Appendix G

Noise/Vibration Assessment

THREE PROJECTS IN THE EAST JULIAN AREA OF SAN JOSÉ NOISE AND VIBRATION ASSESSMENT

San José, California

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INTRODUCTION

Three projects are proposed in the East Julian Area of San José, California. The details for each of the individual projects are described below:

- **Casa Inclusiva Residential and Commercial Project** – the project proposes a mixed-use development located at 1347 E. Julian Street in the City of San José, California. The 22,605 square foot (sf) project site is located near the U.S. Highway 101 (Highway 101)/McKee Road interchange and the future Little Portugal Five Wounds BART Station. The building would be a six-story structure with five residential floors over a combination of covered and uncovered at-grade parking and commercial on the ground floor.

- **Residencias Ariana** – the project proposes a six-story residential building located at 1298 Tripp Avenue in the City of San José, California. The existing apartment buildings currently at the site would be demolished as part of the proposed project. The proposed building would have one basement level and would include common open spaces on the first, third, and sixth floors. The proposed building would have a combination of studios, one-bedroom units, and two-bedroom units.

- **Vila De Camila Residential and Commercial Project** – the project proposes a mixed-use development located at 1325 E. Julian Street in the City of San José, California. The 2.79-acre project site is located near the Highway 101/McKee Road interchange and the future Little Portugal Five Wounds BART Station. The four buildings would be ten-story structures with nine residential floors over a first level podium with commercial and residential uses. Parking would be located in a common basement below the buildings, and each building would have a roof deck.

This report evaluates the project's potential to result in significant impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines. The report is divided into three sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise and groundborne vibration, summarizes applicable regulatory criteria, and discusses ambient noise conditions in the project vicinity; 2) the Plan Consistency Analysis section discusses noise and land use compatibility utilizing policies in the City's General Plan; and, 3) the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures, where necessary, to mitigate project impacts to a less-than-significant level.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is the intensity of sound waves combined with the reception

characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (*CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. to 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The *Day/Night Average Sound Level* (*DNL* or L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA DNL. Typically, the highest steady traffic noise level during the daytime is about equal to the DNL and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA DNL with open windows and 65 to 70 dBA DNL if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The DNL as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA DNL. At a DNL of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the DNL increases to 70 dBA, the percentage of the population highly annoyed increases to about 25 to 30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between a DNL of 60 to 70 dBA. Between a DNL of 70 to 80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the DNL is 60 dBA, approximately 30 to 35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing the amplitude of 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. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting 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 frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from “Historic and some old buildings” to “Modern industrial/commercial buildings”. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

TABLE 3 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.

Regulatory Background – Noise

This section describes the relevant guidelines, policies, and standards established by State Agencies, Santa Clara County, and the City of San José. The State CEQA Guidelines, Appendix G, are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. A summary of the applicable regulatory criteria is provided below.

Federal Government

Federal Transit Administration. The Federal Transit Administration (FTA) has identified construction noise thresholds in the *Transit Noise and Vibration Impact Assessment Manual*,[1] which limit daytime construction noise to 80 dBA L_{eq} at residential land uses and to 90 dBA L_{eq} at commercial and industrial land uses.

State of California

State CEQA Guidelines. The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

1 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

(a) 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 ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels;

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

2022 California Building Code, Title 24, Part 2. The current version of the California Building Code (CBC) requires interior noise levels in multi-family residential units attributable to exterior environmental noise sources to be limited to a level not exceeding 45 dBA DNL/CNEL in any habitable room.

2022 California Building Cal Green Code. The State of California established exterior sound transmission control standards for new non-residential buildings as set forth in the 2022 California Green Building Standards Code (Section 5.507.4.1 and 5.507.4.2). The sections that pertain to this project are as follows:

> **5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies exposed to the noise source making up the building envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the building falls within the 65 dBA L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway noise source, as determined by the local general plan noise element.
>
> **5.507.4.2 Performance method.** For buildings located, as defined by Section 5.507.4.1, wall and roof-ceiling assemblies exposed to the noise source making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level ($L_{eq\,(1\text{-}hr)}$) of 50 dBA in occupied areas during any hour of operation.

The performance method, which establishes the acceptable interior noise level, is the method typically used when applying these standards.

Santa Clara County

Santa Clara County Airport Land Use Commission Comprehensive Land Use Plan. The Comprehensive Land Use Plan (CLUP) adopted by the Santa Clara County Airport Land Use Commission contains standards for projects within the vicinity of Norman Y. Mineta San José International Airport which are relevant to this project;

4.3.2.1 Noise Compatibility Policies

N-1 The Community Noise Equivalent Level (CNEL) method of representing noise levels shall be used to determine if a specific land use is consistent with the CLUP.

N-2 In addition to the other policies herein, the Noise Compatibility Policies presented in Table 4-1 shall be used to determine if a specific land use is consistent with this CLUP.

N-3 Noise impacts shall be evaluated according to the Aircraft Noise Contours presented on Figure 5 (not shown in this report).

N-6 Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. Table 4-1 presents acceptable noise levels for other land uses in the vicinity of the Airport.

Table 4 - 1

NOISE COMPATIBILITY POLICIES

LAND USE CATEGORY	CNEL					
	55-60	60-65	65-70	70-75	75-80	80-85
Residential – low density Single-family, duplex, mobile homes	*	**	***	****	****	****
Residential – multi-family, condominiums, townhouses	*	**	***	****	****	****
Transient lodging - motels, hotels	*	*	**	****	****	****
Schools, libraries, indoor religious assemblies, hospitals, nursing homes	*	***	****	****	****	****
Auditoriums, concert halls, amphitheaters	*	***	***	****	****	****
Sports arena, outdoor spectator sports, parking	*	*	*	**	***	****
Playgrounds, neighborhood parks	*	*	***	****	****	****
Golf courses, riding stables, water recreation, cemeteries	*	*	*	**	***	****
Office buildings, business commercial and professional, retail	*	*	**	***	****	****
Industrial, manufacturing, utilities, agriculture	*	*	*	***	***	****
* Generally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Mobile homes may not be acceptable in these areas. Some outdoor activities might be adversely affected.					
** Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Outdoor activities may be adversely affected. Residential: Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.					
*** Generally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor activities are likely to be adversely affected.					
**** Unacceptable	New construction or development shall not be undertaken.					

Source: Based on General Plan Guidelines, Appendix C (2003), Figure 2 and Santa Clara County ALUC 1992 Land Use Plan, Table 1

Source: Comprehensive Land Use Plan Santa Clara County, Norman Y Mineta San José International Airport, May 25, 2011, Amended May 23, 2019.

City of San José

City of San José General Plan. The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of San José. The following policies are applicable to the proposed project:

EC-1.1 Locate new development in areas where noise levels are appropriate for the proposed uses. Consider federal, state, and City noise standards and guidelines as a part of new development review. Applicable standards and guidelines for land uses in San José include:

Interior Noise Levels

- The City's standard for interior noise levels in residences, hotels, motels, residential care facilities, and hospitals is 45 dBA DNL. Include appropriate site and building design, building construction and noise attenuation techniques in new development to meet this standard. For sites with exterior noise levels of 60 dBA DNL or more, an acoustical analysis following protocols in the City-adopted California Building Code is required to demonstrate that development projects can meet this standard. The acoustical analysis shall base required noise attenuation techniques on expected Envision General Plan traffic volumes to ensure land use compatibility and General Plan consistency over the life of this plan.

Exterior Noise Levels

- The City's acceptable exterior noise level objective is 60 dBA DNL or less for residential and most institutional land uses (Table EC-1). The acceptable exterior noise level objective is established for the City, except in the environs of the Norman Y. Mineta San José International Airport and the Downtown, as described below:

    - For new multi-family residential projects and for the residential component of mixed-use development, use a standard of 60 dBA DNL in usable outdoor activity areas, excluding balconies and residential stoops and porches facing existing roadways. Some common use areas that meet the 60 dBA DNL exterior standard will be available to all residents. Use noise attenuation techniques such as shielding by buildings and structures for outdoor common use areas. On sites subject to aircraft overflights or adjacent to elevated roadways, use noise attenuation techniques to achieve the 60 dBA DNL standard for noise from sources other than aircraft and elevated roadway segments.

Table EC-1: Land Use Compatibility Guidelines for Community Noise in San José

LAND USE CATEGORY	EXTERIOR NOISE EXPOSURE (DNL IN DECIBELS (DBA)) 55	60	65	70	75	80
1. Residential, Hotels and Motels, Hospitals and Residential Care[1]						
2. Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
3. Schools, Libraries, Museums, Meeting Halls, Churches						
4. Office Buildings, Business Commercial, and Professional Offices						
5. Sports Arena, Outdoor Spectator Sports						
6. Public and Quasi-Public Auditoriums, Concert Halls, Amphitheaters						

[1]Noise mitigation to reduce interior noise levels pursuant to Policy EC-1.1 is required.

Normally Acceptable:

- Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable:

- Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

Unacceptable:

- New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: Envision San José 2040 General Plan, Adopted November 1, 2011, As Amended on May 16, 2019.

EC-1.2 Minimize the noise impacts of new development on land uses sensitive to increased noise levels (Categories 1, 2, 3 and 6) by limiting noise generation and by requiring use of noise attenuation measures such as acoustical enclosures and sound barriers, where feasible. The City considers significant noise impacts to occur if a project would:

- Cause the DNL at noise sensitive receptors to increase by five dBA DNL or more where the noise levels would remain "Normally Acceptable;" or

- Cause the DNL at noise sensitive receptors to increase by three dBA DNL or more where noise levels would equal or exceed the "Normally Acceptable" level.

EC-1.3 Mitigate noise generation of new nonresidential land uses to 55 dBA DNL at the property line when located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses.

EC-1.6 Regulate the effects of operational noise from existing and new industrial and commercial development on adjacent uses through noise standards in the City's Municipal Code.

EC-1.7 Require construction operations within San José to use best available noise suppression devices and techniques and limit construction hours near residential uses per the City's Municipal Code. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would:

- Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months.

For such large or complex projects, a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses.

EC-1.11 Require safe and compatible land uses within the Norman Y. Mineta San José International Airport noise zone (defined by the 65 CNEL contour as set forth in State law) and encourage aircraft operating procedures that minimize noise.

Regulatory Background – Vibration

City of San José

City of San José General Plan. The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies to achieve the goal of minimizing vibration impacts on people, residences, and business operations in the City of San José. The following policies are applicable to the proposed project:

EC-2.3 Require new development to minimize continuous vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, including ruins and ancient monuments or building that are documented to be structurally weakened, a continuous vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to a building. A continuous vibration limit of 0.20 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. Equipment or activities typical of generating continuous vibration include but are not limited to: excavation equipment; static compaction equipment; vibratory pile drivers; pile-extraction equipment; and vibratory compaction equipment. Avoid use of impact pile drivers within 125 feet of any buildings, and within 300 feet of historical buildings, or buildings in poor condition. On a project-specific basis, this distance

of 300 feet may be reduced where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction. Transient vibration impacts may exceed a vibration limit of 0.08 in/sec PPV only when and where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction.

Existing Noise Environment

The project sites are located at 1325 East Julian Street, 1347 East Julian Street, and 1298 Tripp Avenue in the City of San José. The 1325 and 1347 East Julian Street sites are currently vacant, but the 1298 Tripp Avenue site is currently developed with an apartment building.

The 1325 East Julian Street site is bound by a walking trail to the west, residences and the 1347 Julian Street site to the east, a small city park to the north, and East Julian Street to the south. Opposite the walking trail to the west are light industrial uses and the Rocketship Discovery Prep School. The Kellogg Co. Corporate Campus is also located to the north of the site.

An existing residence at the intersection of East Julian Street and West Court adjoins the 1347 East Julian Street site to the east, and additional residential uses are located to the east and north. Warehouse and light industrial uses are located to the south of East Julian Street. The Kellogg Co. Corporate Campus and Rocketship Discovery Prep School are also located to the north of the site. The 1325 East Julian Street site is adjacent to the west.

The 1298 Tripp Avenue site is bound by Tripp Avenue to the north, North 26th Street to the west, Wooster Avenue to the east, and residences to the south. Opposite Tripp Avenue to the north and opposite North 26th Street to the west are multi-family residential buildings, and opposite Wooster Avenue to the east are light industrial uses.

The noise environment at the site and in the surrounding area results primarily from local vehicular traffic along the nearby East Julian Street overcrossing and Highway 101, which is located about 450 feet east of the closest project area. Some light industrial uses from the surrounding sites, other local roadway traffic, and intermittent jet aircraft associated with Norman Y. Mineta San José International Airport also contribute to the noise environment.

A noise monitoring survey consisting of three long-term (LT-1 through LT-3) and five short-term (ST-1 through ST-5) noise measurements was conducted at the sites between Tuesday, October 4, 2022, and Thursday, October 6, 2022. All measurement locations are shown in Figure 1.

Long-term noise measurement LT-1 was made approximately 20 feet north of the centerline of Tripp Avenue. Hourly average noise levels at LT-1 typically ranged from 52 to 62 dBA L_{eq} during daytime hours (7:00 a.m. and 10:00 p.m.) and from 46 to 53 dBA L_{eq} during nighttime hours (10:00 p.m. and 7:00 a.m.). The day-night average noise level was 59 dBA DNL on Wednesday, October 5, 2022. The daily trend in noise levels at LT-1 is shown in Figures A1 through A3 of Appendix A.

Long-term noise measurement LT-2 was made along the western boundary of the 1325 East Julian Street site, adjacent to the walking trail. Hourly average noise levels at LT-2 typically ranged from 56 to 65 dBA L_{eq} during daytime hours and from 56 to 60 dBA L_{eq} during nighttime hours. The day-night average noise level was 65 dBA DNL on Wednesday, October 5, 2022. The daily trend in noise levels at LT-2 is shown in Figures A4 through A6 of Appendix A.

Long-term noise measurement LT-3 was made approximately 160 feet north of the centerline of the main East Julian Street roadway and approximately 45 feet north of the centerline of the East Julian Street frontage road. Hourly average noise levels at LT-3 typically ranged from 60 to 69 dBA L_{eq} during daytime hours and from 55 to 65 dBA L_{eq} during nighttime hours. The day-night average noise level was 67 dBA DNL on Wednesday, October 5, 2022. The daily trend in noise levels at LT-3 is shown in Figures A7 through A9 of Appendix A.

Short-term noise measurements ST-1 and ST-2 were made on Tuesday, October 4, 2022, between 12:30 p.m. and 1:00 p.m. ST-3 through ST-5 were made on Thursday, October 6, 2022, between 11:30 a.m. and 12:20 p.m. Table 4 summarizes the noise measurement results measured at each site.

As shown in Figure 1, ST-1 was made in the northwestern corner of the 1347 East Julian Street site, which is located on the shared boundary with 1325 East Julian Street. The dominant noise source at ST-1 was traffic noise along East Julian Street, the frontage road, and nearby Highway 101. Traffic along nearby Highway 101 produced noise levels that ranged from 52 to 53 dBA, while local traffic along East Julian Street produced noise levels that ranged from 52 to 60 dBA. The 10-minute L_{eq} measured at ST-1 was 54 dBA. ST-2 was made along the eastern boundary of 1347 Julian Street at the shared property line with the existing residence to the east. ST-2 was made approximately 170 feet north of the centerline of the East Julian Street frontage road and approximately 65 feet west of the centerline of West Court. Traffic along East Julian Street and nearby Highway 101 dominated the noise environment at ST-2. Typical local traffic noise levels from East Julian Street ranged from 51 to 61 dBA, while traffic noise levels from nearby Highway 101 ranged from 51 to 58 dBA. Additional noise contributions from jet flyovers ranged from 57 to 66 dBA at ST-2. The 10-minute L_{eq} measured at ST-2 was 56 dBA.

