General Plan
ROADWAY: Pacific Coast Hwy
SEGMENT: Ebony to eastern City boundary
LOCATION: Lomita, CA
SCENARIO: Existing

JOB #: 0462-2023-010
DATE: 29-Mar-24
ENGINEER: C. Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT = 48,591
SPEED = 35
PK HR % = 10
NEAR LANE/FAR LANE DIST = 60
ROAD ELEVATION = 0
GRADE = 0
PK HR VOL = 4,859

RECEIVER INPUT DATA

RECEIVER DISTANCE = 50
DIST C/L TO WALL = 0
RECEIVER HEIGHT = 5
WALL DISTANCE FROM RECEIVER = 50
PAD ELEVATION = 0
ROADWAY VIEW: LF ANGLE -90
RT ANGLE 90
DF ANGLE 180

SITE CONDITIONS

AUTOMOBILES 10
MED TRUCKS 10 (HARD SITE=10, SOFT SITE=15)
HVY TRUCKS 10

WALL INFORMATION

HTH WALL = 0 FT
AMBIENT = 0
BARRIER = 0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	40.1	- -
MEDIUM TRUCKS=	4.00	40.0	- -
HEAVY TRUCKS =	8.01	40.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.9	69.6	68.8	64.0	71.8	72.3
MEDIUM TRUCKS	62.1	59.8	56.3	55.9	63.0	63.3
HEAVY TRUCKS	72.0	68.8	66.7	67.6	74.2	74.4
VEHICULAR NOISE	75.2	72.5	71.0	69.4	76.4	**76.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	233	737	2330	7368
LDN	216	682	2158	6824

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Pennsylvania Ave	DATE:	29-Mar-24
SEGMENT	Lomita to 250th	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Existing

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,486
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	649

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	36.6	- -
MEDIUM TRUCKS=	4.00	36.5	- -
HEAVY TRUCKS =	8.01	36.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.4	57.1	56.2	51.5	59.2	59.8
MEDIUM TRUCKS	51.5	49.2	45.7	45.3	52.4	52.6
HEAVY TRUCKS	62.3	59.1	57.0	57.9	64.5	64.7
VEHICULAR NOISE	64.3	61.5	59.8	59.0	65.8	**66.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	15	48	151	476
LDN	14	45	141	446

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Lomita General Plan
ROADWAY: Narbonne Ave
SEGMENT: northern City limits to Lomita
LOCATION: Lomita, CA
SCENARIO: Existing

JOB #: 0462-2023-010
DATE: 29-Mar-24
ENGINEER: C. Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT = 11,630
SPEED = 35
PK HR % = 10
NEAR LANE/FAR LANE DIST = 12
ROAD ELEVATION = 0
GRADE = 0
PK HR VOL = 1,163

RECEIVER INPUT DATA

RECEIVER DISTANCE = 30
DIST C/L TO WALL = 0
RECEIVER HEIGHT = 5
WALL DISTANCE FROM RECEIVER = 30
PAD ELEVATION = 0
ROADWAY VIEW: LF ANGLE -90
RT ANGLE 90
DF ANGLE 180

SITE CONDITIONS

AUTOMOBILES 10
MED TRUCKS 10 (HARD SITE=10, SOFT SITE=15)
HVY TRUCKS 10

WALL INFORMATION

HTH WALL = 0 FT
AMBIENT = 0
BARRIER = 0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	29.5	- -
MEDIUM TRUCKS=	4.00	29.4	- -
HEAVY TRUCKS =	8.01	29.5	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.1	64.8	63.9	59.2	66.9	67.4
MEDIUM TRUCKS	57.3	54.9	51.5	51.1	58.1	58.4
HEAVY TRUCKS	67.1	63.9	61.9	62.7	69.3	69.5
VEHICULAR NOISE	70.3	67.6	66.2	64.5	71.5	**71.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	45	144	454	1437
LDN	42	133	421	1331

