Acoustical Assessment
1605 South 7th Street Project
City of San José, California

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Appendix A: Noise Data

LIST OF ABBREVIATED TERMS

ADT	average daily traffic
dBA	A-weighted sound level
CEQA	California Environmental Quality Act
CNEL	community equivalent noise level
DNL	day-night noise level
dB	decibel
L_{eq}	equivalent noise level
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating ventilation and air conditioning
Hz	hertz
in/sec	inches per second
L_{max}	maximum noise level
µPa	micropascals
L_{min}	minimum noise level
PPV	peak particle velocity
RMS	root mean square
VdB	vibration velocity level

1 INTRODUCTION

This report documents the results of an Acoustical Assessment completed for the 1605 South 7th Street Project (proposed Project). The purpose of this Acoustical Assessment is to evaluate the Project's potential construction and operational noise and vibration levels associated with the Project and determine the level of impact the Project would have on the environment.

1.1 PROJECT LOCATION

The proposed Project is located on 1605 South 7th Street in San José, on the southern corner of South 7th Street and East Alma Avenue. Figure 1: Regional Vicinity and Figure 2: Project Site Vicinity, depict the Project site in a regional and local context. The Project site is located in an urban area with a mix of surrounding uses including commercial, office, and industrial uses. The Project site is designated HI – Heavy Industrial in the City's General Plan, which allows for warehousing and distribution uses, and zoned as HI – Heavy Industrial, which allows for a warehouse/distribution facility.

The Project site is an industrial/business park complex currently developed with a two-story, 279,030-square foot main industrial building and ancillary office structures. The existing two-story building is located on the western half of the parcel, with additional office uses on the southern and western portions of the site. Loading docks are located along the southern part of the main industrial building. Surface parking is available on the northern half of the site and truck parking is available in the northeast corner of the Project site. The Project site has existing landscaping along the northern and eastern site boundaries; however, the majority of the site is paved/and or improved with industrial buildings supporting several existing businesses. The Project site also has existing surface lighting.

1.2 PROJECT DESCRIPTION

The proposed 1605 South 7th Street Project (proposed Project) would demolish and clear the existing on-site industrial structures and construct an approximately 106,771 square foot new one-story concrete tilt-up warehouse/industrial use building. An approximately 36,613 square foot prefabricated canopy structure would be installed over the loading zone along the east elevation. Approximately 8,694 square feet of the total 106,771 square foot building would be incidental office use. The office space of the building would be equipped with bathrooms and a changing room, including at least one (1) shower. The Project consists of a 24-hour operation of outdoor uses (loading/unloading) and is designed and proposed to support the "last mile" distribution of packages, including nine (9) loading docks. The Project would provide approximately 178 employee parking stalls, 10 accessible stalls, 413 van parking stalls, 18 electric vehicle parking stalls, 72 electric vehicle capable stalls, 18 bicycle parking stalls, and 5 motorcycle parking stalls. Proposed site work also includes exterior van loading and loading canopy, site lighting, and utility infrastructure as required to support Project operations. Figure 3: Project Site Plan, shows the proposed layout of the Project site. Figure 4: Project Truck Routes shows the anticipated truck routes.

There would be four access driveways to the Project site. One access driveway would be located at the northwestern corner of the Project site, from East Alma Avenue. The other three driveways would be located along the eastern site boundary, from South 7th Street.

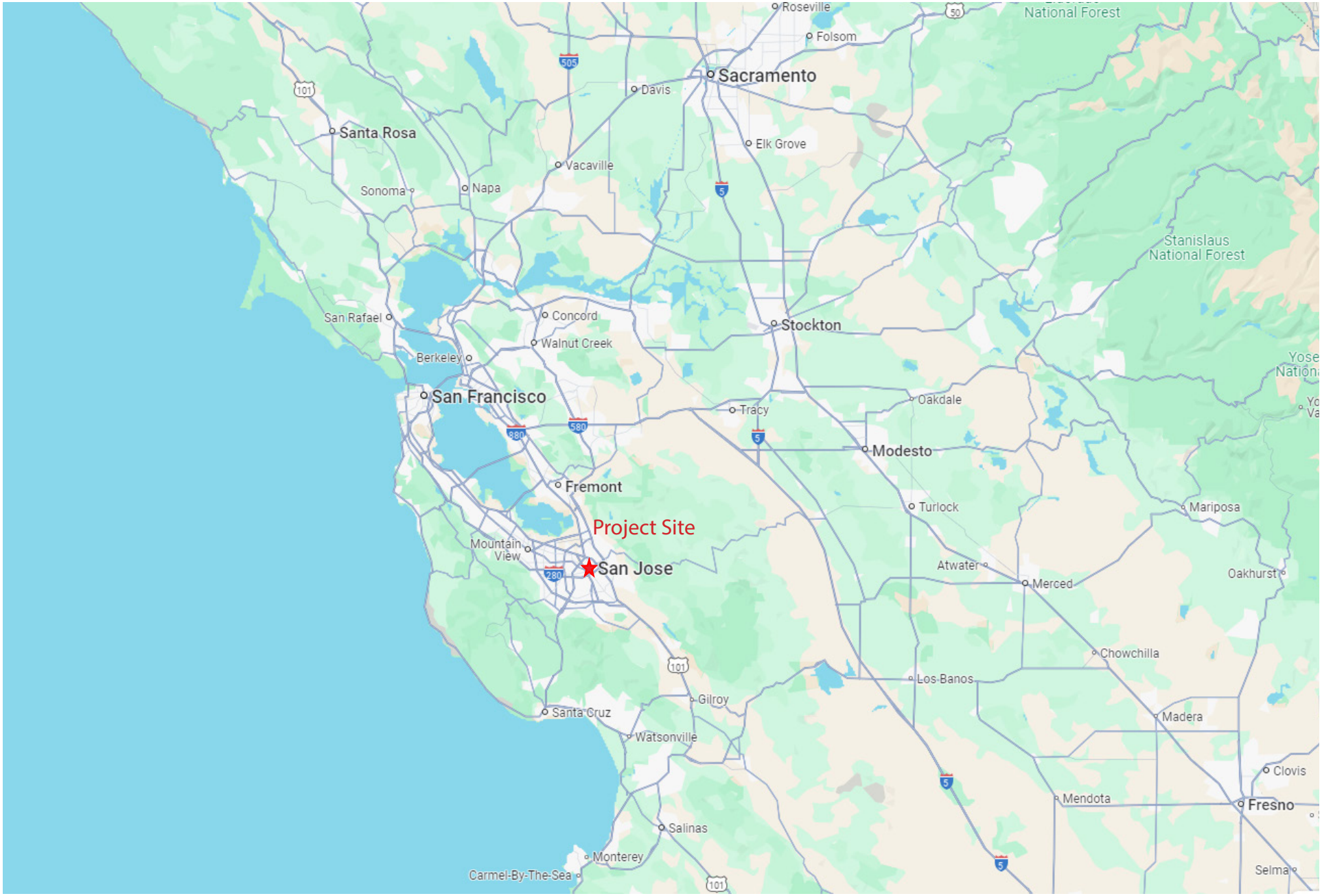
Construction of the Project is expected to commence in July 2026 and last for approximately 17 months. There would be approximately 39,219 tons of demolition and 3,000 cubic yards of export of soil.