ST-3 was made in the northwestern corner of the 1298 Tripp Avenue site, approximately 40 feet east of centerline of North 26th Street and approximately 70 feet south of the centerline of Tripp Avenue. Local traffic along North 26th Street dominated the noise environment at ST-3, with noise levels ranging from 53 to 58 dBA. Jet aircraft produced noise levels of 52 dBA at ST-3. The 10-minute L_{eq} measured at ST-3 was 51 dBA. ST-4 was made along the southern boundary of the 1298 Tripp Avenue site. Traffic noise from Tripp Avenue generated noise levels ranging from 48 to 53 dBA at ST-4. Other contributing noise sources included jets (50 to 55 dBA), cars starting and car doors slamming (52 to 58 dBA), human conversation (50 to 58 dBA), and distant music (46 to 49 dBA). The 10-minute L_{eq} measured at ST-4 was 50 dBA. ST-5 was made along the eastern boundary of the 1298 Tripp Avenue site, approximately 15 feet from the centerline of Wooster Avenue. Traffic along Wooster Avenue generated noise levels ranging from 61 to 73 dBA at ST-5. Other contributing noise sources included jets (55 dBA), cars starting and car doors slamming (55 to 58 dBA), auto shop activities (56 dBA), and a helicopter (55 dBA). The 10-minute L_{eq} measured at ST-5 was 59 dBA.

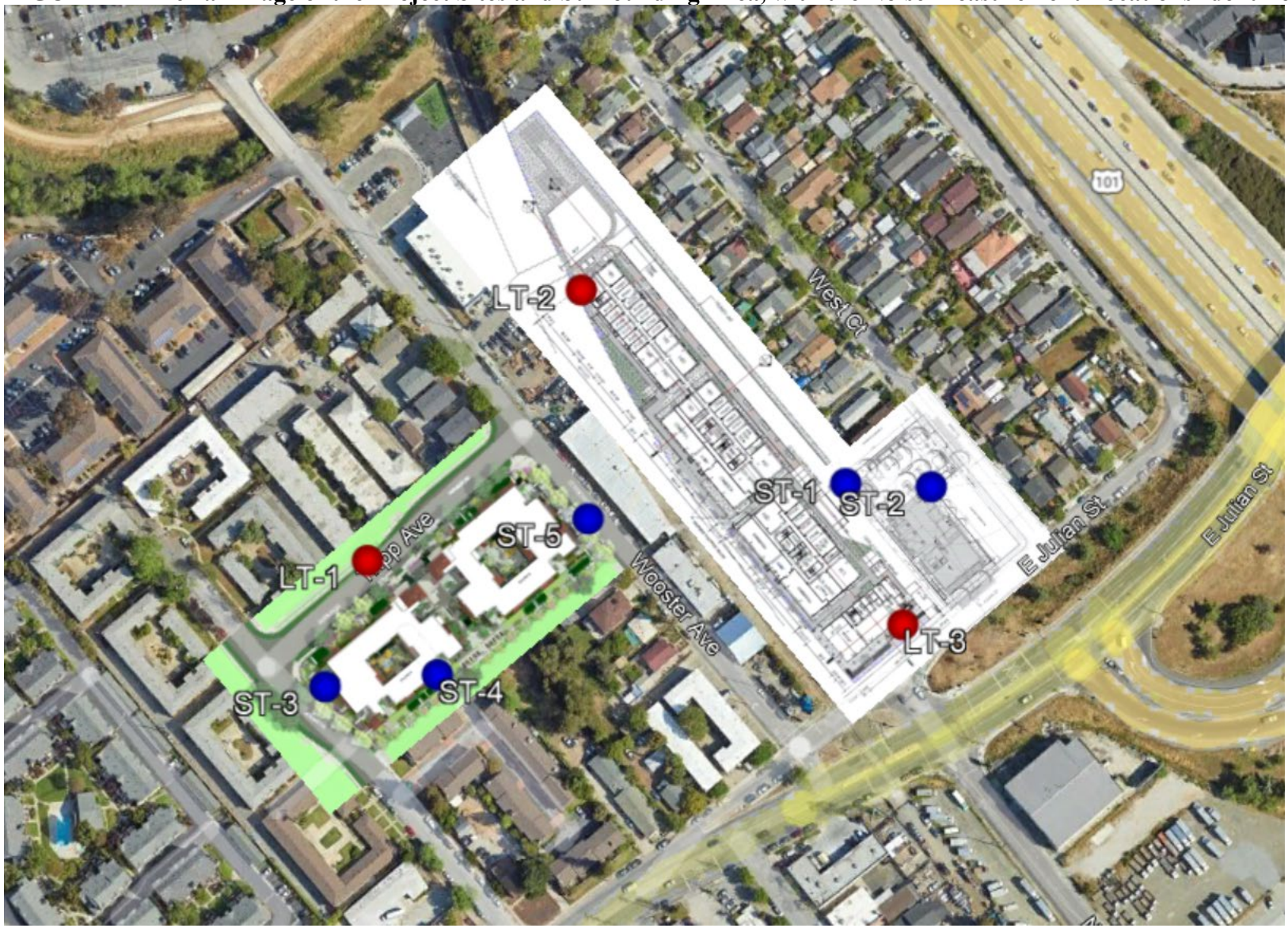
TABLE 4 Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	Date, Time	Measured Noise Level, dBA					
		L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-1: northwestern corner of the 1347 East Julian Street site	10/4/2022, 12:30-12:40 p.m.	60	59	56	54	52	54
ST-2: ~170 feet from the centerline of the East Julian Street frontage road and ~65 feet from the centerline of West Court	10/4/2022, 12:50-1:00 p.m.	66	63	57	55	53	56
ST-3: ~40 feet from the centerline of North 26th Street and ~70 feet from the centerline of Tripp Avenue	10/6/2022, 11:30-11:40 a.m.	69	60	54	45	44	51
ST-4: southern boundary of the 1298 Tripp Avenue site	10/6/2022, 11:50 a.m.-12:00 p.m.	60	56	53	49	47	50
ST-5: ~15 feet from the centerline of Wooster Avenue	10/6/2022, 12:10-12:20 p.m.	73	70	62	55	50	59

The noise survey results establish existing conditions for receptors near the ground. Measured noise from Highway 101 affecting the project site and vicinity is shielded by the soundwall along the highway, the intervening houses, and the East Julian Street/McKee Street overcrossing. The noise study completed for the *Envision San José 2040 General Plan Comprehensive Update EIR*[2] includes noise exposure contours for major roadways and highways. These contours, that do not account for acoustical shielding, show that the existing noise exposure in the vicinity of the project site is about 75 dBA DNL, representing the existing noise exposure at the upper floors of the proposed project nearest to the highway.

[2] *Envision San José 2040 General Plan Comprehensive Update EIR*, State Clearinghouse Number 2009072096, File number PP09-011, June 2011.

FIGURE 1 Aerial Image of the Project Sites and Surrounding Area, with the Noise Measurement Locations Identified



Source: Google Earth, 2022.

PLAN CONSISTENCY ANALYSIS

Noise and Land Use Compatibility

The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques and through appropriate land use policies in the City of San José. The applicable General Plan policies were presented in detail in the Regulatory Background section and are summarized below for the proposed project:

- The City's acceptable exterior noise level standard is 60 dBA DNL or less for the proposed residential land uses.

- The City's acceptable interior noise level standard is 45 dBA DNL or less for the proposed residential land uses.

- The City's acceptable exterior noise level standard is 65 dBA DNL or less for the proposed public open spaces.

- The City's acceptable exterior noise level standard is 70 dBA DNL or less for the proposed commercial land uses.

- The Cal Green Code standards specify an interior noise environment attributable to exterior sources not to exceed an hourly equivalent noise level ($L_{eq\ (1\text{-}hr)}$) of 50 dBA in occupied areas of nonresidential uses during any hour of operation.

The future noise environment at the site would continue to result primarily from vehicular traffic along East Julian Street, nearby Highway 101, and local roadways. The traffic study completed for the proposed projects included peak hour average daily traffic (ADT) along East Julian Street. Comparing the cumulative plus project traffic volumes to the existing traffic volumes resulted in less than a 1 dBA DNL increase under future conditions. According to the *Envision San José 2040 General Plan Comprehensive Update EIR*, the traffic noise level increase at the project site based on future volumes along Highway 101 would be up to 1 dBA DNL. Assuming worst-case conditions, a future noise level increase at the project site would be 1 dBA DNL.

Future Exterior Noise Environment

Casa Inclusiva (1347 East Julian Street)

The site plan shows an open space area on the ground-level along the southern façade, which would be associated with the commercial use. While each of the residential units show private balconies on floors two through six, private balconies would not be considered outdoor use areas subject to the exterior noise thresholds. There are no common use areas associated with the residential component of the Casa Inclusiva project. The ground-level open space associated with the commercial use would be subject to the City's 70 dBA DNL threshold at the center of the space.

The center of the outdoor space is approximately 40 feet from the centerline of the East Julian Street frontage road and approximately 165 feet from the centerline of East Julian Street. At this distance, the future exterior noise levels would be 68 dBA DNL, which would be below the City's normally acceptable threshold of 70 dBA DNL for commercial uses. The outdoor use areas proposed at Casa Inclusiva would be compatible with the future noise environment at the 1347 East Julian Street project site.

Residencias Ariana (1298 Tripp Avenue)

The site plan shows three ground-level courtyards, two common open spaces on the third floor, and three common open spaces on the sixth floor at the proposed building.

The ground-level courtyard located on the western portion of the building would be completely enclosed by the building and would not be exposed to direct traffic noise from surrounding roadways. The future exterior noise levels at the center of the western courtyard would be below the City's normally acceptable threshold of 60 dBA DNL for residential uses.

The ground-level courtyard located on the eastern portion of the building would be surrounded by the proposed building to the north, to the west, and to the south. Additionally, the site plan shows a six-foot tall wall along the eastern perimeter of the courtyard. Additional shielding would be provided by the existing residences located at the corner of Wooster Avenue and Tripp Avenue, which would remain under project conditions. The eastern courtyard would be adequately shielded from surrounding noise sources. The future exterior noise levels at the center of the eastern courtyard would be below the City's normally acceptable threshold of 60 dBA DNL for residential uses.

The third ground-level courtyard would be located at the center of the proposed building, just south of the basement access ramp. The center of this courtyard would be approximately 120 feet from the centerline of Tripp Avenue. Both third-floor common open spaces would be located just north of the ground-floor courtyard on the interior of the proposed building. The centers of both third-floor decks would be set back approximately 85 feet from the centerline of Tripp Avenue with partial shielding provided by the proposed building façades to the north of each common open space. Future exterior noise levels would be below 60 dBA DNL at the ground-level courtyard on the interior of the building and at both third-floor common open spaces.

The sixth-floor common open spaces would be elevated above the surrounding buildings and would have some exposure to Highway 101 and East Julian Street. While the future Vila De Camila (1325 East Julian Street) buildings, which are 10-stories tall, would provide some shielding for the Residencias Ariana buildings, the traffic noise from Highway 101 and East Julian Street would exceed 60 dBA DNL at elevated areas with direct line-of-sight. The sixth-floor common open spaces would be located in the northwest corner of the proposed building; on the interior of the proposed building along the southern façade; and along the eastern façade overlooking the ground-level courtyard on the eastern portion of the building. Each of these decks would have some direct exposure to Highway 101 and/or East Julian Street. Future exterior noise levels at the sixth-floor common open spaces would be at or below 60 dBA DNL.

Vila De Camila (1325 East Julian Street)

The site plan shows a public open space at the northernmost corner of the project site, adjacent to the Five Wounds Walking Trail; a covered patio associated with the ground-level commercial uses facing East Julian Street; a 10th-floor roof deck on the building nearest to East Julian Street; and roof decks on each of the proposed buildings at the Vila De Camila project site (1325 East Julian Street).

The public open space at the northernmost corner of the project site is represented by LT-2, which was dominated by non-traffic noise sources from the nearby Kellogg Co. Corporate Campus and light industrial land uses located opposite the walking trail. Future exterior noise levels at the public open space would be 66 dBA DNL, assuming worst-case conditions. This would exceed the City's normally acceptable threshold by 1 dBA DNL; however, this type of outdoor use area is intended to be open, especially to the adjacent walking trail. Therefore, constructing a barrier to shield the outdoor use area from surrounding stationary noise sources would not be recommended. Since the future exterior noise levels would exceed normally acceptable thresholds by up to 1 dBA DNL, it is recommended that the City permit the outdoor use area under conditionally acceptable conditions.

The ground-level commercial use facing East Julian Street would include a covered patio, and the center of this patio would be set back approximately 155 feet from the centerline of East Julian Street and approximately 45 feet from the centerline of the East Julian Street frontage roadway. At these distances, future exterior noise levels would be 68 dBA DNL, which would be below the City's 70 dBA DNL commercial use threshold.

The roof decks located on the 10th floor of the building nearest to East Julian Street and on the rooftops of the other three buildings on the Vila De Camila project site would be exposed to direct traffic noise exposure from both the East Julian Street/McKee Road overpass and Highway 101. The setback of the center of the 10th-floor roof deck would be approximately 185 feet north of the centerline of East Julian Street and approximately 615 feet east of the centerline of the nearest through lane along southbound Highway 101. Future noise levels at the 10th-floor roof deck at the building along East Julian Street would be 68 dBA DNL, and the future noise levels at the center of the roof decks on the other three buildings would range from 66 to 69 dBA DNL.

The residential outdoor use areas proposed at Vila De Camila would not be compatible with the future noise environment at the 1325 East Julian Street project site. Implementation of design measures should be considered to reduce future exterior noise levels at the residential roof decks.

Recommended Measures to Reduce Exterior Noise Levels

Methods available to reduce exterior noise levels at the roof decks associated with Vila De Camila (1325 East Julian Street) include site planning alternatives (e.g., using the proposed buildings as noise barriers), the construction of traditional noise barriers, or a combination of the above. The optimal method for the proposed project would be constructing barriers along the edge of the roof decks.

Due to setbacks of the Vila De Camila roof decks being 615 feet from Highway 101, noise levels at the centers of the roof decks would range from 60 to 63 dBA DNL with eight-foot-tall perimeter barriers, which still exceeds the 60 dBA DNL normally acceptable threshold. Taller barriers on rooftops would not be practical. Since the unattenuated noise levels at the roof decks and the addition of barriers with reasonable heights would result in future exterior noise within the range of conditionally acceptable noise levels, the City of San José could permit this scenario under conditionally acceptable conditions.

Final design recommendations shall be made when building designs have been finalized. An acoustical consultant shall be retained to review the final site plan and provide recommendations to reduce future exterior noise levels.

Future Interior Noise Environment

Residential Uses - Casa Inclusiva (1347 East Julian Street)
The Casa Inclusiva building is a six-story building with residences located on floors two through six. The upper floors would be exposed to traffic noise from East Julian Street and Highway 101. The southern building façade would be setback from the centerline of East Julian Street by approximately 165 feet, and the eastern building façade would be setback from the centerline of the nearest through lane of southbound Highway 101 by approximately 455 feet. At these distances and assuming direct line-of-sight in the upper floors, residential facades would be exposed to future exterior noise levels up to 76 dBA DNL.

Residential Uses – Residencias Ariana (1298 Tripp Avenue)
The Residencias Ariana buildings are both six-story buildings with residences located on each floor. The upper floors would be exposed to traffic noise from East Julian Street and Highway 101. The southern building façade would be setback from the centerline of East Julian Street by 420 feet or more, and the eastern façade of Building II would be setback from the centerline of the nearest through lane of southbound Highway 101 by approximately 875 feet. At these distances, residential facades would be exposed to future exterior noise levels ranging from 65 to 72 dBA DNL.

Residential Uses – Vila De Camila (1325 East Julian Street)
The Vila De Camila buildings are 10-story buildings with residences located on each floor. The upper floors would be exposed to traffic noise from East Julian Street and Highway 101. The southern building façade of the building nearest to East Julian Street would be setback from the centerline of East Julian Street by approximately 155 feet, and the eastern façades of each building would be setback from the centerline of the nearest through lane of southbound Highway 101 by approximately 570 to 585 feet. At these distances, residential façades would be exposed to future exterior noise levels ranging from 68 to 74 dBA DNL.

Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA DNL, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce interior noise levels to acceptable

levels by closing the windows to control noise. Where noise levels exceed 65 dBA DNL, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion.

Assuming windows to be partially open for ventilation, future interior noise levels would be up to 61 dBA DNL at the residential interiors at Casa Inclusiva; up to 57 dBA DNL at the residential interiors at Residencias Ariana; and up to 59 dBA DNL at the residential interiors at Vila De Camila. To meet the interior noise requirements set forth by the City of San José of 45 dBA DNL, implementation of noise insulation features would be required.

Commercial Uses – All Three Sites

Ground-level commercial retail uses are proposed as part of each project site. From data collected at each of the long-term noise measurements and the conservative 1 dBA increase estimated under future project conditions, the future daytime hourly average noise level during operational hours at the ground-level commercial uses at each of the project sites would range from 53 to 70 dBA L_{eq}, with future day-night average noise levels up to 68 dBA DNL.

Standard construction materials for commercial uses would provide about 25 dBA of noise reduction in interior spaces. The inclusion of adequate forced-air mechanical ventilation systems is normally required so that windows may be kept closed at the occupant's discretion and would provide an additional 5 dBA reduction. The standard construction materials in combination with forced-air mechanical ventilation would satisfy the daytime threshold of 50 dBA $L_{eq(1\text{-}hr)}$.

Noise Insulation Features to Reduce Future Interior Noise Levels

The following noise insulation features shall be incorporated into the proposed project to reduce interior noise levels to 45 dBA DNL or less at residential interiors:

- Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, for all residential units at the Casa Inclusiva, Residencias Ariana, and Vila De Camila sites, so that windows can be kept closed at the occupant's discretion to control interior noise and achieve the interior noise standards.

- **Preliminary** calculations indicate that residential units at the Casa Inclusiva building and at each building at the Vila De Camila site would require windows and doors with a minimum rating of 31 to 35 STC with adequate forced-air mechanical ventilation to meet the interior noise threshold of 45 dBA DNL.

- **Preliminary** calculations indicate that residential units located at the Residencias Ariana buildings would require windows and doors with a minimum rating of 28 to 31 STC with adequate forced-air mechanical ventilation to meet the interior noise threshold of 45 dBA DNL.

The implementation of these noise insulation features would reduce interior noise levels to 45 dBA DNL or less at residential uses.

Conditions of Approval

The project applicant shall prepare final design plans that incorporate building design and acoustical treatments to ensure compliance with State Building Codes and City noise standards. A project-specific acoustical analysis shall be prepared to ensure that the design incorporates controls to reduce interior noise levels to 45 dBA DNL or lower within the residential units and to 50 dBA $L_{eq(1\text{-}hr)}$ or lower within commercial interiors. The project applicant shall conform with any special building construction techniques requested by the City's Building Department, which may include sound-rated windows and doors, sound-rated wall constructions, and acoustical caulking.

NOISE IMPACTS AND MITIGATION MEASURES

This section describes the significance criteria used to evaluate project impacts under CEQA, provides a discussion of each project impact, and presents mitigation measures, where necessary, to reduce project impacts to less-than-significant levels.

Significance Criteria

The following criteria were used to evaluate the significance of environmental noise resulting from the project:

(a) 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 ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels;

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Impact 1a: **Temporary Construction Noise.** Existing noise-sensitive land uses would be exposed to a temporary increase in ambient noise levels for a period of longer than one year. According to the City's General Plan, this temporary noise increase would be **significant**.

At each project site, construction would occur Monday through Friday 7:00 a.m. to 7:00 p.m. Construction at the Casa Inclusiva (1347 East Julian Street) site would start in early October 2024 and is expected to be completed by the end of September 2025 (12 months). Construction for the Vila De Camila site (1325 East Julian Street) begins the same month (September 2025), concluding at the beginning of May 2028 (33 months). Construction activities at the Residencias Ariana site (1298 Tripp Avenue) are expected to start in early June 2027, and all exterior construction is expected to conclude in early July 2028 (13 months). The construction schedule shows a hiatus

before interior construction starts in early February 2029, and all interior work would conclude by early October 2029 (8 months). Continuous construction activities are expected for about 3 years and 9 months, with 8 months of additional interior construction work at the Residencias Ariana site (1298 Tripp Avenue) site after a 7-month break. Construction phases for each project would include demolition (as needed), site preparation, grading, trenching, building construction, architectural coating, and paving (as needed). During each phase of construction and at each site, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Policy EC-1.7 of the City's General Plan requires that all construction operations within the City to use best available noise suppression devices and techniques and to limit construction hours near residential uses per the Municipal Code allowable hours, which are between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday when construction occurs within 500 feet of a residential land use. Further, the City considers significant construction noise impacts to occur if a project that is located within 500 feet of residential uses or 200 feet of commercial or office uses would involve substantial noise-generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months.

While the City of San José does not establish noise level thresholds for construction activities, this analysis uses the noise limits established by the Federal Transit Administration (FTA) to identify the potential for impacts due to substantial temporary construction noise. The FTA identifies construction noise limits in the *Transit Noise and Vibration Impact Assessment Manual*.[3] During daytime hours, an exterior threshold of 80 dBA L_{eq} shall be enforced at residential land uses and 90 dBA L_{eq} shall be enforced at commercial and industrial land uses.

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. The hauling of excavated materials and construction materials would generate truck trips on local roadways, as well. For the proposed project, pile driving, which generates excessive noise levels, is not expected. The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet (see Table 5) from the equipment. Table 6 shows the hourly average noise level ranges, by construction phase, typical for various types of projects. Hourly average noise levels generated by construction are about 72 to 88 dBA L_{eq} for residential and mixed-use buildings, measured at a distance of 50 feet from the center of a busy construction site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often result in lower construction noise levels at distant receptors.

3 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

Equipment expected to be used in each construction phase for the Casa Inclusiva project (1347 East Julian Street), the Vila De Camila project (1325 East Julian Street), and the Residencias Ariana project (1298 Tripp Avenue) are summarized in Tables 7 through 9, respectively, along with the quantity of each type of equipment and the reference noise level at 50 feet assuming the operation of the two loudest pieces of construction equipment for each construction phase.

Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (RCNM) was used to calculate the hourly average noise levels for each phase of construction, assuming the two loudest pieces of equipment would operate simultaneously, as recommended by the FTA for construction noise evaluations. This construction noise model includes representative sound levels for the most common types of construction equipment and the approximate usage factors of such equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig"). The usage factors represent the percentage of time that the equipment would be operating at full power.

TABLE 5 Construction Equipment 50-Foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:

[1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

[3] Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

TABLE 6 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I – All pertinent equipment present at site.
II – Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

TABLE 7 Estimated Construction Noise Levels for the Casa Inclusiva Project (1347 East Julian Street) at a Distance of 50 feet

Phase of Construction	Total Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet
Site Preparation	7 days	Grader (1) [a] Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)[a]	84 dBA L_{eq}
Grading/ Excavation	11 days	Grader (1)[a] Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1) [a]	84 dBA L_{eq}
Trenching/ Foundation	23 days	Tractor/Loader/Backhoe (1) [a] Excavator (1) [a]	82 dBA L_{eq}
Building – Exterior	174 days	Crane (1) Forklift (1) Generator Set (1) [a] Tractor/Loader/Backhoe (1) [a] Welder (1)	82 dBA L_{eq}
Building – Interior/ Architectural Coating	114 days	Air Compressor (1) [a] Aerial Lift (1)[a]	75 dBA L_{eq}
Paving	24 days	Cement and Mortar Mixer (1)[a] Roller (1)[a]	77 dBA L_{eq}

[a] Denotes two loudest pieces of construction equipment per phase.

TABLE 8 Estimated Construction Noise Levels for the Vila De Camila Project (1325 Each Julian Street) at a Distance of 50 feet

Phase of Construction	Total Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet
Demolition	42 days	Concrete/Industrial Saw (2) [a] Excavator (2) Rubber-Tired Dozer (2) Tractor/Loader/Backhoe (2)[a]	85 dBA L_{eq}
Site Preparation	45 days	Grader (2) [a] Rubber-Tired Dozer (2) Tractor/Loader/Backhoe (2)[a]	84 dBA L_{eq}
Grading/ Excavation	44 days	Excavator (2) Grader (2)[a] Rubber-Tired Dozer (2) Concrete/Industrial Saw (2) [a] Tractor/Loader/Backhoe (2)	85 dBA L_{eq}
Trenching/ Foundation	218 days	Tractor/Loader/Backhoe (2) [a] Excavator (2) Concrete Pump (2)[a]	82 dBA L_{eq}
Building – Exterior	326 days	Crane (2) Forklift (1) Generator Set (2) [a] Tractor/Loader/Backhoe (2) [a] Welder (4)	82 dBA L_{eq}
Building – Interior/ Architectural Coating	195 days	Air Compressor (4) [a] Aerial Lift (4)[a]	75 dBA L_{eq}
Paving	174 days	Paver (2) Paving Equipment (2)[a] Roller (1) Tractor/Loader/Backhoe (1)[a]	84 dBA L_{eq}

[a] Denotes two loudest pieces of construction equipment per phase.

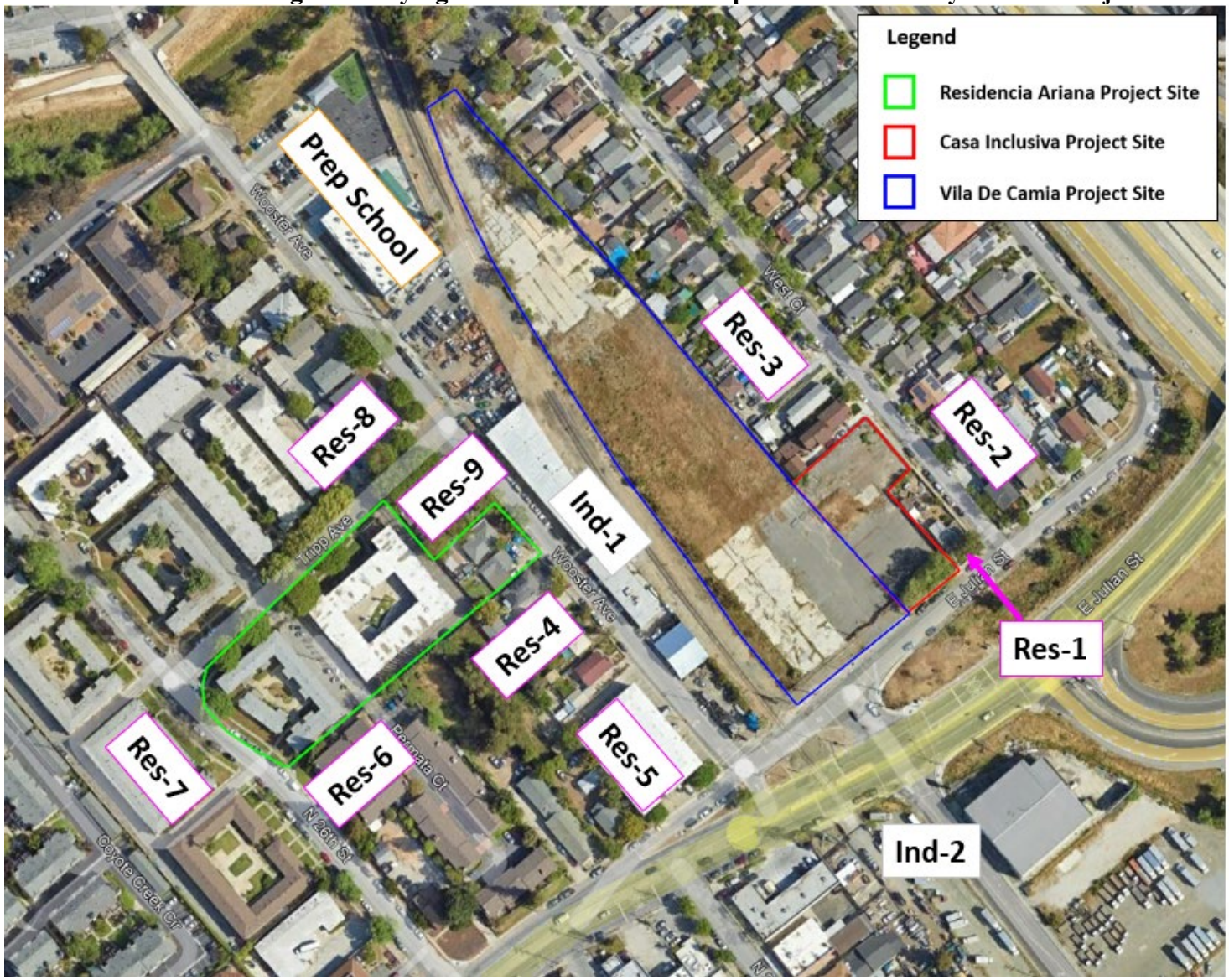
TABLE 9 Estimated Construction Noise Levels for the Residencias Ariana Project (1298 Tripp Avenue) at a Distance of 50 feet

Phase of Construction	Total Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet
Demolition	45 days	Concrete/Industrial Saw (4) [a] Excavator (4) Rubber-Tired Dozer (2) Tractor/Loader/Backhoe (2)[a]	85 dBA L_{eq}
Site Preparation	44 days	Grader (2) [a] Rubber-Tired Dozer (2) Tractor/Loader/Backhoe (2)[a]	84 dBA L_{eq}
Grading/ Excavation	21 days	Excavator (2) Grader (2)[a] Rubber-Tired Dozer (2) Concrete/Industrial Saw (2) [a] Tractor/Loader/Backhoe (2)	85 dBA L_{eq}
Trenching/ Foundation	110 days	Tractor/Loader/Backhoe (2) [a] Excavator (2) Concrete Pump (4)[a]	82 dBA L_{eq}
Building – Exterior	305 days	Crane (1) Forklift (2) Generator Set (2) [a] Tractor/Loader/Backhoe (2) [a] Welder (2)	82 dBA L_{eq}
Building – Interior/ Architectural Coating	181 days	Air Compressor (2) [a] Aerial Lift (2)[a]	75 dBA L_{eq}

[a] Denotes two loudest pieces of construction equipment per phase.

Noise-sensitive receptors in the vicinity of all three sites are identified in Figure 2. Each of the receptors identified in the figure would have varying levels of exposure to each of the individual construction sites. Temporary construction noise was assessed at the receiving property lines of all existing noise-sensitive receptors in the area that would have direct exposure to each individual site, which are identified in Figure 2. Tables 10 through 12 summarize the hourly average noise levels calculated from all construction equipment operating simultaneously in each phase at the Casa Inclusiva project site (1347 East Julian Street), the Vila De Camila project site (1325 East Julian Street), and the Residencias Ariana project site (1298 Tripp Avenue), respectively, when the construction source level is positioned at the center of the respective sites and propagated to the receiving property lines.

FIGURE 2 Aerial Image Identifying the Noise-Sensitive Receptors in the Vicinity of Each Project Site



Source: Google Earth, 2023.

TABLE 10 Estimated Construction Noise Levels for the Casa Inclusiva Project (1347 East Julian Street) at the Receiving Property Lines in the Project Vicinity

Phase of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)								
	Res-1 (40ft)	Res-2 (120ft)	Res-3 (90ft)	Ind-1 (275ft)	Prep School (575ft)	Ind-2 (325ft)	Res-4 & Res-5 (360ft)	Res-6 through Res-8 (600ft+)	Res-9 (490ft)
Site Preparation	87	77	79	70	63	68	67	53[a]	55[a]
Grading/ Excavation	87	77	79	70	63	68	67	53[a]	55[a]
Trenching/ Foundation	84	74	77	67	61	65	65	50[a]	52[a]
Building –Exterior	85	75	78	68	62	67	66	51[a]	53[a]
Building – Interior/ Architectural Coating	77	67	70	60	54	58	58	43[a]	45[a]
Paving	79	69	72	62	56	61	60	45[a]	47[a]

[a] Conservative 10 dBA attenuation was applied for intervening buildings.