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Lomita General Plan
ROADWAY Narbonne Ave
SEGMENT Lomita to 250th
LOCATION: Lomita, CA
SCENARIO: Existing

JOB #: 0462-2023-010
DATE: 29-Mar-24
ENGINEER: C. Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT = 13,377
SPEED = 35
PK HR % = 10
NEAR LANE/FAR LANE DIST = 24
ROAD ELEVATION = 0
GRADE = 0
PK HR VOL = 1,338

RECEIVER INPUT DATA

RECEIVER DISTANCE = 40
DIST C/L TO WALL = 0
RECEIVER HEIGHT = 5
WALL DISTANCE FROM RECEIVER = 40
PAD ELEVATION = 0
ROADWAY VIEW: LF ANGLE -90
RT ANGLE 90
DF ANGLE 180

SITE CONDITIONS

AUTOMOBILES 10
MED TRUCKS 10 (HARD SITE=10, SOFT SITE=15)
HVY TRUCKS 10

WALL INFORMATION

HTH WALL = 0 FT
AMBIENT = 0
BARRIER = 0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	38.3	- -
MEDIUM TRUCKS=	4.00	38.2	- -
HEAVY TRUCKS =	8.01	38.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.5	64.2	63.4	58.6	66.4	66.9
MEDIUM TRUCKS	56.7	54.4	50.9	50.5	57.6	57.9
HEAVY TRUCKS	66.6	63.4	61.3	62.2	68.8	69.0
VEHICULAR NOISE	69.8	67.1	65.6	64.0	71.0	**71.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	54	170	538	1701
LDN	50	158	498	1575

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	262nd St			DATE:	29-Mar-24
SEGMENT	East of Eshelman Ave			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Existing		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	264
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	20
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	26

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	49.1	- -
MEDIUM TRUCKS=	4.00	49.0	- -
HEAVY TRUCKS =	8.01	49.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	44.2	41.9	41.1	36.3	44.0	44.6
MEDIUM TRUCKS	36.3	34.0	30.5	30.1	37.2	37.5
HEAVY TRUCKS	47.1	43.9	41.9	42.8	49.3	49.5
VEHICULAR NOISE	49.1	46.3	44.7	43.8	50.6	**50.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	2	6	20
LDN	1	2	6	18

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Lomita General Plan
ROADWAY Eshelman Ave
SEGMENT 250th to 255th
LOCATION: Lomita, CA
SCENARIO: Existing

JOB #: 0462-2023-010
DATE: 29-Mar-24
ENGINEER: C. Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,354
SPEED =	30
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	635

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL = 0 FT
AMBIENT = 0
BARRIER = 0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	35.1	- -
MEDIUM TRUCKS=	4.00	35.0	- -
HEAVY TRUCKS =	8.01	35.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.7	59.5	58.6	53.8	61.6	62.1
MEDIUM TRUCKS	52.8	50.5	47.0	46.6	53.7	54.0
HEAVY TRUCKS	63.1	59.9	57.9	58.8	65.3	65.5
VEHICULAR NOISE	65.7	63.0	61.4	60.2	67.0	**67.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	20	64	201	636
LDN	19	59	187	592

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	Lomita Blvd			DATE:	29-Mar-24
SEGMENT	Crenshaw to Pennsylvania			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	38,514
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,851

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	29.5	- -
MEDIUM TRUCKS=	4.00	29.4	- -
HEAVY TRUCKS =	8.01	29.5	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.9	71.6	70.8	66.0	73.8	74.3
MEDIUM TRUCKS	63.4	61.0	57.6	57.2	64.3	64.5
HEAVY TRUCKS	72.8	69.6	67.6	68.5	75.0	75.2
VEHICULAR NOISE	76.6	74.0	72.6	70.6	77.7	**78.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	234	740	2339	7395
LDN	216	682	2156	6816

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan		JOB #:	0462-2023-010
ROADWAY	Lomita Blvd		DATE:	29-Mar-24
SEGMENT	Narbonne to Eshelman		ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO: Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	36,702
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,670