Project Operations

The Project is designed and proposed as a "last mile" e-commerce distribution center (delivery facility). It is anticipated that the Project would be operated by a single tenant for their business operations. Delivery centers support the last mile of the tenant's order fulfillment process and help to expedite local deliveries for customers. Packages would be transported to the Project site via line haul trailer trucks from separate tenant fulfillment and sortation centers and would then be sorted, picked, and loaded into delivery vans on the Project site.

The Project is anticipated operate 24/7 to support delivery of packages to customer locations between 10:00 AM and 9:30 PM. At this facility, a total of 52 daily truck trips are expected to deliver packages to the Project site each day, between 12:00 AM and 7:00 AM. The customer packages are unloaded from haul trucks, sorted, picked to the delivery routes, placed onto movable racks and staged for dispatch. While the exact geographic range that the project would service is not rigidly defined, the tenant would operate the delivery facility in order to provide expedited delivery to the local market.

Approximately 600 workers would be hired at the delivery facility, however the total daily workers onsite would not exceed 400 workers. The majority of the Project employees would arrive and depart between 1:20 AM and 1:50 PM. Other Project employees 9:00 AM to 10:30 PM. Delivery vans are anticipated to arrive at the delivery facility between 9:30 AM and 11:30 AM. During this time, delivery vans will load and depart from the Project every 30 minutes to facilitate a regulated traffic flow into the surrounding area. The departure window is designed to avoid peak period of local traffic. Approximately 8 to 12 hours after dispatch, delivery routes are completed and the vans return to the station between 8:30 PM and 10:30 PM. The drivers park the delivery van onsite and leave using a personal vehicle or public transportation. Project operation would also involve independent contractors to deliver packages from this location. It is anticipated that traditional passenger vehicles, associated with the independent contractors, would enter the delivery facility, staggered between 4:30 PM and 5:30 PM.



Source: Google Maps, 2024

Figure 1: Regional Vicinity

1605 South 7th Street Project
Technical Assessment

Not to scale

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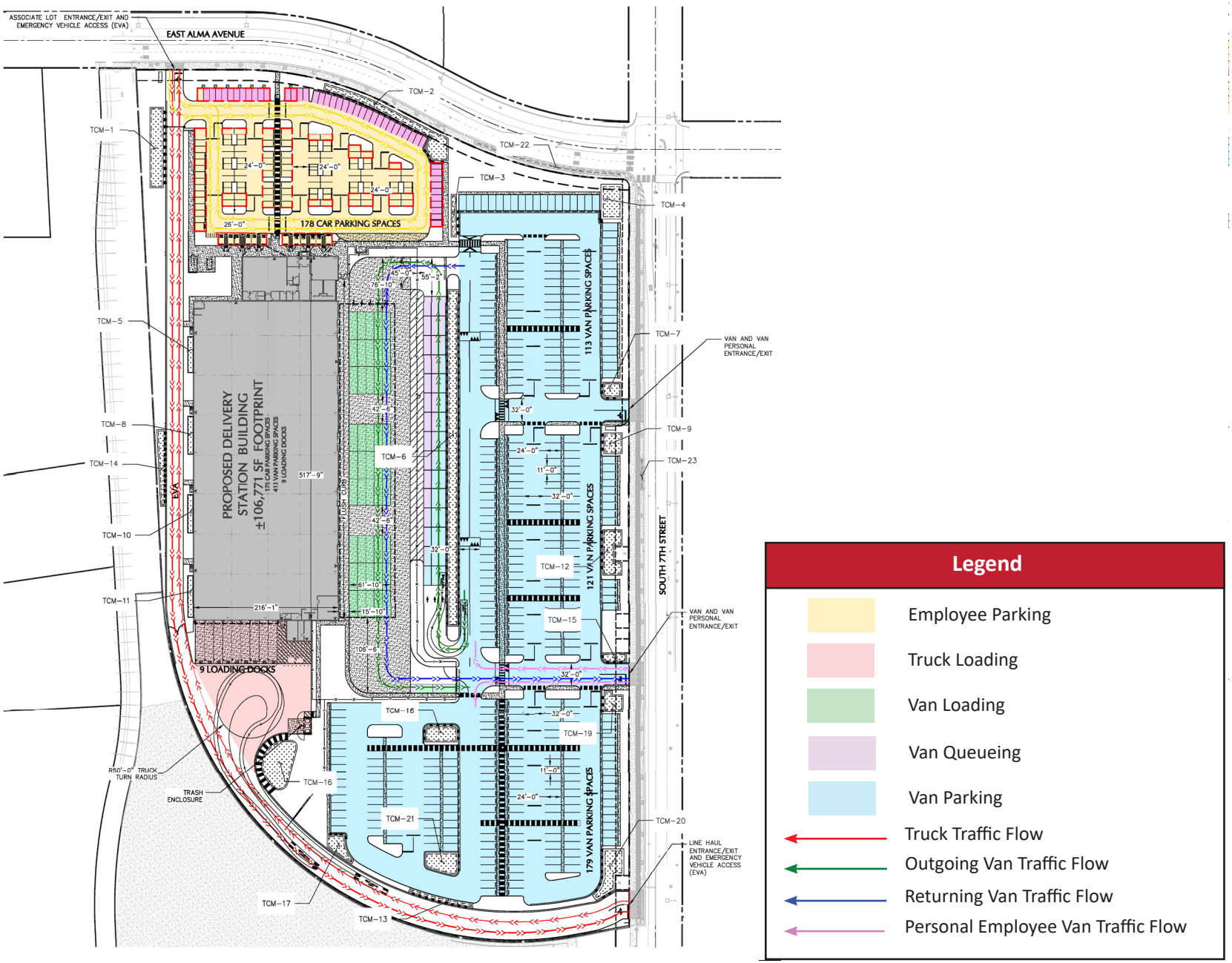
Source: Google Earth, 2024

Figure 2: Project Site Vicinity

1605 South 7th Street Project
Technical Assessment

Not to scale

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Source: Langan, 2025

Figure 3: Project Site Plan

1605 South 7th Street Project

Technical Assessment

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Source: City of San José, MG2, 2025

Figure 4: Project Truck Routes
1605 South 7th Street Project
Draft Environmental Impact Report

Not to scale

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2 ACOUSTIC FUNDAMENTALS

2.1 SOUND AND ENVIRONMENTAL NOISE

Acoustics is the science of sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium (e.g. air) to human (or animal) ear. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

Noise is defined as loud, unexpected, or annoying sound. The fundamental acoustics model consists of a noise source, receptor, and the propagation path between the two. The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Acoustics deal primarily with the propagation and control of sound. A typical noise environment consists of ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this ambient noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to continuous noise from traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micropascals (µPa) as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness. Table 1: Typical Noise Levels provides typical noise levels.

Table 1: Typical Noise Levels

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

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Lowest threshold of human hearing	– 0 –	Lowest threshold of human hearing
Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.		

Noise Descriptors

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The equivalent noise level (L_{eq}) represents the continuous sound pressure level over the measurement period, while the day-night noise level (L_{dn}) and Community Equivalent Noise Level (CNEL) are measures of energy average during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m. Most commonly, environmental sounds are described in terms of L_{eq} that has the same acoustical energy as the summation of all the time-varying events. Each is applicable to this analysis and defined Table 2: Definitions of Acoustical Terms.