TABLE 11 Estimated Construction Noise Levels for the Vila De Camila Project (1325 East Julian Street) at the Receiving Property Lines in the Project Vicinity

Phase of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)								
	Res-3 (85ft)	Res-1 & Res-2 (165ft)	Ind-1 (145ft)	Prep School (115ft)	Ind-2 (470ft)	Res-4 & Res-5 (210ft)	Res-8 (240ft)	Res-6 & Res-7 (460ft+)	Res-9 (335ft)
Demolition	84	69[a]	80	82	69	66[a]	65[a]	60[a]	72
Site Preparation	83	67[a]	78	80	68	65[a]	64[a]	58[a]	71
Grading/ Excavation	86	70[a]	82	83	71	68[a]	65[a]	61[a]	74
Trenching/ Foundation	82	66[a]	77	79	67	64[a]	63[a]	57[a]	70
Building – Exterior	81	66[a]	77	79	67	64[a]	62[a]	57[a]	70
Building – Interior/ Architectural Coating	76	60[a]	71	73	61	58[a]	57[a]	51[a]	64

Phase of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)								
	Res-3 (85ft)	Res-1 & Res-2 (165ft)	Ind-1 (145ft)	Prep School (115ft)	Ind-2 (470ft)	Res-4 & Res-5 (210ft)	Res-8 (240ft)	Res-6 & Res-7 (460ft+)	Res-9 (335ft)
Paving	81	65[a]	76	78	66	63[a]	62[a]	56[a]	69

[a] Conservative 10 dBA attenuation was applied for intervening buildings.

TABLE 12 Estimated Construction Noise Levels for the Residencias Ariana Project (1298 Tripp Avenue) at the Receiving Property Lines in the Project Vicinity

Phase of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)								
	Res-4 & Res-6 (85ft)	Res-7 (275ft)	Res-8 (135ft)	Ind-1 (235ft)	Res-5 (265ft)	Prep School (325ft)	Res-1, Res-2 & Res-3 (525ft+)	Ind-2 (520ft)	Res-9 (150ft)
Demolition	86	76	82	78	66[a]	75	61[a]	61[a]	81
Site Preparation	83	73	79	74	63[a]	71	57[a]	57[a]	78
Grading/ Excavation	86	75	82	77	66[a]	74	60[a]	60[a]	81
Trenching/ Foundation	83	73	79	74	63[a]	71	57[a]	57[a]	78
Building – Exterior	81	71	77	72	61[a]	69	55[a]	55[a]	76
Building – Interior/ Architectural Coating	73	63	69	64	53[a]	61	47[a]	47[a]	68

[a] Conservative 10 dBA attenuation was applied for intervening buildings.

As shown in Tables 7 through 9, construction noise levels would intermittently range from 75 to 87 dBA L_{eq} when activities occur approximately 40 to 50 feet from nearby receptors. When focused near the center of the project site, construction noise levels would typically range from 43 to 87 dBA L_{eq} at residential and school land uses and from 58 to 81 dBA L_{eq} at industrial uses. Table 13 summarizes the construction noise level results in Tables 10 through 12 for each receptor. As shown in Table 13, when centered near the center of the site, FTA's residential threshold of 80 dBA L_{eq} would be exceeded at seven existing noise-sensitive receptors, and at each of these receptors, existing ambient noise levels would be exceeded by 5 dBA or more. The following summarize the impacted receptors:

- Res-1 during construction of Casa Inclusiva (1347 East Julian Street) from October 2024 to September 2025 – FTA threshold of 80 dBA L_{eq} is exceeded by 7 dBA for a total of 12 months;

- Res-3 during construction of Vila De Camila (1325 East Julian Street) from September 2025 to May 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 6 dBA for a total of 33 months;

- Prep School during construction of Vila De Camila (1325 East Julian Street) from September 2025 to May 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 3 dBA for a total of 33 months;

- Res-4 during the construction of Residencias Ariana (1298 Tripp Avenue) from June 2027 to July 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 6 dBA for a total of 13 months;

- Res-6 during the construction of Residencias Ariana (1298 Tripp Avenue) from June 2027 to July 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 6 dBA for a total of 13 months;

- Res-8 during the construction of Residencias Ariana (1298 Tripp Avenue) from June 2027 to July 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 2 dBA for a total of 13 months;

- Res-9 during the construction of Residencias Ariana (1298 Tripp Avenue) from June 2027 to July 2028 – FTA threshold of 80 dBA L_{eq} is exceeded by 1 dBA for a total of 13 months;

Res-1 would be exposed to this temporary noise level increase over FTA thresholds for a period not exceeding one year. The remaining residences and Prep School would be exposed to a temporary increase over FTA thresholds of 1 to 6 dBA for a period of 13 to 33 months. This would be considered a significant impact according to Policy EC-1.7 of the City's General Plan.

TABLE 13 Summary of Construction Noise Levels Expected at Each Receiving Property Line in the Project Vicinity

Receptor	Casa Inclusiva (1347 East Julian Street)	Vila De Camila (1325 East Julian Street)	Residencias Ariana (1298 Tripp Avenue)	Total Duration Exceeding FTA Thresholds & Exceeding Ambient by 5 dBA or more
Res-1[a]	77 to **87** dBA L_{eq}	60 to 70 dBA L_{eq}	47 to 61 dBA L_{eq}	10/2024 to 9/2025 (Casa Inclusiva)
Res-2[a]	67 to 77 dBA L_{eq}	60 to 70 dBA L_{eq}	47 to 61 dBA L_{eq}	N/A
Res-3[b]	70 to 79 dBA L_{eq}	76 to **86** dBA L_{eq}	47 to 61 dBA L_{eq}	9/2025 to 5/2028 (Vila De Camila)
Res-4[b]	58 to 67 dBA L_{eq}	58 to 68 dBA L_{eq}	73 to **86** dBA L_{eq}	6/2027 to 7/2028 (Residencias Ariana)
Res-5[a]	58 to 67 dBA L_{eq}	58 to 68 dBA L_{eq}	53 to 66 dBA L_{eq}	N/A
Res-6[c]	43 to 53 dBA L_{eq}	51 to 61 dBA L_{eq}	73 to **86** dBA L_{eq}	6/2027 to 7/2028 (Residencias Ariana)
Res-7[c]	43 to 53 dBA L_{eq}	51 to 61 dBA L_{eq}	63 to 76 dBA L_{eq}	N/A
Res-8[c]	43 to 53 dBA L_{eq}	57 to 67 dBA L_{eq}	69 to **82** dBA L_{eq}	6/2027 to 7/2028 (Residencias Ariana)
Res-9[c]	45 to 55 dBA L_{eq}	64 to 74 dBA L_{eq}	68 to **81** dBA L_{eq}	6/2027 to 7/2028 (Residencias Ariana)
Prep School[b]	54 to 63 dBA L_{eq}	73 to **83** dBA L_{eq}	61 to 75 dBA L_{eq}	9/2025 to 5/2028 (Vila De Camila)
Ind-1[b]	60 to 70 dBA L_{eq}	71 to 81 dBA L_{eq}	64 to 78 dBA L_{eq}	N/A
Ind-2[a]	58 to 68 dBA L_{eq}	61 to 71 dBA L_{eq}	47 to 61 dBA L_{eq}	N/A

[a] Receptor's existing daytime ambient noise environment is represented by LT-3, which ranges from 60 to 69 dBA L_{eq}.
[b] Receptor's existing daytime ambient noise environment is represented by LT-2, which ranges from 56 to 65 dBA L_{eq}.
[c] Receptor's existing daytime ambient noise environment is represented by LT-1, which ranges from 52 to 62 dBA L_{eq}.

Mitigation Measure 1a:

Pursuant to this General Plan Policy, a construction noise logistics plan shall be prepared that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses. Project construction operations shall use best available noise suppression devices and techniques including, but not limited to the following:

- Limit construction hours to between 7:00 a.m. and 7:00 p.m., Monday through Friday, unless permission is granted with a development permit or other planning approval. No construction activities are permitted on the weekends at sites within 500 feet of a residence. Construction outside of these hours may be approved through a development permit based on a site-specific "construction noise mitigation plan" and a finding by the Director of PBCE that the construction noise mitigation plan is adequate to prevent noise disturbance of affected residential uses.

- Construct solid plywood fences around ground level construction sites adjacent to operational businesses, residences, or other noise-sensitive land uses. A temporary 10- to 12-foot noise barrier would provide 5 to 6 dBA attenuation for adjacent sensitive land uses when construction activities occur at the ground level.

- Erect a temporary noise control blanket barrier, where feasible, at the property line or on scaffolding just outside the proposed buildings facing the residences represented by Res-3 in Figure 2 during construction of the upper floors of buildings at Vila De Camila (1325 East Julian Street) would control construction noise when activities do not occur at the ground level. Since construction of Vila De Camila (1325 East Julian Street) would be constructed in phases, with Buildings C and D (located at the rear of the site) to be built before Buildings A and B (located at the front of the site), the temporary noise control blanket barriers shall be installed at residences nearest to the active construction activities only.

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Prohibit unnecessary idling of internal combustion engines.

- Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- Notify all adjacent business, residences, and other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses and nearby residences.

- Designate a "disturbance coordinator" who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

With the implementation of GP Policy EC-1.7 and the above mitigation measures, temporary construction noise levels would be reduced by up to 6 dBA at all impacted receptors. This would reduce the temporary noise level increase to below FTA thresholds throughout the duration of project construction. The implementation of the above mitigation measures would reduce the temporary construction impact to a less-than-significant level at the noise-sensitive receptors in the vicinity.

Impact 1b: **Permanent Noise Level Increase/Exceed Applicable Standards.** The proposed project would not result in a substantial permanent noise level increase at the noise-sensitive receptors in the project vicinity. Further, operational noise levels generated by the proposed project would not exceed applicable standards established by the City of San José. This is a **less-than-significant** impact.

According to Policy EC-1.2 of the City's General Plan, a significant permanent noise increase would occur if the project would substantially increase noise levels at existing sensitive receptors in the project vicinity. A substantial increase would occur if: a) the noise level increase is 5 dBA DNL or greater, with a future noise level of less than 60 dBA DNL at residences; or b) the noise level increase is 3 dBA DNL or greater, with a future noise level of 60 dBA DNL or greater at residences. Noise levels at sensitive land uses exceed 60 dBA DNL; therefore, a significant impact would occur if traffic or operational noise due to the proposed project would permanently increase ambient levels by 3 dBA DNL.

Under the City's Noise Element, noise levels from nonresidential building equipment shall not exceed a noise level of 55 dBA DNL at receiving noise-sensitive land uses. While the majority of each project would include residential units, each proposed project does include ground-level commercial uses; conservatively, Policies EC-1.3 and EC-1.6 shall be enforced for each proposed project.

The City's General Plan does not include thresholds for equipment noise generated at residential buildings; however, the Municipal Code requires mechanical equipment noise to be maintained at or below 55 dBA at receiving residential properties when operational noise is generated at residential

uses. Additionally, Section 20.40.600 of the Municipal Code includes a noise limit of 60 dBA on receiving nonresidential uses.

Project Traffic Increase

The traffic study included peak hour turning movements for the existing traffic volumes and existing plus project traffic volumes at eight intersections in the vicinity of the project sites. By comparing the existing plus project traffic scenario to the existing scenario, the total contribution of the Casa Inclusiva, Residencias Ariana, and Vila De Camila projects to the overall noise level increase was determined to be 2 dBA DNL or less along each roadway segment in the project vicinity, as summarized in Table 14. Therefore, the project would not result in a permanent noise increase of 3 dBA DNL or more at noise-sensitive receptors in the project vicinity.

TABLE 14 Estimated Noise Level Increases of Existing Plus Project Traffic Volumes Over Existing Volumes at Receptors in the Project Vicinity

Roadway	Segment	Estimated Noise Level Increase
East Julian Street/ McKee Road	East of North 33rd Street	0 dBA DNL
	North 33rd Street to Highway 101 northbound ramps	0 dBA DNL
	Highway 101 northbound ramps to Highway 101 southbound ramps	0 dBA DNL
	Highway 101 southbound ramps to North 28th Street	0 dBA DNL
	North 28th Street to Wooster Avenue	0 dBA DNL
	Wooster Avenue to North 24th Street	0 dBA DNL
	West of North 24th Street	0 dBA DNL
East Julian Street frontage roadway	East of West Court	0 dBA DNL
	West of West Court	0 dBA DNL
East Santa Clara Street	East of North 28th Street	0 dBA DNL
	West of North 28th Street	0 dBA DNL
West Court	North of East Julian Street frontage roadway	0 dBA DNL
Wooster Avenue	North of East Julian Street/McKee Road	2 dBA DNL
	South of East Julian Street/McKee Road	0 dBA DNL
North 33rd Street	North of East Julian Street/McKee Road	0 dBA DNL
	South of East Julian Street/McKee Road	0 dBA DNL

Roadway	Segment	Estimated Noise Level Increase
North 28th Street	North of East Julian Street/McKee Road	2 dBA DNL
	East Julian Street/McKee Road to East Santa Clara Street	1 dBA DNL
	South of East Santa Clara Street	0 dBA DNL
North 24th Street	South of East Julian Street/McKee Road	0 dBA DNL
Highway 101 northbound on-ramp	At East Julian Street/McKee Road	0 dBA DNL
Highway 101 northbound off-ramp	At East Julian Street/McKee Road	0 dBA DNL
Highway 101 southbound on-ramp	At East Julian Street/McKee Road	0 dBA DNL

Mechanical Equipment

Casa Inclusiva (1347 East Julian Street)

The site plan for the Casa Inclusiva project at 1347 East Julian Street shows the trash enclosure on the ground level of the building within the first-floor parking structure. Just north of the entrance to the parking structure along West Court, the site plan also shows a transformer located on the ground level of the 1347 East Julian Street project site.

Transformers up to 1,000 kVA typically generate noise levels up to 64 dB, as measured at 1 meter (3.28 feet). Assuming the transformer runs continuously during daytime and nighttime hours, the day-night average noise level would be 70 dBA DNL at a distance of 1 meter (3.28 feet). The site plan shows an eight-foot-tall perimeter precast concrete wall located along the northern and eastern property lines of the Casa Inclusiva project site, as well as along the shared property lines with 1349 East Julian Street (identified in Figure 2 as Res-1). Assuming the wall is solid from ground to top, with no cracks or gaps, the wall would provide partial shielding for ground-level sources, such as the transformer. Conservatively, 5 dBA attenuation is assumed. However, the future receptors located at the upper floors of the buildings at 1325 East Julian Street would have direct line-of-sight to the transformer, and conservatively, no attenuation is assumed at these receptors.

Heating, ventilation, and air conditioning (HVAC) units are typically part of residential buildings. For the proposed project, packaged terminal air conditioners (PTAC) style units will be mounted inside each residential unit and would be self-contained. No exterior condensers would be required for the proposed building. These types of units would be well shielded from off-site receptors surrounding the site. Noise would not be audible at the project boundaries.

The only noise-generating mechanical equipment audible at the project property lines would be noise from the exterior transformer. Table 15 summarizes the transformer noise levels calculated at the property lines of the receptors surrounding the Casa Inclusiva project site, with appropriate attenuation assumed. Note, the following receptors would not be subject to future operational noise

from the Casa Inclusiva project site due to distance and shielding from the future Vila De Camila project (1325 East Julian Street): Ind-1, Prep School, Res-4 through Res-8. Table 15 summarizes operational noise levels at receptors Res-1 through Res-2, Ind-2, and the future residences located at Vila De Camila (1325 East Julian Street).