RECEIVER INPUT DATA

RECEIVER DISTANCE =		45
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		45
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	39.1	- -
MEDIUM TRUCKS=	4.00	39.0	- -
HEAVY TRUCKS =	8.01	39.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.5	70.2	69.4	64.6	72.3	72.9
MEDIUM TRUCKS	61.9	59.6	56.1	55.7	62.8	63.1
HEAVY TRUCKS	71.4	68.2	66.2	67.1	73.6	73.8
VEHICULAR NOISE	75.2	72.6	71.2	69.2	76.2	**76.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	205	647	2047	6474
LDN	189	597	1887	5967

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Lomita Blvd	DATE:	29-Mar-24
SEGMENT	Walnut to Ebony	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	35,822
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	45
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,582

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	44.8	- -
MEDIUM TRUCKS=	4.00	44.7	- -
HEAVY TRUCKS =	8.01	44.8	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.8	69.5	68.7	63.9	71.6	72.2
MEDIUM TRUCKS	61.2	58.9	55.4	55.0	62.1	62.4
HEAVY TRUCKS	70.7	67.5	65.5	66.4	72.9	73.1
VEHICULAR NOISE	74.5	71.9	70.5	68.5	75.5	**75.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	194	613	1939	6132
LDN	179	565	1787	5652

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Pacific Coast Hwy	DATE:	29-Mar-24
SEGMENT	Pennsylvania to Narbonne	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	55,535
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	60
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,554

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	40.1	- -
MEDIUM TRUCKS=	4.00	40.0	- -
HEAVY TRUCKS =	8.01	40.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.2	71.9	71.0	66.3	74.0	74.6
MEDIUM TRUCKS	63.6	61.3	57.8	57.4	64.5	64.8
HEAVY TRUCKS	73.1	69.9	67.9	68.7	75.3	75.5
VEHICULAR NOISE	76.9	74.2	72.9	70.9	77.9	**78.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	335	1061	3354	10606
LDN	309	978	3091	9776

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	Pacific Coast Hwy			DATE:	29-Mar-24
SEGMENT	Ebony to eastern City boundary			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	51,614
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	60
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,161

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	40.1	- -
MEDIUM TRUCKS=	4.00	40.0	- -
HEAVY TRUCKS =	8.01	40.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.2	69.9	69.1	64.3	72.0	72.6
MEDIUM TRUCKS	62.4	60.1	56.6	56.2	63.3	63.5
HEAVY TRUCKS	72.2	69.0	67.0	67.9	74.4	74.6
VEHICULAR NOISE	75.4	72.7	71.3	69.7	76.6	**76.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	248	783	2475	7827
LDN	229	725	2292	7249

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan	JOB #:	0462-2023-010
ROADWAY	Pennsylvania Ave	DATE:	29-Mar-24
SEGMENT	Lomita to 250th	ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,389
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	739

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	36.6	- -
MEDIUM TRUCKS=	4.00	36.5	- -
HEAVY TRUCKS =	8.01	36.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.9	57.6	56.8	52.0	59.8	60.3
MEDIUM TRUCKS	52.1	49.7	46.3	45.9	53.0	53.2
HEAVY TRUCKS	62.8	59.7	57.6	58.5	65.0	65.2
VEHICULAR NOISE	64.9	62.0	60.4	59.6	66.4	**66.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	17	54	171	542
LDN	16	51	161	508

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Lomita General Plan
ROADWAY: Narbonne Ave
SEGMENT: northern City limits to Lomita
LOCATION: Lomita, CA
SCENARIO: Future Plus Project

JOB #: 0462-2023-010
DATE: 29-Mar-24
ENGINEER: C. Pincock

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT = 12,396
SPEED = 35
PK HR % = 10
NEAR LANE/FAR LANE DIST = 12
ROAD ELEVATION = 0
GRADE = 0
PK HR VOL = 1,240