Table 2: Definitions of Acoustical Terms

Term	Definitions
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.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in µPa (or 20 micronewtons per square meter), where 1 pascals 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 dB 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 µPa). 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 dB 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 acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Maximum Noise Level (L_{max}) Minimum Noise Level (L_{min})	The maximum and minimum dBA during the measurement period.
Exceeded Noise Levels (L_1, L_{10}, L_{50}, L_{90})	The dBA values that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Noise Level (L_{dn})	A 24-hour average Leq with a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity at

Term	Definitions
	nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average Leq with a 5 dBA weighting during the hours of 7:00 a.m. to 10:00 a.m. and a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.
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 on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

The A-weighted decibel (dBA) sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. 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 used. 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.

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 on the distance between the receptor and the noise source.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by dBA values. There is a strong correlation between dBA and the way the human ear perceives sound. For this reason, the dBA has become the standard tool of environmental noise assessment. All noise levels reported in this document are in terms of dBA, but are expressed as dB, unless otherwise noted.

Addition of Decibels

The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions. Under the dB scale, three sources of equal loudness together would produce an increase of approximately 5 dBA.

Sound Propagation and Attenuation

Sound spreads (propagates uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The way older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted:

- Except in carefully controlled laboratory experiments, a 1-dBA change cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A minimum 5-dBA change is required before any noticeable change in community response would be expected. A 5-dBA increase is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss. While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

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 causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} 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. A noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance[1].

2.2 GROUNDBORNE VIBRATION

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g. factory machinery) or transient (e.g. explosions). 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, including Vibration Decibels (VdB), peak particle velocity (PPV), and the root mean square (RMS) velocity. VdB is the vibration velocity level in the decibel scale. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 3: Human Reaction and Damage to Buildings from Vibration, displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, 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. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

[1] Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

Table 3: Human Reaction and Damage to Buildings from Vibration

Peak Particle Velocity (in/sec)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006-0.019	64-74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4-0.6	98-104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual, 2013.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

3 REGULATORY SETTING

To limit population exposure to physically or psychologically damaging as well as intrusive noise levels, the Federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

3.1 STATE OF CALIFORNIA

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Title 24 – Building Code

The State's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.2 LOCAL

City of San José General Plan

The San José General Plan identifies goals, policies, and implementations in the Noise Element. The Noise Element provides a basis for comprehensive local programs to regulate environmental noise and protect citizens from excessive exposure. Table 4: Land-Use Compatibility Guidelines for Community Noise in San José highlights five land-use categories and the outdoor noise compatibility guidelines.

Table 4: Land-Use Compatibility Guidelines for Community Noise in San José

Land-Use Category	Exterior Noise Exposure (DNL), in dBA		
	Normally Acceptable[1]	**Conditionally Acceptable[2]**	**Normally Unacceptable[3]**
Residential, Hotels and Motels, Hospitals, and Residential Care	Up to 60	>60 to 75	>75
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	Up to 65	>65 to 80	>80
Schools, Libraries, Museums, Meeting Halls, Churches	Up to 60	>60 to 75	>75
Office Buildings, Business Commercial, and Professional Offices	Up to 70	>70 to 80	>80
Sports Area, Outdoor Spectator Sports	Up to 70	>70 to 80	>80
Public and Quasi-Public Auditoriums, Concert Halls, Amphitheaters	-	>55 to 70	>70

1. Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction. There are no special noise insulation requirements.
2. Conditionally Acceptable – New construction should be undertaken only after a detailed analysis of the noise reduction requirement is conducted and needed noise insulation features included in the design.
3. Normally Unacceptable – New construction should be discouraged and may be denied as inconsistent with the General Plan and City Code. 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.
4. Outdoor open space noise standards do not apply to private balconies/patios.

Source: City of San José General Plan, 2024.

The San José General Plan includes the following policies for noise:

Policy 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

Policy 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

Policy 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.

Policy 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.

Policy 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.

Policy EC – 1.13: Update noise limits and acoustical descriptors in the Zoning Code to clarify noise standards that apply to land uses throughout the City.

Policy EC – 1.14: Require acoustical analyses for proposed sensitive land uses in areas with exterior noise levels exceeding the City's noise and land use compatibility standards to base noise attenuation techniques on expected Envision General Plan traffic volumes to ensure land use compatibility and General Plan consistency.

Policy 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 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.

City of San José Municipal Code

According to San José Municipal Code, Section 20.100.450, construction hours within 500 feet of a residential unit are limited to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, unless otherwise allowed in a Development Permit or other planning approval. The Municipal Code does not establish quantitative noise limits for construction activities in the City. Table 5: City of San José Zoning Ordinance Noise Standards shows the San José standards for maximum noise level at the property line.

Table 5: City of San José Zoning Ordinance Noise Standards

Land Use Types	Maximum Noise Level in Decibels at Property Line
Industrial use adjacent to a property used or zoned for residential purposes	55
Industrial use adjacent to a property used or zoned for commercial purposes	60
Industrial use adjacent to a property used or zoned for industrial or use other than commercial or residential purposes	70
Source: City of San José Municipal Code section 20.50.300.	

4 EXISTING CONDITIONS

4.1 EXISTING NOISE SOURCES

The City of San José is impacted by various noise sources. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities. Other sources of noise are the various land uses (i.e., residential, commercial, institutional, and recreational and parks activities) throughout the City that generate stationary-source noise. The Project site is currently vacant and does not include noise generating sources.

Noise Measurements

To determine ambient noise levels in the Project area, three short-term (10-minute) noise measurements and one long-term (24-hour) noise measurements were taken using a Larson Davis SoundExpert LxT Type I integrating sound level meter on May 22 and May 23, 2024; refer to Appendix A for existing noise measurement data and Figure 5: Noise Measurement Locations.

Short-Term measurement 1 (ST-1) was taken to represent the ambient noise level southeast of the Project site along South 7th Street; ST-2 was taken to represent existing noise levels at the San José State University CEFCU Stadium; and ST-3 was taken to represent existing noise levels at the nearby uses southwest of the Project site. Long-Term measurement 1 (LT-1) was taken to represent existing noise levels along East Alma Avenue by the Downtown College Preparatory (DCP) Charter School. The primary noise sources during the noise measurements were traffic along East Alma Avenue, South 7th Street, and stationary noise at commercial and industrial operations nearby. Table 6: Noise Measurements, provides the ambient noise levels measured at these locations.

Table 6: Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	L_{dn} (dBA)	Time	Date
ST-1	Southeast corner of the Project site along South 7th Street	69.0	58.8	81.6	-	3:18 p.m. to 3:28 p.m.	5/22/2024
ST-2	Intersection of South 7th Street and East Alma Avenue	74.4	58.4	85.5	-	3:37 p.m. to 3:47 p.m.	5/22/2024
ST-3	At commercial uses southwest of the Project site	58.5	49.3	72.3	-	3:57 p.m. to 4:07 p.m.	5/22/2024
LT-1	Northwest corner of the Project site along East Alma Avenue	63.4	46.2	101.7	66.6	4:25 p.m. to 4:25 p.m.	5/22/2024 - 5/23/2024
Source: Noise Measurements taken by Kimley-Horn on May 22-23, 2024.							



Source: Google Earth, 2024

Figure 5: Noise Measurement Locations

1605 South 7th Street Project
Technical Assessment

Not to scale

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Existing Mobile Noise

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the Project Transportation Analysis (NV5, 2024). The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along roadway segments in proximity to the Project site are included in Table 7: Existing Traffic Noise.