TABLE 15 Estimated Mechanical Equipment Noise Levels for the Casa Inclusiva Project (1347 East Julian Street)

Receptor	Distance from Transformer	Hourly L_{eq}, dBA	DNL, dBA	Noise Level Increase, dBA DNL
Res-1	80 feet	31[a]	38[a]	0
Res-2	55 feet	40	46	0
Res-3	10 feet	49[a]	56[a]	0
Ind-2	420 feet	< 20[a]	23[a]	0
Future Vila De Camila (1325 East Julian Street)	120 feet	33	39	N/A[b]

[a] A conservative 5 dBA reduction was applied to the noise levels due to the eight-foot concrete perimeter wall around the project site.
[b] Noise level increases would not occur at the future receptors at the Vila De Camila (1325 East Julian Street) since the future receptors would not be exposed to existing ambient conditions.

Based on the estimated noise levels in Table 15, mechanical equipment noise levels would not exceed the City's General Plan and Municipal Code thresholds at existing residential receptors to the east of the site, existing industrial receptors to the south of the site, or future residential receptors to the west of the site. However, the existing receptors to the north of the site would potentially be exposed to mechanical equipment noise levels exceeding the 55 dBA DNL threshold. For all existing receptors, the noise level increase due to mechanical equipment noise would not be measurable or detectable (0 dBA DNL increase).

Residencias Ariana (1298 Tripp Avenue)

The site plan for the Residencias Ariana project at 1298 Tripp Avenue shows two generator rooms, pump rooms, electrical rooms, control rooms, trash rooms, and maintenance rooms in the basement level of the buildings, in addition to parking spaces. Noise levels generated from basement-level mechanical equipment would be well shielded from the surrounding receptors and would not exceed the City's thresholds at the nearest property lines. For all existing receptors, the noise level increase due to basement-level mechanical equipment noise would not be measurable or detectable (0 dBA DNL increase).

The roof plan shows solar zones along the southern façades of both buildings. Solar panels typically generate low noise levels, which would not be audible or measurable at the property lines. Additionally, the same PTAC units discussed above for the Casa Inclusiva project would be included within the residential units at the Residencias Ariana buildings. Similarly, these units would be well shielded from off-site receptors surrounding the site. Noise would not be audible at the project boundaries. Therefore, mechanical equipment noise levels generated at the Residencias Ariana project site would not exceed the City's General Plan and Municipal Code thresholds at existing

or future receptors surrounding the project site. For all existing receptors, the noise level increase due to mechanical equipment noise would not be measurable or detectable (0 dBA DNL increase).

Vila De Camila (1325 East Julian Street)

The site plan for the Vila De Camila project at 1325 East Julian Street shows trash and tank rooms at the basement level. Additional mechanical, electrical, and plumbing (MEP) rooms, as well as pump rooms, are shown in the buildings on the ground-level. The pump rooms are located on the interior of the second and third buildings where the surrounding receptors would be well-shielded from noise generated by equipment within the rooms. All noise levels generated from basement-level mechanical equipment and the equipment located inside rooms on the ground level would be adequately shielded from the surrounding receptors and would not exceed the City's thresholds at the nearest property lines. For all existing receptors, the noise level increase due to basement-level mechanical equipment and due to ground-level equipment located on the interior of the buildings would not be measurable or detectable (0 dBA DNL increase).

Two transformers are shown along the eastern façade of the second and third buildings at the 1325 East Julian Street project site. At each building, the transformers would be located indoors with a minimum attenuation of 20 dBA from the building façade. Two transformers up to 1,000 kVA would typically generate noise levels up to 47 dB, as measured at 1 meter (3.28 feet) with the incorporation of 20 dBA attenuation. Assuming both transformers run continuously during daytime and nighttime hours, the day-night average noise level would be 53 dBA DNL at a distance of 1 meter (3.28 feet) with the incorporation of 20 dBA attenuation. Res-3 and the future residences at Casa Inclusiva (1347 East Julian Street) would be the only receptors with exposure to the transformer noise. The distance from the center of the nearest transformer room to the eastern boundary shared with these receptors would be 65 feet. At this distance, hourly average noise levels would be 21 dBA L_{eq}, and assuming continuous operation over a 24-hour period, the day-night average noise level would be 28 dBA DNL. Therefore, mechanical equipment noise levels would not exceed the City's General Plan and Municipal Code thresholds at receptors surrounding the site. For all existing receptors, the noise level increase due to mechanical equipment noise would not be measurable or detectable (0 dBA DNL increase).

The same PTAC units discussed above for the Casa Inclusiva project would be included within the residential units at the Vila De Camila buildings. These units would be well shielded from off-site receptors surrounding the site. Noise would not be audible at the project boundaries.

Truck Loading and Unloading

Loading zones are not identified in the site plans for any of the three project sites. However, it is assumed that truck loading and unloading, as well as trash pickups, would occur within the parking garages at each of the sites. Since the parking structures at the Residencias Ariana project site (1298 Tripp Avenue) and at the Vila De Camila project site (1325 East Julian Street) are located in the basement level, which would be well shielded from the surrounding noise-sensitive receptors. At the Casa Inclusiva project site (1347 East Julian Street), the ground-level parking structure would be open to the surface parking lot and residences to the north of the site (Res-1). All other surrounding receptors would be well shielded by the building façade.

Smaller medium-sized delivery trucks, which are the size of truck expected to access the Casa Inclusiva project site, typically generate maximum noise levels of 60 to 65 dBA at 50 feet. The noise level of backup alarms can vary depending on the type and directivity of the sound, but maximum noise levels are typically in the range of 65 to 75 dBA at a distance of 50 feet. Assuming up to one delivery in a given hour, and the truck maneuvering occurring for 15 minutes or less, the hourly average noise level would be 59 dBA L_{eq} at 50 feet.

The property line of Res-1 would be approximately 130 feet from the potential loading area within the parking structure. At this distance, truck maneuvering would generate hourly average noise levels of 51 dBA, and assuming up to two daytime deliveries in a 24-hour period, the day-night average noise level would be 40 dBA DNL.

Truck deliveries occurring at the proposed project sites would not generate noise levels exceeding the City's thresholds at the nearby noise-sensitive land uses. For all existing receptors, the noise level increase due to truck delivery noise would not be measurable or detectable (0 dBA DNL increase).

Total Combined Project-Generated Noise

The operational noise levels produced by the proposed project combined (i.e., traffic, mechanical equipment, and truck loading/unloading activities) would result in an increase of 2 dBA DNL or less at all existing noise-sensitive receptors surrounding the project site. Therefore, the proposed project would not result in a substantial increase over existing ambient noise levels in the project vicinity. Further, operational noise levels would not exceed 55 dBA DNL at the nearest noise-sensitive receptors or 60 dBA DNL at the nearest nonresidential uses for all operational noise sources generated at the Residencias Ariana (1298 Trapp Avenue) and Vila De Camila (1325 East Julian Street) project sites. However, operational noise thresholds generated at the Casa Inclusiva project site (1347 East Julian Street) would potentially exceed 55 dBA DNL at the existing receptor to the north (Res-1 in Figure 2) of the project site. Since this building is majority residential, the thresholds established in the General Plan policies, which restrict noise levels generated at nonresidential buildings, would not be exceeded. The City of San José does not consider exceeding the Municipal Code thresholds a significant impact. Therefore, this is a less-than-significant impact.

The final design plans should be reviewed by a qualified acoustical consultant to address any potential conflicts with the General Plan or Municipal Code. The City's standard permit condition shall be implemented as a condition of approval for the proposed project. The standard permit condition states the following:

> A detailed acoustical study shall be prepared during final building design to evaluate the potential noise generated by building mechanical equipment and demonstrate the necessary noise control to meet the City's 55 dBA DNL goal. Noise control features such as sound attenuators, baffles, and barriers shall be identified and evaluated to demonstrate that mechanical equipment noise would not exceed 55 dBA DNL at noise-sensitive locations around the project site. The noise control features identified by the study shall be incorporated into the project prior to issuance of a building permit.

The implementation of the standard permit condition would reduce noise levels originating from the project site to a less-than-significant level.

Mitigation Measure 1b: No further mitigation required.

Impact 2: Exposure to Excessive Groundborne Vibration. Construction-related vibration levels would potentially exceed applicable vibration thresholds at nearby sensitive land uses. **This is a potentially significant impact.**

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used. Construction activities would include demolition, site preparation work, foundation work, and new building framing and finishing. Pile driving equipment, which can cause excessive vibration, is not expected to be required for the proposed project.

According to Policy EC-2.3 of the City of San José General Plan, a vibration limit of 0.08 in/sec PPV shall be used to minimize the potential for cosmetic damage to sensitive historical structures, and a vibration limit of 0.20 in/sec PPV shall be used to minimize damage at buildings of normal conventional construction. The vibration limits contained in this policy are conservative and designed to provide the ultimate level of protection for existing buildings in San José. As discussed in detail below, vibration levels exceeding these thresholds would be capable of cosmetically damaging adjacent buildings. Cosmetic damage (also known as threshold damage) is defined as hairline cracking in plaster, the opening of old cracks, the loosening of paint or the dislodging of loose objects. Minor damage is defined as hairline cracking in masonry or the loosening of plaster. Major structural damage is defined as wide cracking or the shifting of foundation or bearing walls.

Table 16 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet.

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 16 also summarizes the distances to the 0.08 in/sec PPV threshold for historical buildings and to the 0.2 in/sec PPV threshold for all other buildings.

According to the City's Historic Resource Inventory,[4] the nearest historical structure is located at 275 North 24th Street, which is over 950 feet from all three project sites. At this distance, construction vibration levels would have no impact on the historical structure. Historical buildings are not discussed further in this impact discussion.

[4] www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/historic-preservation/historic-resources-inventory

TABLE 16 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Minimum Distance to Meet 0.08 in/sec PPV (feet)	Minimum Distance to Meet 0.2 in/sec PPV (feet)
Clam shovel drop		0.202	59	26
Hydromill (slurry wall)	in soil	0.008	4	2
	in rock	0.017	7	3
Vibratory Roller		0.210	61	27
Hoe Ram		0.089	28	13
Large bulldozer		0.089	28	13
Caisson drilling		0.089	28	13
Loaded trucks		0.076	24	11
Jackhammer		0.035	12	6
Small bulldozer		0.003	2	<1

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., November 2022.

Tables 17 through 19 summarize the vibration levels at nearest surrounding buildings at the Casa Inclusiva, Residencias Ariana, and Vila De Camila project sites. Vibration levels are highest close to the source and then attenuate with increasing distance at the rate $\left({}^{D_{ref}}/_{D}\right)^{1.1}$, where D is the distance from the source in feet and D_{ref} is the reference distance of 25 feet. While construction noise levels increase based on the cumulative equipment in use simultaneously, construction vibration levels would be dependent on the location of individual pieces of equipment. That is, equipment scattered throughout the site would not generate a collective vibration level, but a vibratory roller, for instance, operating near the project site boundary would generate the worst-case vibration levels for the receptor sharing that property line. Further, construction vibration impacts are assessed based on damage to buildings on receiving land uses, not receptors at the nearest property lines. Therefore, the distances used to propagate construction vibration levels (as shown in Tables 17 through 19), which are different than the distances used to propagate construction noise levels (as shown in Tables 10 through 12), were estimated under the assumption that each piece of equipment from Table 16 was operating along the nearest boundary of the project sites, which would represent the worst-case scenario.

Project construction activities would potentially generate vibration levels up to 1.2 in/sec PPV at the buildings located within 5 feet of shared property lines with each of the project sites and up to 0.6 in/sec PPV at the buildings located within 10 feet of the shared property lines. A study completed by the US Bureau of Mines analyzed the effects of blast-induced vibration on buildings in USBM RI 8507.[5] The findings of this study have been applied to buildings affected by construction-generated vibrations.[6] As reported in USBM RI 8507[5] and reproduced by Dowding,[6] Figure 3 presents the damage probability, in terms of "threshold damage" (described above as cosmetic damage), "minor damage," and "major damage," at varying vibration levels. Threshold damage, or cosmetic damage, would entail hairline cracking in plaster, the opening of old cracks,

[5] Siskind, D.E., M.S. Stagg, J.W. Kopp, and C.H. Dowding, Structure Response and Damage Produced by Ground Vibration form Surface Mine Blasting, RI 8507, Bureau of Mines Report of Investigations, U.S. Department of the Interior Bureau of Mines, Washington, D.C., 1980.

[6] Dowding, C.H., Construction Vibrations, Prentice Hall, Upper Saddle River, 1996.

the loosening of paint or the dislodging of loose objects. Minor damage would include hairline cracking in masonry or the loosening of plaster, and major structural damage would include wide cracking or shifting of foundation or bearing walls.

As shown in Figure 3, maximum vibration levels of 0.6 in/sec PPV or lower would result in less than 8% chance of cosmetic damage, while maximum vibration levels of 1.2 in/sec PPV would result in about 20% chance of cosmetic damage. No minor or major damage would be expected at the buildings immediately adjoining the project site.

Neither cosmetic, minor, or major damage would occur at buildings located 30 feet or more from the project site. At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and would not be considered significant, given the intermittent and short duration of the phases that have the highest potential of producing vibration (use of jackhammers and other high-power tools). By use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby businesses, perceptible vibration can be kept to a minimum.

In summary, the construction of the project would potentially generate vibration levels exceeding the General Plan threshold of 0.2 in/sec PPV at nonhistorical properties adjoining the project sites. This would be a potentially significant impact.

TABLE 17 Vibration Levels Estimated at the Nearest Structures Surrounding the Casa Inclusiva Project Site (1347 East Julian Street)

Equipment		PPV (in/sec)			
		Res-1 (10ft)	Res-2 (55ft)	Res-3 (5ft)	Ind-2 (240ft)
Clam shovel drop		**0.553**	0.085	**1.186**	0.017
Hydromill (slurry wall)	in soil	**0.244**	0.003	0.047	0.001
	in rock	**0.244**	0.007	0.100	0.001
Vibratory Roller		**0.575**	0.088	**1.233**	0.017
Hoe Ram		**0.244**	0.037	**0.523**	0.007
Large bulldozer		**0.244**	0.037	**0.523**	0.007
Caisson drilling		**0.244**	0.037	**0.523**	0.007
Loaded trucks		**0.208**	0.032	**0.446**	0.006
Jackhammer		0.096	0.015	**0.206**	0.003
Small bulldozer		0.008	0.001	0.018	0.0002

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., November 2022.