RECEIVER INPUT DATA

RECEIVER DISTANCE = 30
DIST C/L TO WALL = 0
RECEIVER HEIGHT = 5
WALL DISTANCE FROM RECEIVER = 30
PAD ELEVATION = 0
ROADWAY VIEW: LF ANGLE -90
RT ANGLE 90
DF ANGLE 180

SITE CONDITIONS

AUTOMOBILES 10
MED TRUCKS 10 (HARD SITE=10, SOFT SITE=15)
HVY TRUCKS 10

WALL INFORMATION

HTH WALL = 0 FT
AMBIENT = 0
BARRIER = 0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	29.5	- -
MEDIUM TRUCKS=	4.00	29.4	- -
HEAVY TRUCKS =	8.01	29.5	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.3	65.0	64.2	59.4	67.2	67.7
MEDIUM TRUCKS	57.5	55.2	51.7	51.3	58.4	58.7
HEAVY TRUCKS	67.4	64.2	62.1	63.0	69.6	69.8
VEHICULAR NOISE	70.6	67.9	66.4	64.8	71.7	**72.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	48	153	484	1531
LDN	45	142	448	1418

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	Narbonne Ave			DATE:	29-Mar-24
SEGMENT	Lomita to 250th			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,395
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,340

RECEIVER INPUT DATA

RECEIVER DISTANCE =		40
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		40
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	38.3	- -
MEDIUM TRUCKS=	4.00	38.2	- -
HEAVY TRUCKS =	8.01	38.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.5	64.3	63.4	58.6	66.4	66.9
MEDIUM TRUCKS	56.7	54.4	50.9	50.6	57.6	57.9
HEAVY TRUCKS	66.6	63.4	61.4	62.2	68.8	69.0
VEHICULAR NOISE	69.8	67.1	65.7	64.0	71.0	**71.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	54	170	539	1703
LDN	50	158	499	1577

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan		JOB #:	0462-2023-010
ROADWAY	262nd St		DATE:	29-Mar-24
SEGMENT	East of Eshelman Ave		ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO: Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	264
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	20
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	26

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0 FT
AMBIENT =	0
BARRIER =	0 (0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	49.1	- -
MEDIUM TRUCKS=	4.00	49.0	- -
HEAVY TRUCKS =	8.01	49.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	44.2	41.9	41.1	36.3	44.0	44.6
MEDIUM TRUCKS	36.3	34.0	30.5	30.1	37.2	37.5
HEAVY TRUCKS	47.1	43.9	41.9	42.8	49.3	49.5
VEHICULAR NOISE	49.1	46.3	44.7	43.8	50.6	**50.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	2	6	20
LDN	1	2	6	18

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT:	Lomita General Plan			JOB #:	0462-2023-010
ROADWAY	Eshelman Ave			DATE:	29-Mar-24
SEGMENT	250th to 255th			ENGINEER:	C. Pincock
LOCATION:	Lomita, CA	SCENARIO:	Future Plus Project		

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	8,578
SPEED =	30
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	858

RECEIVER INPUT DATA

RECEIVER DISTANCE =		37
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		37
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10
MED TRUCKS	10
HVY TRUCKS	10

(HARD SITE=10, SOFT SITE=15)

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.708	0.146	0.146	0.958
MEDIUM TRUCKS	0.704	0.079	0.217	0.011
HEAVY TRUCKS	0.577	0.090	0.332	0.031

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	35.1	- -
MEDIUM TRUCKS=	4.00	35.0	- -
HEAVY TRUCKS =	8.01	35.1	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.0	60.8	59.9	55.2	62.9	63.4
MEDIUM TRUCKS	54.1	51.8	48.3	47.9	55.0	55.3
HEAVY TRUCKS	64.4	61.2	59.2	60.1	66.6	66.8
VEHICULAR NOISE	67.0	64.3	62.7	61.5	68.3	**68.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
CNEL	27	86	271	859
LDN	25	80	253	799