Table 7: Existing Traffic Noise

Roadway Segment	ADT	dBA L_{dn}[1]
Monterey Road		
East Alma Avenue to Phelan Avenue	24,560	64.3
7th Street		
East Alma Avenue to Phelan Avenue	10,604	60.4
East Alma Avenue		
Monterey Road to 7th Street	10,594	60.5
ADT = average daily trips; dBA = A-weighted decibels; L_{dn} = day-night noise level		
1. Traffic noise levels are at 100 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography.		
Source: Based on data from the Transportation Analysis (NV5, 2024). Refer to Appendix A for traffic noise modeling assumptions and results.		

The Project site is primarily surrounded by industrial and commercial uses with an existing school use west of the Project site. The existing mobile noise in the Project area are generated along East Alma Avenue, which is north of the Project site, and 7th Street which is east of the Project site.

Existing Stationary Noise

The primary sources of stationary noise in the Project vicinity are those associated with the operations of nearby Spartan Stadium northeast of the site and existing mixed-used commercial and industrial uses surrounding of the Project site. The noise associated with these sources may represent a single-event noise occurrence (e.g. aircraft flyover, car horn, etc.), short-term noise (e.g., construction equipment, landscape equipment), or long-term/continuous noise (e.g., mechanical noise that runs without interruption).

4.2 RECEPTORS

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. As shown in Table 8: Sensitive Receptors,

sensitive receptors near the Project site include schools, parks, and single-family residences. Surrounding the Project site to the north, east, and west, are large commercial and industrial areas. Additionally, DCP Charter School is located to the west of the Project site. These distances are from the Project site to the sensitive receptor property line. Figure 6: Sensitive Receptor Locations shows the sensitive receptors surrounding the Project site. The CEFCU Stadium is a sensitive receptor for air quality analysis, but not typically sensitive to noise or vibration.

Table 8: Sensitive Receptors

Receptor Description	Distance and Direction from the Project Site
1. DCP Charter School	100 feet west
2. CEFCU Stadium	230 feet north
3. Single-family residential community	800 feet west
4. Bellevue Park	1,200 feet west
Distances are measured from the Project site boundary to the property line.	
Source: Google Earth, 2024.	



Source: Google Earth, 2024

Figure 6: Sensitive Receptor Locations

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Technical Assessment

Not to scale

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5 SIGNIFICANCE CRITERIA AND METHODOLOGY

5.1 CEQA THRESHOLDS

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains analysis guidelines related to noise impacts. These guidelines have been used by the City to develop thresholds of significance for this analysis. A project would create a significant environmental impact if it would:

NOI-1 Generate 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;

NOI-2 Generate excessive groundborne vibration or groundborne noise levels; and

NOI-3 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, expose people residing or working in the project area to excessive noise levels.

5.2 METHODOLOGY

Construction

Construction noise estimates are based upon noise levels on typical noise levels generated by construction equipment published by the Federal Transit Administration (FTA) and FHWA. Construction noise is assessed in dBA L_{eq}. This unit is appropriate because L_{eq} can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period. The FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018) (FTA Noise and Vibration Manual) identifies a maximum 8-hour noise level standard of 80 dBA L_{eq} at residential uses, 85 dBA L_{eq} at commercial uses and 90 dBA L_{eq} at industrial uses for construction activities.

Reference noise levels are used to estimate noise levels at nearby noise-sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise is analyzed at a distance from the property line of the nearest receptor to the main construction activity at the Project site to provide an average, representative construction noise level for the various phases. Construction noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

Operations

The analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels are collected from field noise measurements and other published sources from similar types of activities are used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a

worst-case noise environment as noise level from stationary sources can vary throughout the day. Stationary source operational noise is evaluated based on the standards within the City's Municipal Code. The traffic noise levels in the Project vicinity were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108).

Vibration

Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, considering the distance from construction activities to nearby land uses and typically applied criteria for structural damage and human annoyance.

5.3 SIGNIFICANCE CRITERIA

This report relies on the following standards and significance criteria to evaluate potential noise and vibration impacts from the proposed Project in accordance with the CEQA thresholds of significance outlined above in Section 5.1: CEQA Thresholds.

Construction Noise

Per General Plan Policy EC-1.7, the City of San José considers projects involving 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 within 500 feet of residential land uses or within 200 feet of commercial land uses or offices to be significant and require the mitigation stated in Policy EC-1.7. The construction noise analysis also quantifies construction noise and compares the construction-related noise levels to the FTA's 8-hour average construction noise standards of 80 dBA L_{eq} at residential uses, 85 dBA L_{eq} at commercial uses, and 90 dBA L_{eq} at industrial uses. The construction analysis compares construction noise to FTA thresholds for informational purposes.

Operational Noise

Per General Plan Policy EC-1.2, a significant permanent noise level increase would occur if the Project would result in: a) a noise level increase of 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) a noise level increase of 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater. Additionally, a significant noise impact would be identified if the Project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan.

Section 20.30.500 of the City's Municipal Code establishes a limit of 55 dB for industrial areas adjacent to residential areas, 60 dB for industrial uses adjacent to commercial areas, when measured at the property line, and 70 dB for industrial uses adjacent to other industrial uses or use other than commercial or residential purposes. The analysis below compares generated noise levels to the Municipal Code standards, however, the Municipal Code is not used as a criterion to determine the significance of project impacts under CEQA.

Vibration

The FTA has published standard vibration velocities for construction equipment operations. In general, depending on the building category of the nearest buildings adjacent to the potential pile driving area, the potential construction vibration damage criteria vary. For example, for a building constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.50 inch per second (in/sec) peak particle velocity (PPV) is considered safe and would not result in any construction vibration damage. In general, the FTA architectural damage criterion for continuous vibrations (i.e. 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience cosmetic damage (e.g. plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on soil composition and underground geological layer between vibration source and receiver.

General Plan Policy EC-2.3 relies on guidance developed by Caltrans and FTA to address vibration impacts from development projects in San José. A vibration limit of 12.7 millimeters per second (mm/sec; 0.5 inch/sec) PPV is used for buildings that are structurally sound and designed to modern engineering standards. A conservative vibration limit of five mm/sec (0.2 inches/sec) PPV has been used for buildings that are found to be structurally sound but where structural damage is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of two mm/sec (0.08 inches/sec) PPV is used to provide the highest level of protection.

6 POTENTIAL IMPACTS AND MITIGATION

6.1 ACOUSTICAL IMPACTS

Threshold 6.1 Would the Project generate 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?

Construction

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g. land clearing, grading, excavation, paving). Noise generated by construction equipment varies depending on the equipment specifications, manner of use, and distance to receptor, but can be substantial.

Construction activities associated with development of the Project would include some demolition, site preparation, grading, paving, building construction, and architectural coating. Such activities would require dozers, excavators, and concrete saws during demolition; dozers and tractors during site preparation; graders, excavators, dozers, scrapers, and tractors during grading; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, and paving equipment during paving; and air compressors during architectural coating. Additionally, the Project would include off-site improvements which would require minimal construction equipment for the grind and overlay of the existing roads, replacement of the existing sidewalks and bike lanes, and installation of street lights. Since the off-site improvements are primarily roadway and sidewalk alterations, equipment would move in a linear fashion or would operate for short periods of time in separate locations as opposed to operating adjacent to any one receptor for an extended period of time. The off-site construction activity would be anticipated to use a paver, roller, mobile crane, and air compressor. Construction equipment for the off-site improvements would be the same equipment used for on-site construction.