TABLE 18 Vibration Levels Estimated at the Nearest Structures Surrounding the Residencias Ariana Project Site (1298 Tripp Avenue)

Equipment		PPV (in/sec)					
		Res-4 (5ft)	Res-6 (15ft)	Res-7 (60ft)	Res-8 (55ft)	Ind-1 (50ft)	Res-9 (10ft)
Clam shovel drop		**1.186**	**0.354**	0.077	0.085	0.094	**0.553**
Hydromill (slurry wall)	in soil	0.047	0.014	0.003	0.003	0.004	0.022
	in rock	0.100	0.030	0.006	0.007	0.008	0.047
Vibratory Roller		**1.233**	**0.368**	0.080	0.088	0.098	**0.575**
Hoe Ram		**0.523**	0.156	0.034	0.037	0.042	**0.244**
Large bulldozer		**0.523**	0.156	0.034	0.037	0.042	**0.244**
Caisson drilling		**0.523**	0.156	0.034	0.037	0.042	**0.244**
Loaded trucks		**0.446**	0.133	0.029	0.032	0.035	**0.208**
Jackhammer		**0.206**	0.061	0.013	0.015	0.016	0.096
Small bulldozer		0.018	0.005	0.001	0.001	0.001	0.008

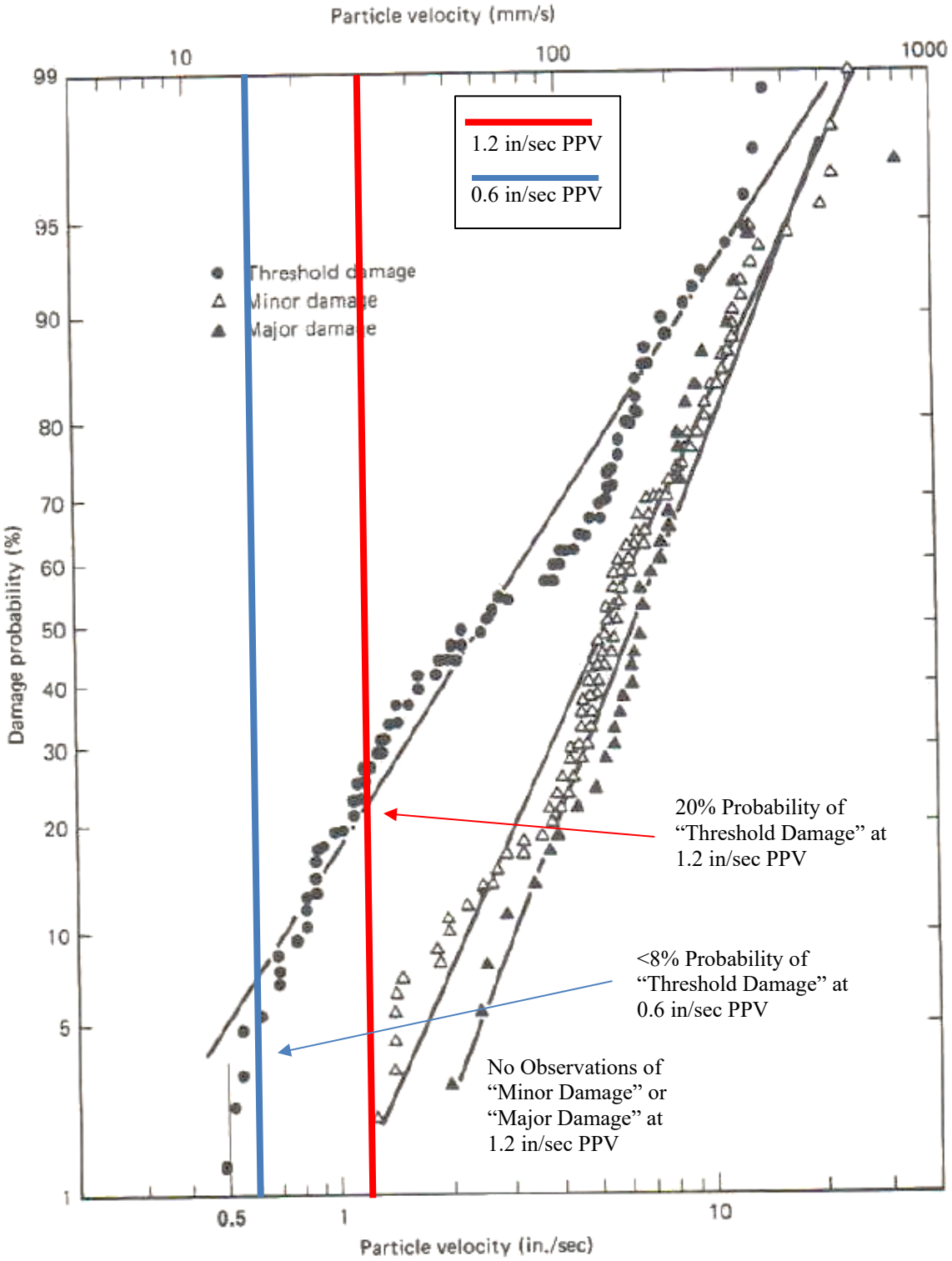
Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., May 2023.

TABLE 19 Vibration Levels Estimated at the Nearest Structures Surrounding the Vila De Camila Project Site (1325 East Julian Street)

Equipment		PPV (in/sec)				
		Res-3 (10ft)	Ind-1 (55ft)	Prep School (55ft)	Ind-2 (240ft)	Future Casa Inclusiva (10ft)
Clam shovel drop		**0.553**	0.085	0.085	0.017	**0.553**
Hydromill (slurry wall)	in soil	0.022	0.003	0.003	0.001	0.022
	in rock	0.047	0.007	0.007	0.001	0.047
Vibratory Roller		**0.575**	0.088	0.088	0.017	**0.575**
Hoe Ram		**0.244**	0.037	0.037	0.007	**0.244**
Large bulldozer		**0.244**	0.037	0.037	0.007	**0.244**
Caisson drilling		**0.244**	0.037	0.037	0.007	**0.244**
Loaded trucks		**0.208**	0.032	0.032	0.006	**0.208**
Jackhammer		0.096	0.015	0.015	0.003	0.096
Small bulldozer		0.008	0.001	0.001	0.0002	0.008

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., November 2022.

FIGURE 3 Probability of Cracking and Fatigue from Repetitive Loading



Source: Dowding, C.H., Construction Vibrations, Prentice Hall, Upper Saddle River, 1996.

Mitigation Measure 2:

The following measures shall be implemented where vibration levels due to construction activities would exceed 0.2 in/sec PPV at building adjoining each project site:

- A list of all heavy construction equipment to be used for this project known to produce high vibration levels (e.g., tracked vehicles, vibratory compaction, jackhammers, hoe rams, clam shovel drop, and vibratory roller, etc.) shall be submitted to the City by the contractor. This list shall be used to identify equipment and activities that would potentially generate substantial vibration and to define the level of effort for reducing vibration levels below the thresholds.

- Place operating equipment on the construction site as far as possible from vibration-sensitive receptors.

- Smaller equipment to minimize vibration levels to below 0.2 in/sec PPV shall be used at the property lines adjoining adjacent buildings. For example, a smaller vibratory roller, such as the Caterpillar model CP433E vibratory compactor, could be used when compacting materials within 30 feet of the adjacent conventional building.

- Avoid using vibratory rollers and clam shovel drops near sensitive areas.

- Select demolition methods not involving impact tools.

- Modify/design or identify alternative construction methods to reduce vibration levels below the limits.

- Avoid dropping heavy equipment and use alternative methods for breaking up existing pavement, such as a pavement grinder, instead of dropping heavy objects, within 30 feet of the adjacent conventional buildings.

- Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.

The implementation of these mitigation measures would reduce a potential impact to a less-than-significant level.

Impact 3: **Excessive Aircraft Noise.** The project sites are located 2.3 miles or more from Norman Y. Mineta San José International Airport, and the noise environment attributable to aircraft is considered normally acceptable under the Santa Clara County ALUC noise compatibility policies for residential land uses. This is a **less-than-significant** impact.

Norman Y. Mineta San José International Airport is a public-use airport located approximately 2.3 miles or more northwest of the project sites. According to the City's new Airport Master Plan

Environmental Impact Report,[7] the project site lies well outside the 60 dBA CNEL/DNL contour line (see Figure 4). According to Policy EC-1.11 of the City's General Plan, the required safe and compatible threshold for exterior noise levels would be at or below 65 dBA CNEL/DNL for aircraft. Therefore, the proposed project would be compatible with the City's exterior noise standards for aircraft noise.

Assuming standard construction materials for aircraft noise below 60 dBA DNL, the future interior noise levels resulting from aircraft would be below 45 dBA DNL. Therefore, future interior noise at the proposed building would be compatible with aircraft noise. This would be a less-than-significant impact.

Mitigation Measure 3: **None required.**

[7] David J. Powers & Associates, Inc., Integrated Final Environmental Impact Report, Amendment to Norman Y. Mineta San Jose International Airport Master Plan, April 2020.

FIGURE 4 2037 CNEL Noise Contours for SJIA Relative to Project Site

Figure 5
Scenario 2: With Project 2037 Noise Contour Map

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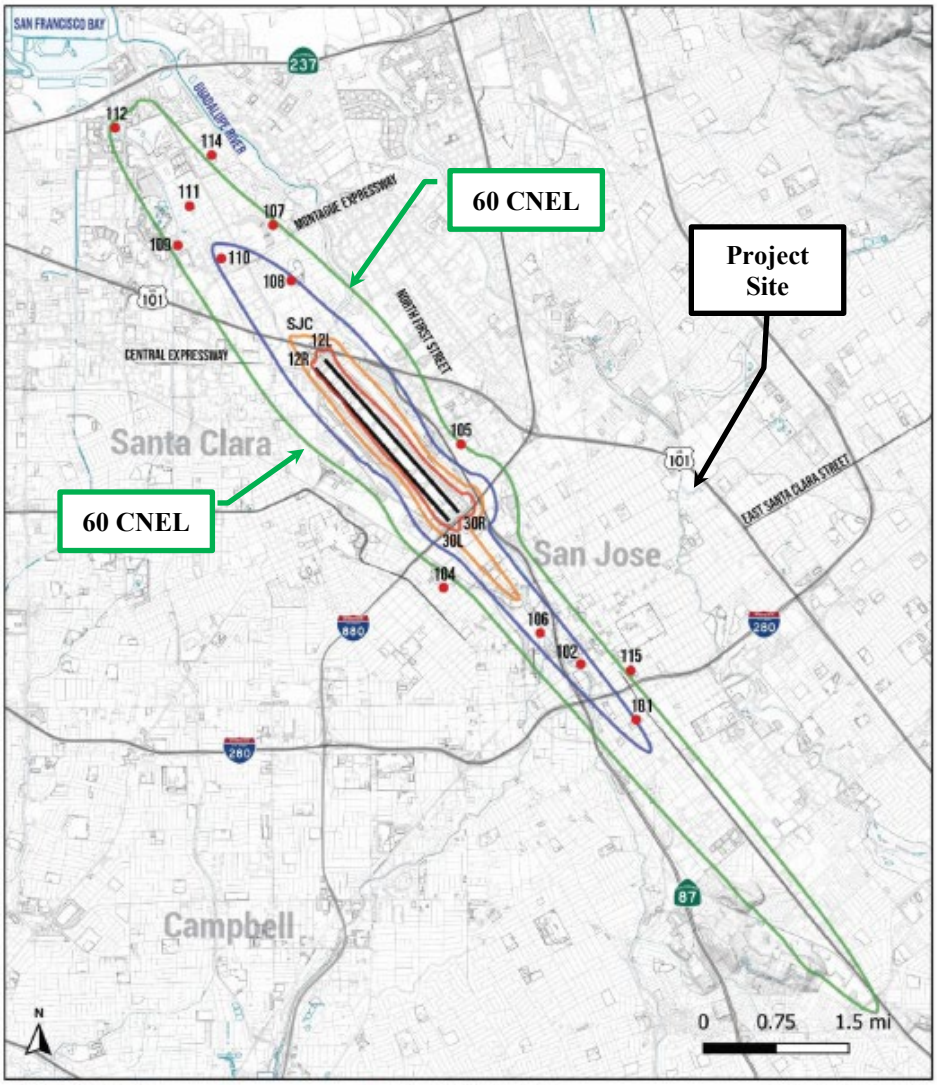

NORMAN Y. MINETA SAN JOSE INTERNATIONAL AIRPORT

- Noise Monitoring Station
- 101 Site ID
- Runway
- 75 dBA and Greater CNEL Contour
- 70 dBA and Greater CNEL Contour
- 65 dBA and Greater CNEL Contour
- 60 dBA and Greater CNEL Contour

Figure 5 Scenario 2: With Project 2037 Noise Contour Map

Source: BridgeNet International 2019

Cumulative Impacts

Cumulative noise impacts would include temporary construction noise from cumulative construction projects. From the City's website,[8] there is only one project located within 1,000 feet of the project sites: 1271 and 1279 East Julian Street, which adjoins the 1298 Tripp Avenue project site to the south and is in the planning review phase. Noise-sensitive receptors identified as Res-4, Res-5, and Res-6 would be shared receptors with the 1271 and 1279 East Julian Street project site. While the construction schedule for the 1271 and 1279 East Julian Street project is not set, the expected dates of construction would be April 2024 through December 2025; therefore, the only overlapping period would occur between September 2025 and December 2025 during the beginning construction of Vila De Camila (1325 East Julian Street), and all construction activities at the 1271 and 1279 East Julian Street site would conclude 1.5 years before construction of the Residencias Ariana project (1298 Tripp Avenue) starts. With the inclusion of Mitigation Measure 1 above and the measures proposed in the 1271 and 1298 East Julian Street project, the cumulative construction impact would be reduced to less-than-significant.

All other planned or approved project would be about more than 2,000 feet from the project sites (Roosevelt Park Apartments located at 21 North 21st Street), which would not share receptors with the proposed projects. Therefore, there would not be a cumulative construction impact.

For a substantial permanent cumulative noise increase to occur, two qualifications must be met: 1) if the cumulative plus project traffic volumes result in a noise level increase at sensitive receptors of 5 dBA DNL or greater, with a future noise level of less than 60 dBA DNL, or of 3 dBA DNL or greater, with a future noise level of 60 dBA DNL or greater, compared to existing traffic volumes; and 2) if the cumulative plus project traffic volumes result in a 1 dBA DNL or more noise level increase compared to the increase calculated for the cumulative (no project) conditions, which would be considered a cumulatively considerable contribution to the overall traffic noise increase. The traffic study included cumulative (plus project) volumes but not cumulative (no project) volumes. The project trips were subtracted from the cumulative (plus project) volumes to calculate the cumulative (no project) scenario.

The traffic study included peak hour turning movements at eight intersections in the vicinity of the project sites. Table 20 summarizes the noise level increases calculated by comparing the cumulative (no project) and cumulative (plus project) traffic scenarios to the existing scenario, and the project's contribution to the cumulative (plus project) conditions, calculated by comparing the difference between the increase calculated for the cumulative (no project) scenario. As shown in Table 20, all roadway segments would have a noise level increase of 2 dBA DNL or less and would not meet the first criteria for a significant cumulative traffic noise impact. There would not be a cumulative noise level increase associated with the proposed projects.