Grading and excavation phases of Project construction tend to be the shortest in duration and create the highest construction noise levels due to the operation of heavy equipment required to complete these activities. For example, equipment typically used during this stage includes heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, and scrapers which are typically noisier. It should be noted that only a limited amount of equipment can operate near a given location at a particular time due to factors like visibility, maneuverability, and potential interference with each other's operations within the space of the Project site. Operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three to four minutes at lower power settings. Other primary sources of noise would be shorter-duration incidents, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts, which would last less than one minute. According to the applicant, no pile-driving would be required during construction, consistent with the City's Standard Permit Conditions (incorporated into **Mitigation Measure NOI-1)**.

Typical noise levels associated with individual construction equipment are listed in Table 9: Typical Construction Noise Levels.

Table 9: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA) from Source
	50 feet
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pump	77
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.	

During construction, exterior noise levels could affect the DCP Charter School and residential neighborhoods surrounding the construction site. However, as noted in the Evaluation Methodology above, the FTA has construction noise standards for residential, commercial, and industrial uses. Therefore, this analysis evaluates construction noise at each of the nearest uses.

The DCP Charter School, the nearest sensitive receptor located 100 feet to the west of the Project site would experience the most construction noise. Construction activities would occur throughout the Project site and would not be concentrated at a single point nearest the DCP Charter School property line. Noise levels typically attenuate (or drop off) at a rate of 6 dB per doubling of distance from point sources, such as industrial machinery.

Noise impacts for mobile construction equipment are typically assessed as emanating from the main construction activity area of the Project site.[2] For the Project, this area would be the center point of the Project site, which is approximately 550 feet for the DCP Charter School, 1,300 feet for the nearest residential noise receptor to the west, 500 feet for the nearest office commercial noise receptor (located at 1450 Monterey Road, west of the site), and 400 feet for the nearest industrial

[2] For the purposes of this analysis, the construction area is defined as the center of the Project site per the methodology in the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018). Although some construction activities may occur at distances closer than 120 feet from the nearest property lines, construction equipment would be dispersed throughout the Project site during various construction activities. Therefore, the center of the Project site represents the most appropriate distance based on the sporadic nature of construction activities.

noise receptor (east of the site).[3] The off-site improvements could occur at distances as close as 50 feet from receptor. See Table 10: Project Construction Noise Levels below which shows the noise receptors analyzed with land use, direction, and distance used for the purposes of modeling. These receptors may be exposed to elevated noise levels during Project construction. The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to calculate noise levels during construction activities; refer to Appendix A. RCNM is a computer program used to assess construction noise impacts and allows for user-defined construction equipment and user-defined noise limit criteria. Noise levels were calculated for each construction phase and are based on the equipment used, distance to the nearest property/receptor, and acoustical use factor for equipment.

The noise levels calculated show estimated exterior construction noise at the DCP Charter School, the closest residential, commercial, and industrial receptors. Based on the calculations using the RCNM as shown in Table 10: Project Construction Noise Levels, construction noise levels would range from construction noise levels would range from approximately 52.9 dBA L_{eq} to 67.4 dBA L_{eq} at the DCP Charter School, 45.4 dBA L_{eq} to 59.9 dBA L_{eq} at the nearest residential receptors, 53.7 dBA L_{eq} to 68.2 dBA L_{eq} at the nearest commercial receptors, and 55.7 dBA L_{eq} to 70.2 dBA L_{eq} at the nearest industrial receptors. The off-site improvements include resurfacing of Project frontage of East Alma Avenue and South 7th Street and reconstructed sidewalk. These improvements are typically one piece of demolition or paving equipment at the nearest point to the receptor. Restriping, new street trees, associated irrigation, and new street lights would not generate construction noise levels above the on-site building levels. As shown in Table 9: Typical Construction Noise Levels above, even the loudest piece of equipment at its loudest (jack hammer at 88 dBA L_{max}) would not exceed the FTA standard for industrial receptors.

Table 10: Project Construction Noise Levels

Construction Phase	Receptor Location			Modeled Exterior Noise Level (dBA L_{eq}) [2,3]	Noise Threshold (dBA L_{eq}) [4]	Exceeded?
	Land Use	Direction	Distance (feet) [1]			
Demolition	DCP Charter School	West	550	65.6	85	No
	Residential	West	1,300	56.8	80	No
	Commercial	West	500	66.5	85	No
	Industrial	East	400	68.4	90	No
Site Preparation	DCP Charter School	West	550	66.8	85	No
	Residential	West	1,300	59.3	80	No
	Commercial	West	500	67.6	85	No
	Industrial	East	400	69.6	90	No
Grading	DCP Charter School	West	550	67.4	85	No
	Residential	West	1,300	59.9	80	No

[3] These distances may vary from other analyses because they the distance is measures from the on-site construction area to the sensitive receptor property line and not from the Project site property line to the nearest sensitive receptor property line.

Construction Phase	Receptor Location			Modeled Exterior Noise Level (dBA L_{eq}) [2,3]	Noise Threshold (dBA L_{eq}) [4]	Exceeded?
	Land Use	Direction	Distance (feet) [1]			
	Commercial	West	500	68.2	85	No
	Industrial	East	400	70.2	90	No
Building Construction	DCP Charter School	West	550	65.8	85	No
	Residential	West	1,300	58.3	80	No
	Commercial	West	500	66.6	85	No
	Industrial	East	400	68.5	90	No
Paving	DCP Charter School	West	550	65.7	85	No
	Residential	West	1,300	58.2	80	No
	Commercial	West	500	66.5	85	No
	Industrial	East	400	68.5	90	No
Architectural Coating	DCP Charter School	West	550	52.9	85	No
	Residential	West	1,300	45.4	80	No
	Commercial	West	500	53.7	85	No
	Industrial	East	400	55.7	90	No
Overlapping 1 (Site Preparation + Grading)	DCP Charter School	West	550	70.1	85	No
	Residential	West	1,300	62.9	80	No
	Commercial	West	500	70.9	85	No
	Industrial	East	400	72.9	90	No
Overlapping 2 (Site Preparation + Grading + Building)	DCP Charter School	West	550	71.1	85	No
	Residential	West	1,300	63.6	80	No
	Commercial	West	500	71.9	85	No
	Industrial	East	400	73.5	90	No
Overlapping 3 (Building + Paving)	DCP Charter School	West	550	68.7	85	No
	Residential	West	1,300	61.3	80	No
	Commercial	West	500	69.9	85	No
	Industrial	East	400	71.5	90	No

Notes:
1. Distance is from the nearest receptor to the main construction activity area on the Project site. Not all equipment would operate at the closest distance to the receptor.
2. Modeled noise levels conservatively assume the simultaneous operation of all pieces of equipment.
3. The FTA Noise and Vibration Manual establishes construction noise standards of 80 dBA $L_{eq(8\text{-}hour)}$ for residential uses and 90 dBA $L_{eq(8\text{-}hour)}$ for commercial and industrial uses. It is noted that construction noise is evaluated with 8-hour noise averages (L_{eq}) to capture the noise energy throughout the workday. The 8-hour L_{eq} represents the variable nature of construction noise as equipment moves around to different locations on the site. For example, from the perspective of a sensitive receptor, graders make multiple passes along a single point to spread soil and level a building pad or foundation. The reference noise levels used in the analysis represent individual pass-by

Construction Phase	Receptor Location			Modeled Exterior Noise Level (dBA L_{eq}) [2,3]	Noise Threshold (dBA L_{eq}) [4]	Exceeded?
	Land Use	Direction	Distance (feet) [1]			
event, which only lasts a brief period. The 8-hour L_{eq} and average distances are used to represent the total noise level as the equipment moves closer and further away from a receptor.						
Source: Federal Highway Administration, *Roadway Construction Noise Model,* 2006. Refer to Appendix I for noise modeling results.						

As shown in Table 10, the loudest noise levels would be 67.4 dBA L_{eq} at the DCP Charter School, 59.9 dBA L_{eq} at the nearest residential uses, 68.2 dBA L_{eq} at the nearest commercial uses, and 70.2 dBA L_{eq} at the nearest industrial uses, which are below the FTA's 80 dBA L_{eq} standard at residential receptors, 85 dBA L_{eq} standard at commercial receptors, and 90 dBA L_{eq} at industrial receptors respectively. As mentioned previously, the Project would include off-site improvements on nearby roadways and sidewalks. However, due to the extremely short duration, minimal equipment, and varying locations, construction noise from the off-site improvements would not be anticipated to contribute to the construction noise generated on-site and would not cause an exceedance in the FTA's construction standards at any of the nearby receptors.

General Policy EC-1.7 requires construction operations within San José to use best available noise suppression devices and techniques and limit construction hours near residential uses. 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.

The Project site is not located within 500 feet of residential uses, however it is located 100 feet from commercial uses west of the site (located at 1450 Monterey Road). The proposed Project would result in more than 12 months of substantial noise generating activities.

However, construction activities would be limited to daytime hours when people would be out of their houses and would conform to the time-of-day restrictions of the City's Municipal Code. Construction noise is temporary and would terminate once construction is complete. Further, the Project would not include pile-driving. The Project would be required to adhere to the **Mitigation Measure NOI-1 (MM NOI-1)**, which would ensure that all construction equipment is equipped with properly operating and maintained mufflers and other state required noise attenuation devices, helping to reduce noise at the source. **MM NOI-1** is required to ensure that construction noise levels do not exceed the City's standards and that time-of-day restrictions are adhered to. With implementation of this mitigation measure, construction noise impacts to nearby receptors would be less than significant.

Impact NOI-1: Construction of the Project construction would last longer than 12 months and would result in a temporary increase in ambient noise levels in the vicinity of the Project in excess of standards established in the City's General Plan and Zoning Ordinance. To reduce this impact to less than significant, the following mitigation measure shall be applied:

Mitigation Measure

MM NOI-1 Construction Noise Logistics Plan

Prior to the issuance of any grading or demolition permits, the Project applicant shall submit and implement a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting and notification of construction schedules, equipment to be used, and designation of a noise disturbance coordinator. The noise disturbance coordinator shall respond to neighborhood complaints and shall be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses. The noise logistic plan shall be submitted to the Director of Planning, Building and Code Enforcement or Director's designee prior to the issuance of any grading or demolition permits. As a part of the construction noise logistics plan, construction activities for the Project shall include, at a minimum, the following best management practices:

i. Pile Driving is prohibited.

ii. Construction activities shall be limited to the hours between 7:00 AM and 7:00 PM, 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 (San José Municipal Code Section 20.100.450). 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.

iii. Construct solid plywood fences or similar along the northwest boundary of the site adjacent to residences to shield adjacent residential land uses from ground-level construction equipment and activities. The temporary 8-foot noise barrier shall be solid over the face and at the base of the barrier in order to provide a 5 dBA noise reduction.

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

v. Unnecessary idling of internal combustion engines shall be strictly prohibited.

vi. 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.

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

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

ix. 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.

x. 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 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.

Prior to issuance of any demolition or grading permits, the project applicant shall submit a copy of the Construction Noise Logistics Plan to the Director of Planning, Building and Code Enforcement or the Director's designee, and the project applicant shall implement the requirements of the Construction Noise Logistics Plan during project construction.
Construction Traffic Noise

Construction noise may be generated by large trucks moving materials to and from the Project site. Large trucks would be necessary to deliver building materials as well as remove dump materials. Excavation, cut and fill would be required. Soil hauling would be required as approximately 3,000 cubic yards (cy) of soil would be exported. Based on the California Emissions Estimator Model (CalEEMod) default assumptions for this Project, as analyzed in *1605 South 7th Street Air Quality Assessment* (Kimley-Horn, 2024), the Project would generate the highest number of daily trips during the building construction phase. The model estimates that the Project would generate up to 38 worker trips and 15 daily vendor trips for a total of approximately 53 daily vehicle trips during building construction. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and vehicle mix do not also change) would not result in a noise level increase of 3 dBA.[4] East Alma Avenue between South 7th Street to Monterey Road has an average daily trip volume of 10,594 vehicles (Table 7). Therefore, a maximum of 53 daily Project construction trips would not double the existing traffic volume per day. Construction related traffic noise would not be noticeable and would not create a significant noise impact.

California establishes noise limits for vehicles licensed to operate on public roads using a pass-by test procedure. Pass-by noise refers to the noise level produced by an individual vehicle as it travels past a fixed location. The pass-by procedure measures the total noise emissions of a moving vehicle with a microphone. When the vehicle reaches the microphone, the vehicle is at full throttle acceleration at an engine speed calculated for its displacement.

For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. According to the FHWA, dump trucks typically generate noise levels of 77 dBA and flatbed trucks typically generate noise levels of 74 dBA, at a distance of 50 feet from the truck (FHWA, Roadway Construction Noise Model, 2006). Furthermore, while construction is would be temporary, the Project is subject to the following standard permit conditions (**MM NOI-1**) to limit construction noise and impacts.

[4] California Department of Transportation, *Traffic Noise Analysis Protocol*, 2011.

Operations

Implementation of the Project would create new sources of noise in the Project vicinity. The major noise sources associated with the Project that would potentially impact existing and future nearby residences, schools, and other receptors include the following:

- Off-site traffic noise;
- Mechanical equipment (i.e., trash compactors, air conditioners, etc.);
- Activities at the loading areas (i.e., maneuvering and idling trucks, loading/unloading, and equipment noise);
- Parking areas (i.e., car door slamming, car radios, engine start-up, and car pass-by); and
- Landscape maintenance activities.

The closest sensitive receptor is the DCP Charter School located approximately 100 feet to the west. The City of San José stationary source exterior Zoning Ordinance Noise Standards is 70 dBA L_{eq} for industrial areas adjacent to a property zoned as industrial and 60 dBA L_{eq} for industrial uses adjacent to property zoned as commercial. Per General Plan Policy EC-1.1, land use compatibility standard for schools is up to 60 dBA L_{dn} and business commercial areas is up to 70 dBA L_{dn}. The Project's operational noise would comply with the noise limits set by the Zoning Ordinance Noise Standards and the General Plan.

Traffic Noise

Implementation of the Project would generate increased traffic volumes along study roadway segments. The Project is expected to generate a total of 1,588 average daily trips, which would result in noise increases on Project area roadways (i.e., Monterey Road, South 7th Street, and East Alma Avenue). In general, a traffic noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable (Caltrans, 2013). Generally, traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA. Therefore, permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant.