[8] https://gis.sanjoseca.gov/maps/devprojects/

TABLE 20 Estimated Noise Level Increases of Background and Background Plus Project Traffic Volumes Over Existing Volumes at Receptors in the Project Vicinity

Roadway	Segment	Estimated Noise Level Increase Over Existing Volumes		Project's Contribution
		Cumulative (no project)	Cumulative (plus project)	
East Julian Street/ McKee Road	East of North 33rd Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
	North 33rd Street to Highway 101 northbound ramps	0 dBA DNL	0 dBA DNL	0 dBA DNL
	Highway 101 northbound ramps to Highway 101 southbound ramps	0 dBA DNL	0 dBA DNL	0 dBA DNL
	Highway 101 southbound ramps to North 28th Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
	North 28th Street to Wooster Avenue	0 dBA DNL	0 dBA DNL	0 dBA DNL
	Wooster Avenue to North 24th Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
	West of North 24th Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
East Julian Street frontage roadway	East of West Court	1 dBA DNL	1 dBA DNL	0 dBA DNL
	West of West Court	1 dBA DNL	2 dBA DNL	1 dBA DNL
East Santa Clara Street	East of North 28th Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
	West of North 28th Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
West Court	North of East Julian Street	0 dBA DNL	2 dBA DNL	2 dBA DNL
Wooster Avenue	North of East Julian Street/McKee Road	0 dBA DNL	2 dBA DNL	2 dBA DNL
	South of East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL
North 33rd Street	North of East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL
	South of East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL

Roadway	Segment	Estimated Noise Level Increase Over Existing Volumes		Project's Contribution
		Cumulative (no project)	Cumulative (plus project)	
North 28th Street	North of East Julian Street/McKee Road	0 dBA DNL	2 dBA DNL	2 dBA DNL
	East Julian Street/McKee Road to East Santa Clara Street	0 dBA DNL	1 dBA DNL	1 dBA DNL
	South of East Santa Clara Street	0 dBA DNL	0 dBA DNL	0 dBA DNL
North 24th Street	South of East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL
Highway 101 northbound on-ramp	At East Julian Street/McKee Road	0 dBA DNL	1 dBA DNL	1 dBA DNL
Highway 101 northbound off-ramp	At East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL
Highway 101 southbound on-ramp	At East Julian Street/McKee Road	0 dBA DNL	0 dBA DNL	0 dBA DNL