As shown in Table 11: Existing and Project Traffic Noise, the existing (2024) traffic-generated noise level on Project area roadways is between 60.4 dBA L_{dn} and 64.3 dBA L_{dn} at 100 feet from the centerline. As previously described, L_{dn} is 24-hour average noise level with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Traffic noise levels for roadways primarily affected by the Project were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise modeling was conducted for conditions with and without the Project, based on traffic volumes (NV5, 2024). As noted in Table 11, Project noise levels 100 feet from the centerline would range from 60.9 dBA L_{dn} to 64.5 dBA L_{dn}. The Project would have the highest increase of 0.6 dBA L_{dn} on South 7th Street between East Alma Avenue and Phelan Avenue. However, the 0.6 dBA L_{dn} increase is under the perceptible 3.0 dBA noise level increase per GP Policy EC-1.2 and Caltrans standards. Therefore, the Project would not have a significant impact on existing traffic noise levels.

Table 11: Existing and Project Traffic Noise

Roadway Segment	2024 Existing Conditions		2024 With Project		Change from No Project Conditions	Significant Impact?
	ADT	dBA L_{dn}[1]	ADT	dBA L_{dn}[1]		
Monterey Road						
East Alma Avenue and Phelan Avenue	24,560	64.3	24,735	64.5	0.2	**No**
South 7th Street						
East Alma Avenue and Phelan Avenue	10,604	60.4	11,587	61.0	0.6	**No**
East Alma Avenue						
Monterey Road to South 7th Street	10,594	60.5	11,305	60.9	0.4	**No**
ADT = average daily trips; dBA = A-weighted decibels; L_{dn} = day night noise level						
1.Traffic noise levels are at 100 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography. 2. These are the three roadway intersections required by the City for the Project. Other nearby intersections are not expected to add a measurable number of vehicle trips and therefore are not needed in the intersection operational analysis.						
Source: Based on data from the Transportation Analysis (NV5, 2024). Refer to Appendix A for traffic noise modeling assumptions and results.						

Table 12: Opening Year and Opening Year Plus Project Traffic Noise, shows the background conditions or Opening Year (2028) traffic. As shown in Table 12, Opening Year roadway noise levels with the Project would range from 61.0 dBA L_{dn} to 64.5 dBA L_{dn}. Project traffic would traverse and disperse over Project area roadways, where existing ambient noise levels already exist. Future development associated with the Project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise near existing and proposed land uses. The Project would not result in any increase in noise levels. Therefore, impacts are less than significant.

Table 12: Opening Year and Opening Year Plus Project Traffic Noise

Roadway Segment	2028 Opening Year		2028 With Project		Change from No Project Conditions	Significant Impact?
	ADT	dBA L_{dn}[1]	ADT	dBA L_{dn}[1]		
Monterey Road						
East Alma Avenue and Phelan Avenue	24,711	64.4	24,886	64.5	0.1	**No**
South 7th Street						
East Alma Avenue to Phelan Avenue	10,610	60.4	11,593	61.0	0.6	**No**
East Alma Avenue						
Monterey Road to South 7th Street	10,717	60.5	11,428	61.1	0.6	**No**
ADT = average daily trips; dBA = A-weighted decibels; L_{dn} = day night noise level						
1. Traffic noise levels are at 100 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography. 2. These are the three roadway intersections required by the City for the Project. Other nearby intersections are not expected to add a measurable number of vehicle trips and therefore are not needed in the intersection operational analysis.						

Roadway Segment	2028 Opening Year		2028 With Project		Change from No Project Conditions	Significant Impact?
	ADT	dBA L_{dn}[1]	ADT	dBA L_{dn}[1]		
Source: Based on data from the Transportation Analysis (NV5, 2024). Refer to Appendix A for traffic noise modeling assumptions and results.						

Nighttime Traffic Noise

Table 11 and Table 12 show that Project generated traffic (including trucks) would not significantly increase roadway noise levels and would not exceed the City's noise and land use compatibility standards. It is noted that the City's noise standards are measured in DNL, which is a 24-hour noise energy metric that includes a 10-dB weighting for nighttime noise to account for increased noise sensitivity at night (i.e., 10 dB is added to noise levels that occur between 10:00 p.m. and 7:00 a.m.).

Although the traffic noise analysis above includes the Project truck trips, the following discussion conservatively addresses what would be the worst-case nighttime truck noise effects related to the residential area along South 7th Street. Trucks are not anticipated to disregard the posted nighttime restriction on 7th Street, but should they, the following analysis describes potential noise impacts. Per the Project Traffic Study, the Project would generate 52 truck trips and, at most, 60 percent of those trips (i.e., 31 truck trips) would occur along South 7th Street. Per U.S. Department of Housing and Urban Development (HUD) DNL calculator[5], 31 trucks at night would be 60 dBA. Table 12 shows that Opening Year No Project traffic noise would be 60.4 dBA along 7th Street. Adding 60 percent of the Project's trucks (conservatively assumed to all occur at night) would combine to result in 63.2 dBA, which is a 2.8 dBA increase over no project conditions. This is a greater noise increase than the 61.0 dBA Project noise shown in Table 12 as the calculations summarized in the table assume trucks adherence to the posted restriction and there would be no overnight truck trips. The 2.8 dBA increase is still below the perceptible 3.0 dBA noise level increase per GP Policy EC-1.2 and Caltrans standards. Therefore, under worst-case conditions, the Project related roadway noise increase would be barely perceptible to the human ear (i.e., less than 3 dBA).

Stationary Noise Sources

Implementation of the Project would create new sources of noise in the Project vicinity from mechanical equipment, truck loading areas, parking lot noise, backup beepers, and landscape maintenance. Table 13: Stationary Sources Noise Level shows the noise levels generated by various stationary noise sources and the resulting noise level at the nearest receiver. Table 13 also show the Project's compliance with GP Policy EC-1.1 and EC-1.2 as well as the Municipal Code, which establishes industrial use noise standards of 60 dBA when adjacent to commercial zones and 70 dBA when adjacent to industrial zones. Each stationary source is discussed below.

Mechanical Equipment

Regarding mechanical equipment, the Project would generate stationary-source noise associated with heating, ventilation, and air conditioning (HVAC) units. HVAC units typically generate noise levels of approximately 55.4 dBA L_{dn} at 50 feet.[6] It should be noted that the proposed HVAC units would be roof-top mounted. As such, mechanical equipment noise level would attenuate to 49.4

[5] U.S. Department of Housing and Urban Development, *Day/Night Noise Level (DNL) Calculator*, https://www.hudexchange.info/environmental-review/dnl-calculator/, accessed March 2025.

[6] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.

dBA at the closest sensitive receptor (DCP Charter School located 100 feet to the west). Table 13 shows that mechanical equipment would not exceed the City's General Plan standards in Policy EC-1.1 and Policy EC-1.2.

Loading Area Noise

The Project is an industrial development that would include deliveries and loading of heavy-duty trucks. The primary noise associated with deliveries is the arrival and departure of heavy-duty trucks. Operations of Project would potentially require a mixture of deliveries from vans, light trucks, and heavy-duty trucks. Normal deliveries associated with vans and light trucks would typically occur during daytime hours. The Project would result in 528 daily van trips. Deliveries associated with heavy-duty trucks would occur during the nighttime hours. The Project would result in 52 daily heavy-duty truck trips (refer to the *1605 South 7th Street Transportation Analysis* prepared by NV5 for more information).