APPENDIX A

FIGURE A1 Daily Trend in Noise Levels for LT-1 on Tuesday, October 4, 2022

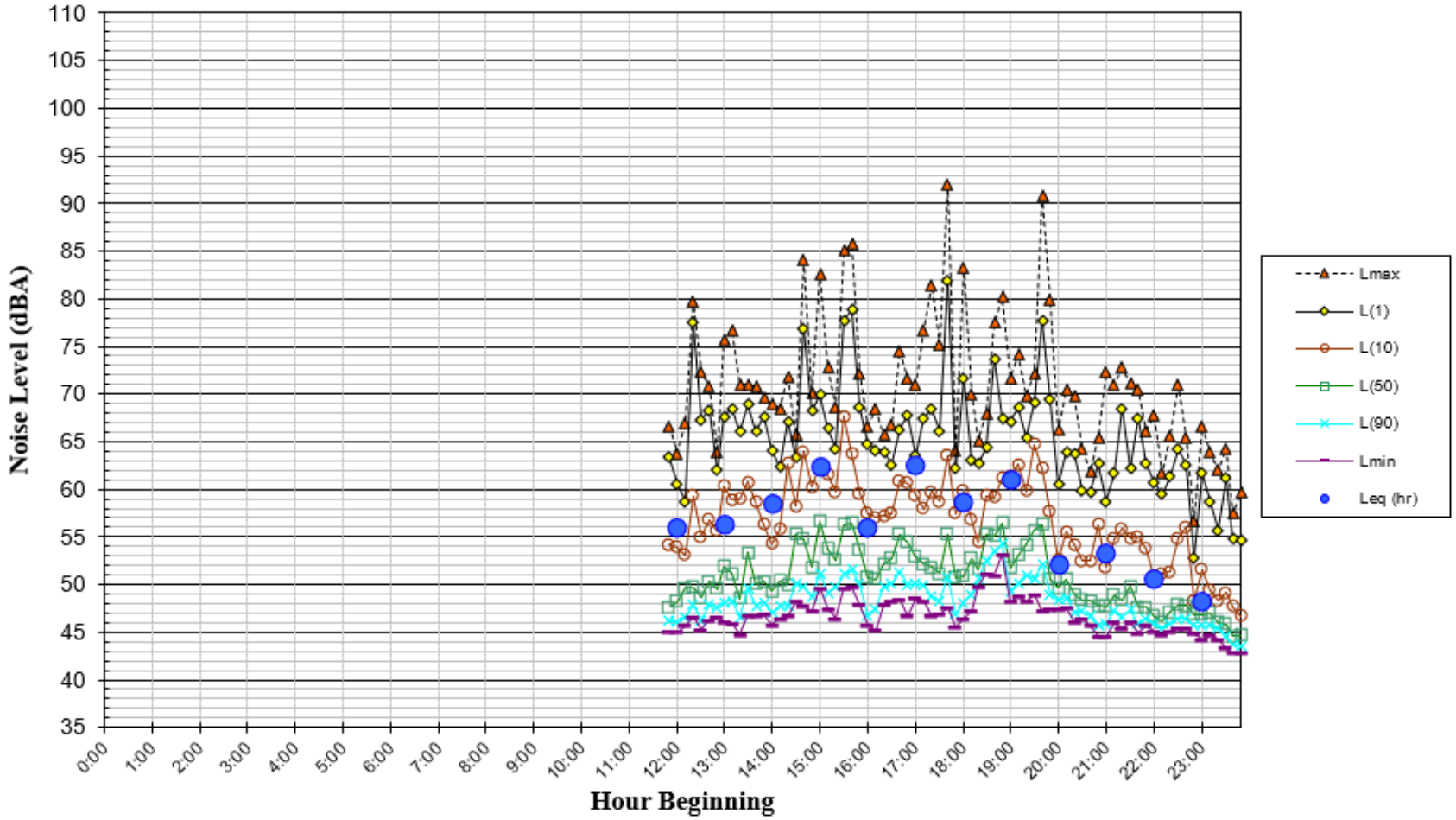

FIGURE A2 Daily Trend in Noise Levels for LT-1 on Wednesday, October 5, 2022

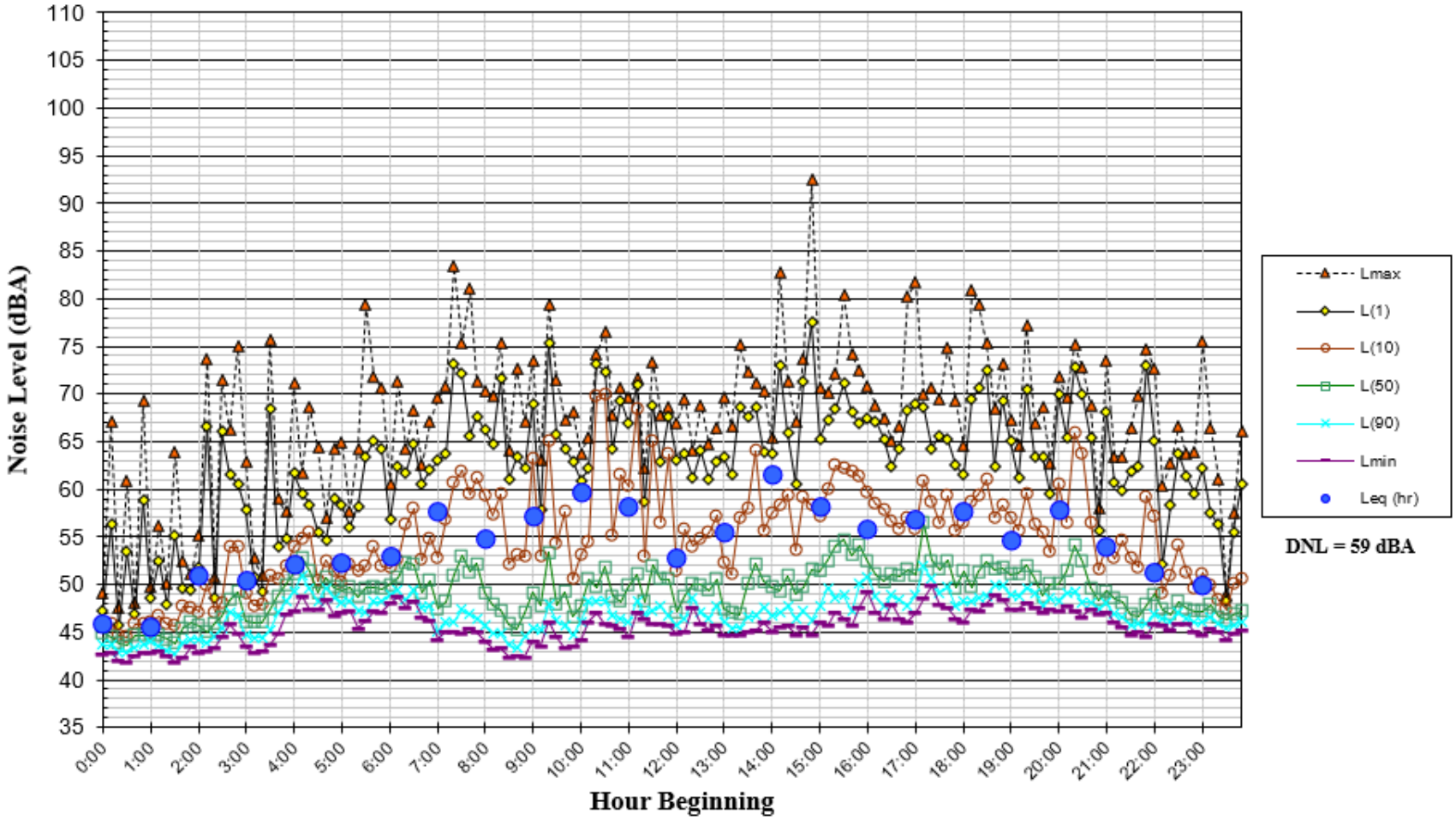

FIGURE A3 Daily Trend in Noise Levels for LT-1 on Thursday, October 6, 2022

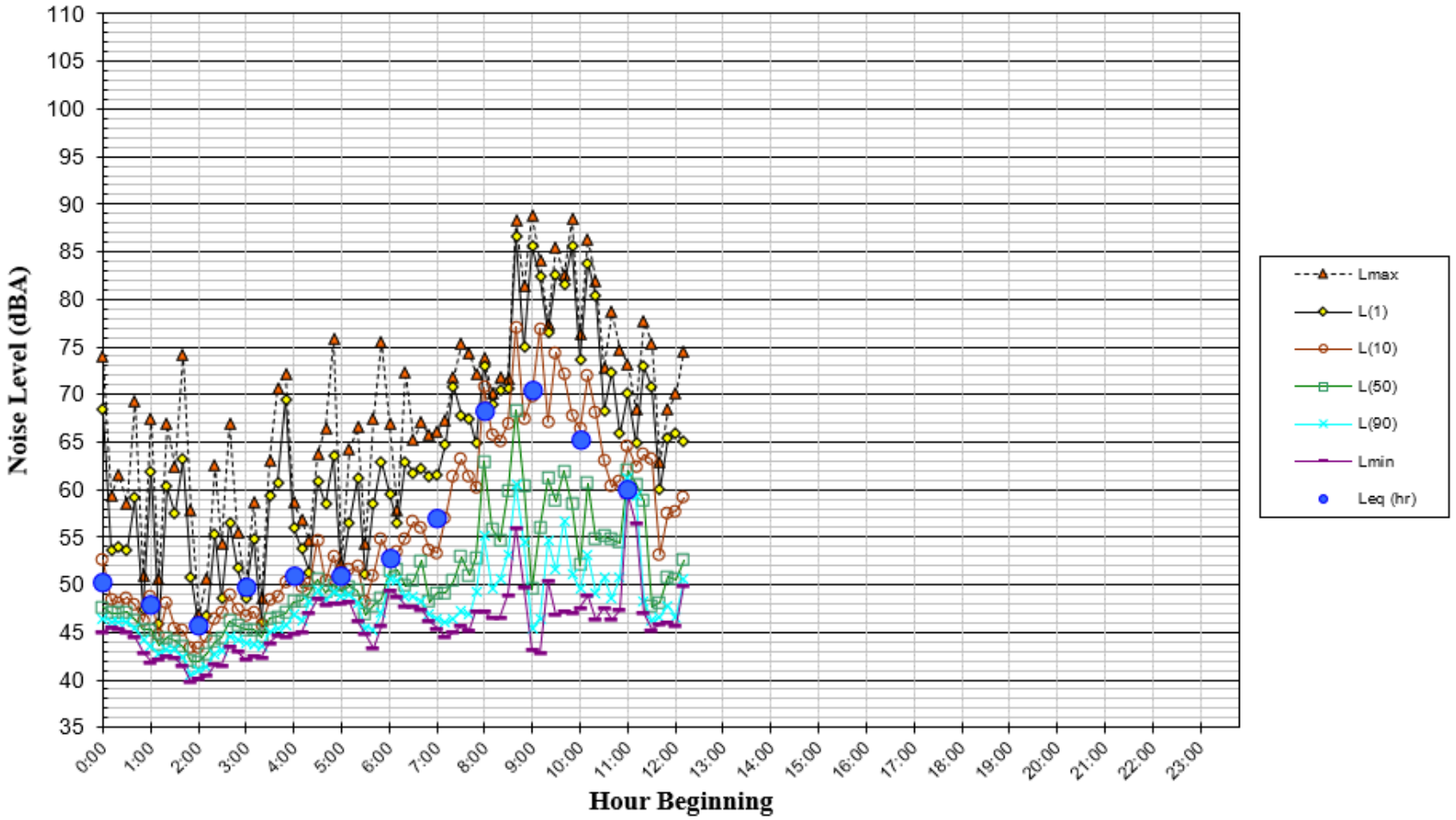

FIGURE A4 Daily Trend in Noise Levels for LT-2 on Tuesday, October 4, 2022

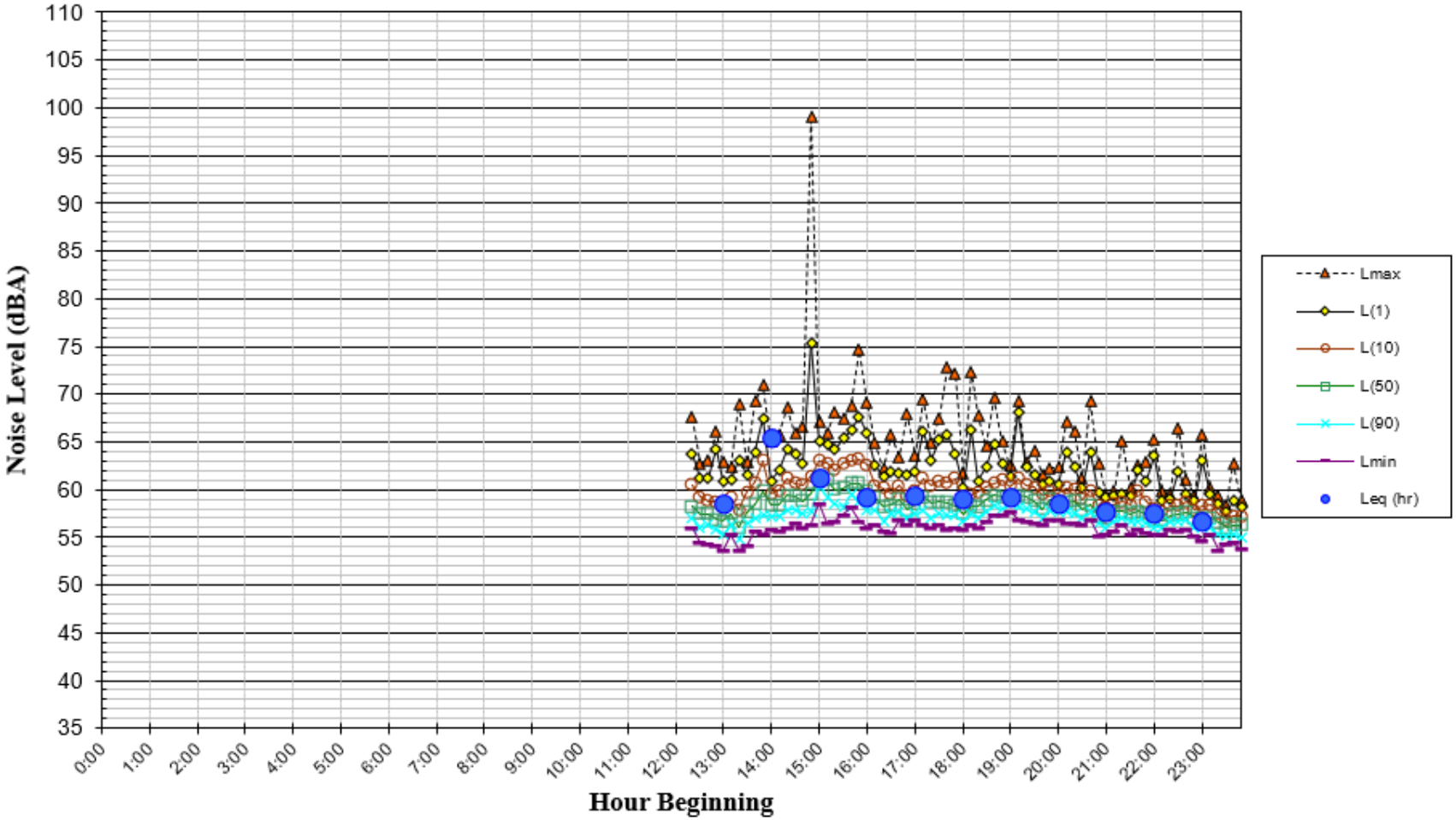

FIGURE A5 Daily Trend in Noise Levels for LT-2 on Wednesday, October 5, 2022

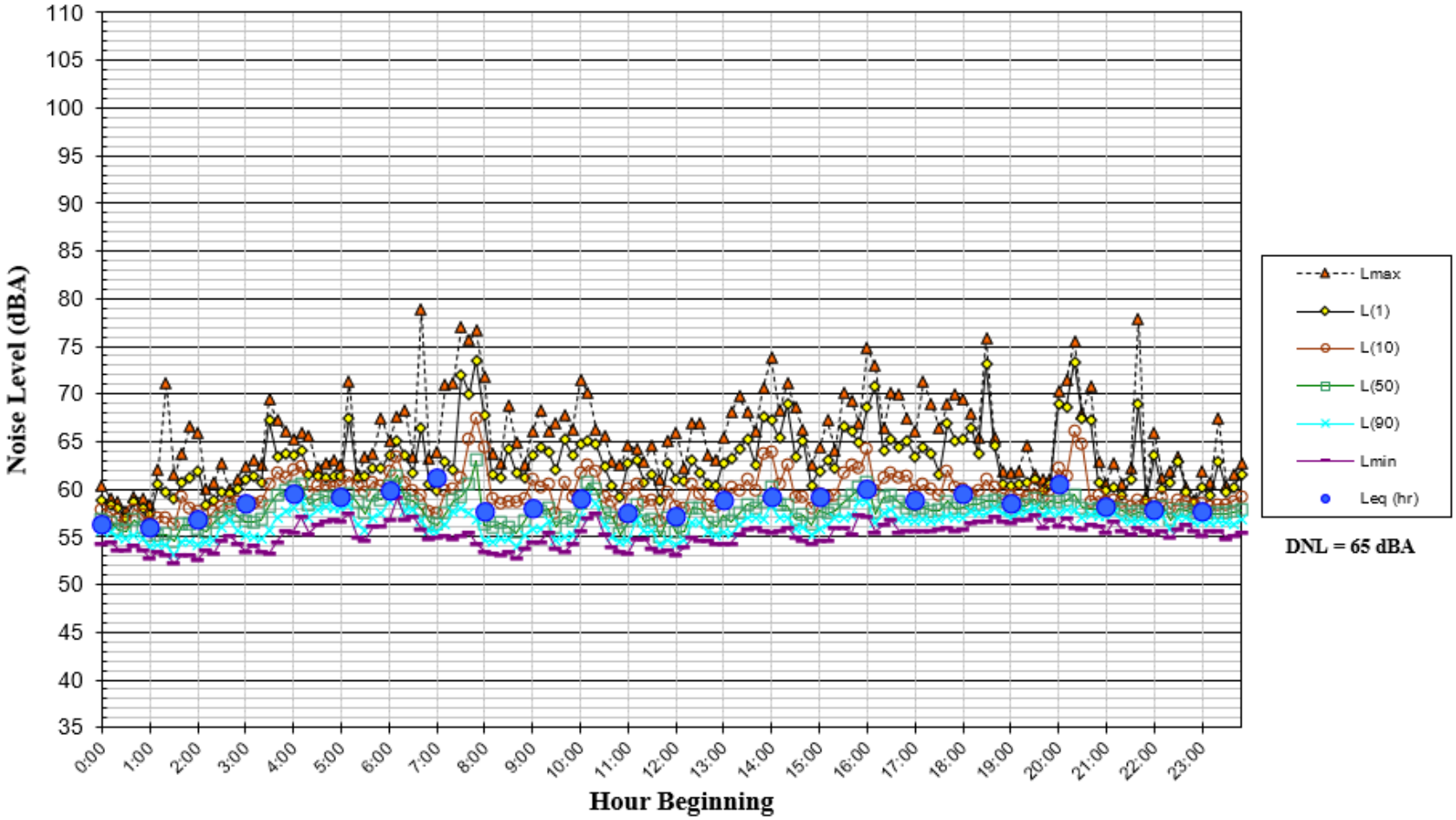

FIGURE A6 Daily Trend in Noise Levels for LT-2 on Thursday, October 6, 2022

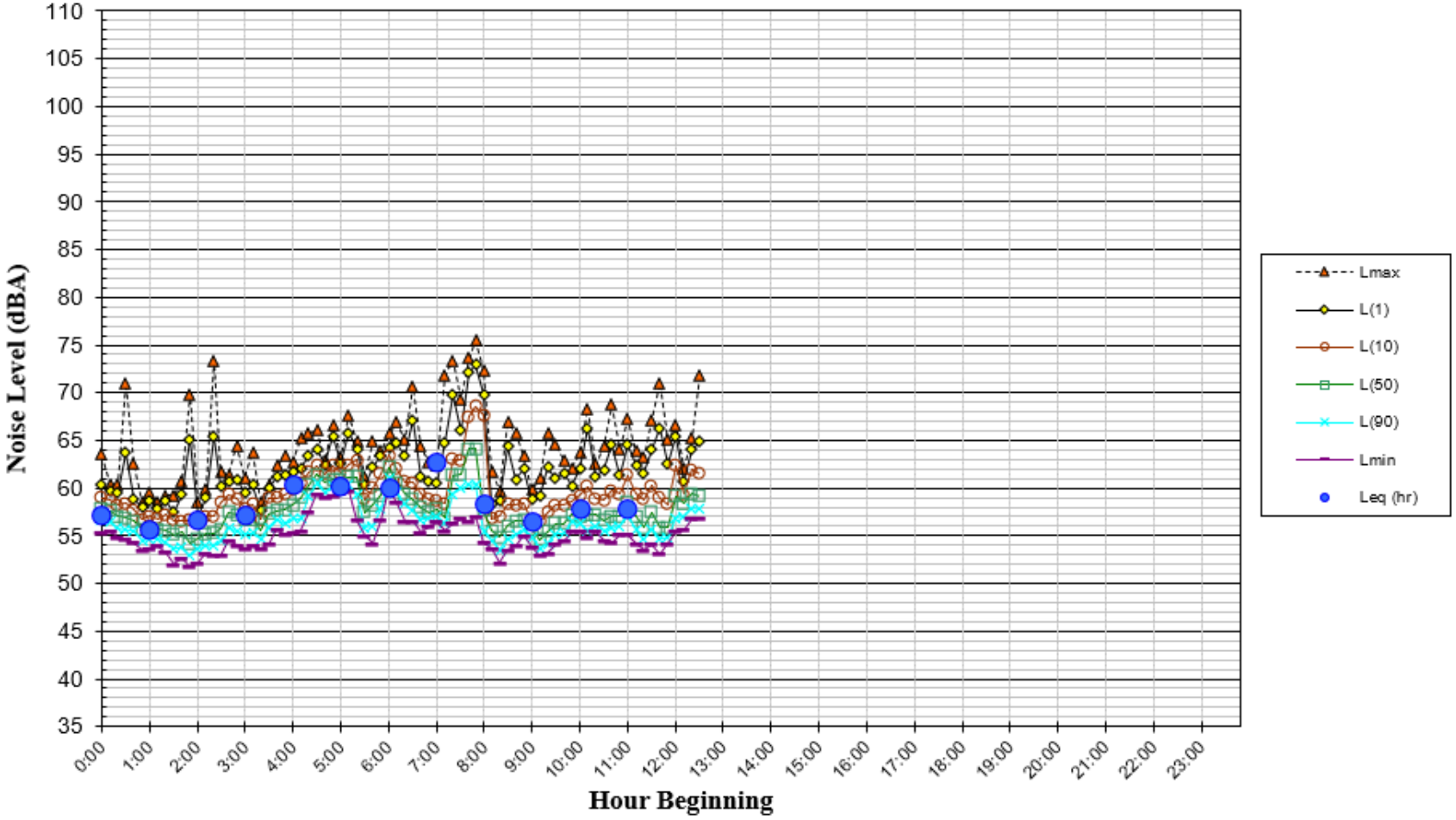

FIGURE A7 Daily Trend in Noise Levels for LT-3 on Tuesday, October 4, 2022

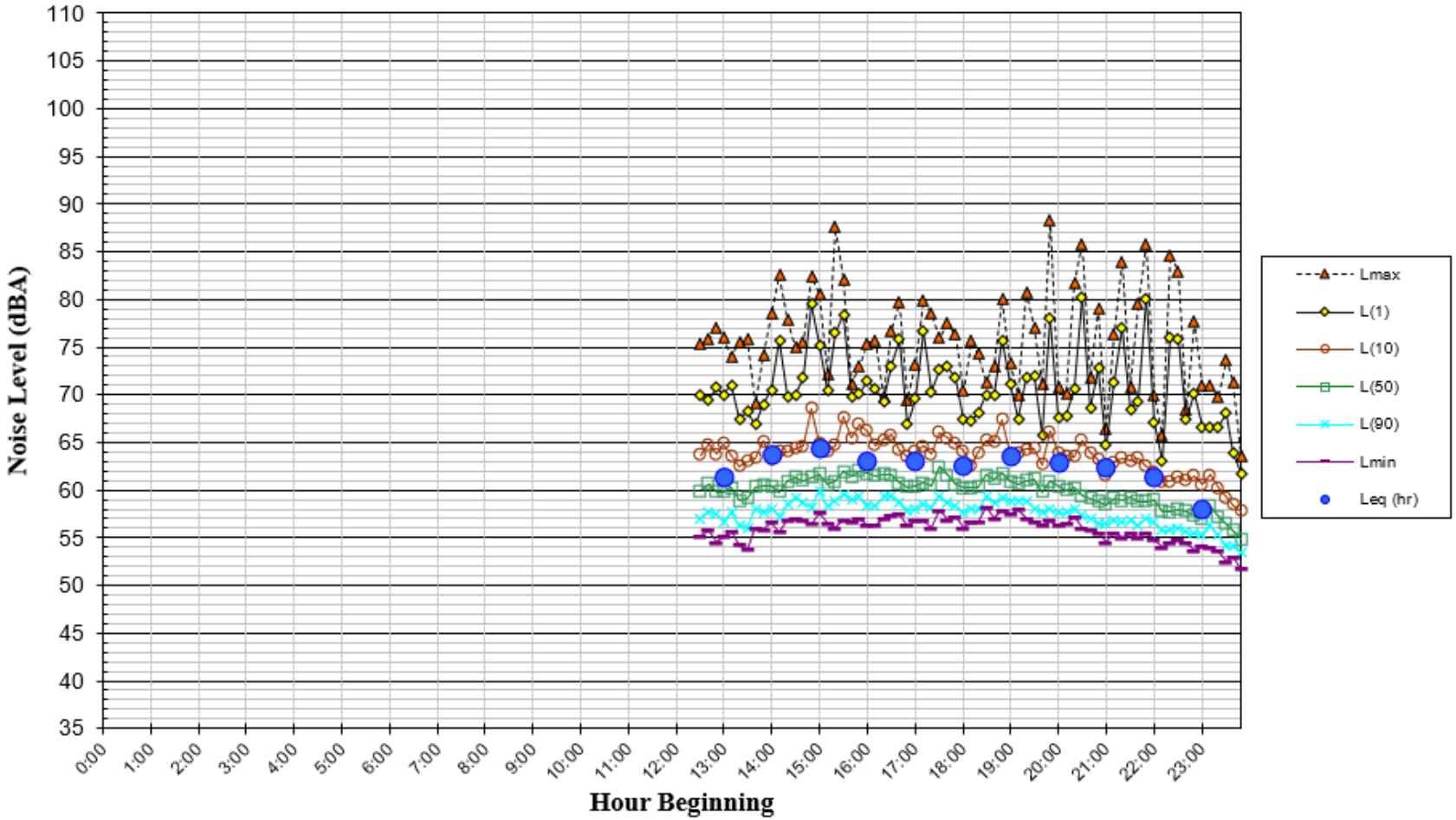

FIGURE A8 Daily Trend in Noise Levels for LT-3 on Wednesday, October 5, 2022

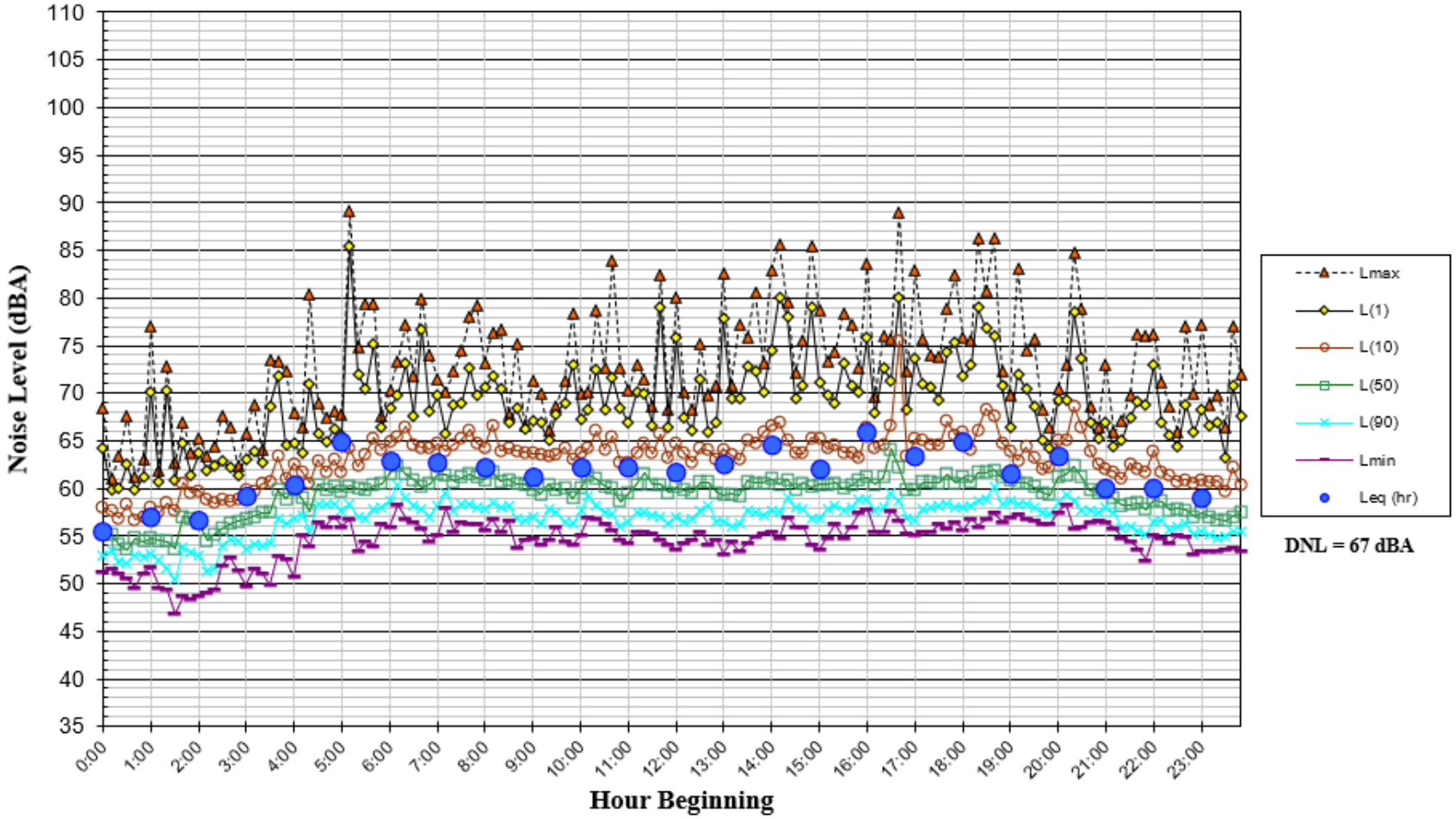

FIGURE A9 Daily Trend in Noise Levels for LT-3 on Thursday, October 6, 2022