During loading and unloading activities, noise would be generated by the trucks' diesel engines, exhaust systems, backup beepers, and brakes during low gear shifting' braking activities; backing up toward the docks/loading areas; dropping down the dock ramps; and maneuvering away from the docks. Based on the Project building orientation, the loading areas would be located on the eastern boundary of the warehouse building approximately 200 feet from the closest sensitive receptors (DCP Charter School) and commercial receptors (located at 1450 Monterey Road). The closest industrial receptors would be approximately 80 feet east (located at 1404 South 7th Street). While there would be temporary noise increases during truck maneuvering and engine idling, these impacts would be of short duration and infrequent. Typically, heavy truck operations generate a noise level of 67.8 dBA L_{dn} at a distance of 50 feet.[7] Loading area noise would attenuate to 55.8 dBA at the closest sensitive receptor, the DCP Charter School located 200 feet to the west. However, the DCP Charter School would be unoccupied during the nighttime loading and unloading activities and would therefore be unaffected by the increased noise levels. The nearest residence that could potentially be affected by the nighttime loading and unloading activities are located approximately 800 feet from the Project site. At this distance, nighttime loading area noise would attenuate to 43.7 dBA. [8] Table 13 shows that truck and loading area noise would not exceed the City's General Plan standards in Policy EC-1.1 and Policy EC-1.2.

Parking Areas

Traffic associated with parking areas is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Parking lot noise can also be considered a "stationary" noise source. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 53 to 61 dBA at 50 feet[9] and may be an annoyance to noise-sensitive receptors. Conversations in parking areas may also be an annoyance to sensitive receptors. Sound levels of speech typically range from 33 dBA at 48 feet for normal speech to 50 dBA at 50 feet for very loud speech.[10] It should be noted that parking lot noise

[7] Ibid.
[8] Ibid.
[9] Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.
[10] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden. *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.

are instantaneous noise levels compared to noise standards in the L_{dn} scale, which are averaged over time. As a result, actual noise levels over time resulting from parking lot activities would be far lower. Table 13 shows that parking area noise would not exceed the City's General Plan standards in Policy EC-1.1 and Policy EC-1.2.

Landscape Maintenance Activities

Development and operation of the Project includes new landscaping that would require periodic maintenance. Noise generated by a gasoline-powered landscape equipment is estimated to be approximately 42.6 dBA L_{dn} at a distance of 50 feet. Landscape Maintenance activities could occur approximately 80 feet east from the nearest industrial use, and approximately 100 feet west from the nearest commercial use, and the DCP Charter School. Maintenance activities would operate during daytime hours for brief periods of time as allowed by the City Municipal Code and would not permanently increase ambient noise levels in the Project vicinity and would be consistent with activities that currently occur at the surrounding uses. Table 13: Stationary Source Noise Levels shows that landscape maintenance noise would not exceed the City's General Plan standards in Policy EC-1.1 and Policy EC-1.2.

Combined Noise Levels

Project operations could potentially result in simultaneous noise generating activities associated with the mechanical equipment, loading area, parking lot area, and landscape maintenance. The combined noise level associated with the simultaneous operation of all on-site noise sources at the nearest industrial, school and commercial in the City of San Jose are shown in Table 13.

Table 13: Stationary Sources Noise Level

Nearest Land Use	Distance (feet)	Reference Level at 50 ft (dBA L_{dn})	Policy EC-1.1 and Municipal Code Section 20.50.300			Policy EC-1.2			
			Noise Level at Receiver (L_{dn})	Exterior Noise Standard	Exceed Threshold	Ambient Noise Level	Combined Noise at Receiver	Incremental Increase (dBA)[8]	Exceed Threshold
Mechanical Equipment									
Industrial	80	55.4 dBA[1]	51.3 dBA	70 dBA[4]	No	69.0 dBA[6]	69.1 dBA	0.1	No
DCP Charter School	100		49.4 dBA	60 dBA[5]	No	63.4 dBA[7]	63.6 dBA	0.2	No
Commercial	100		49.4 dBA	60 dBA[4]	No	58.5 dBA[8]	59.0 dBA	0.5	No
Loading Area									
Industrial	80	67.8 dBA[1]	63.7 dBA	70 dBA[4]	No	69.0 dBA[6]	70.1 dBA	1.1	No
DCP Charter School	200		55.8 dBA	60 dBA[5]	No	63.4 dBA[7]	64.1 dBA	0.7	No
Commercial	200		55.8 dBA	60 dBA[4]	No	58.5 dBA[8]	60.4 dBA	1.9	No
Parking Area									
Industrial	80	62.2 dBA[2]	58.1 dBA	70 dBA[4]	No	69.0 dBA[6]	69.3 dBA	0.3	No
DCP Charter School	100		56.2 dBA	60 dBA[5]	No	63.4 dBA[7]	64.2 dBA	0.8	No
Commercial	100		56.2 dBA	60 dBA[4]	No	58.5 dBA[8]	60.5 dBA	2.0	No
Landscape Maintenance									
Industrial	80	42.6 dBA[3]	38.6 dBA	70 dBA[4]	No	69.0 dBA[6]	69.0 dBA	0.0	No
DCP Charter School	100		36.6 dBA	60 dBA[5]	No	63.4 dBA[7]	63.4 dBA	0.0	No
Commercial	100		36.6 dBA	60 dBA[4]	No	58.5 dBA[8]	58.5 dBA	0.0	No
Combined Noise									
Industrial	80	69.1 dBA	65.0	70 dBA[4]	No	69.0 dBA[6]	70.5 dBA	0.5	No
School DCP Charter School	100-200		58.2	60 dBA[5]	No	63.4 dBA[7]	64.5 dBA	1.1	No
Commercial	100-200		58.2	60 dBA[4]	No	58.5 dBA[8]	61.4 dBA	2.9	No

1. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.
2. Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.
3. U.S. EPA, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971.
4. City of San José Municipal Code section 20.50.300 (Table 20-135), which establishes industrial use noise standards of 60 dBA when adjacent to commercial zones and 70 dBA when adjacent to industrial zones.
5. City of San José General Plan Policy EC-1.1 establishes Normally acceptable noise standards of 60 dBA for school uses.
6. Noise Measurement ST-1, which is representative of ambient noise levels at the land uses east of the Project site.
7. Noise Measurement LT-1, which is representative of ambient noise levels at the school use west of the Project site.
8. Noise Measurement ST-3, which is representative of ambient noise levels at the commercial uses west of the Project site.
9. Incremental noise threshold per City of San José General Plan Policy EC-1.2, which establishes incremental noise standards of 5 dBA where noise levels would remain "Normally Acceptable" and 3 dBA where noise levels would equal or exceed the "Normally Acceptable" level for land uses sensitive to increased noise levels. Normally acceptable levels are 60 dBA for residential uses. Although the normally acceptable standard for industrial and commercial office uses is 70 dBA, it is not considered a land use sensitive to increased noise levels per Policy EC-1.2.

As shown in Table 13, stationary sources would not exceed the noise standards included in Municipal Code Section 20.50.300, Land Use Compatibility Standards from GP Policy EC-1.1 or the incremental noise increases per GP Policy EC-1.2. The Project would not place mechanical equipment near sensitive uses, and noise from this equipment would not be perceptible at the closest sensitive receptor. Noise levels associated with truck loading would not exceed the City's 70 dBA L_{dn} industrial noise standard and 60 dBA L_{dn} commercial and school noise standards, per GP Policy EC-1.1 and Municipal Code section 20.50.300. Additionally, the incremental increase over existing ambient noise levels would be 1.1 dBA at DCP Charter School and would, therefore, not result in increased noise levels exceeding 3 dBA L_{dn} per GP Policy EC-1.2.

Noise associated with parking lot activities is not anticipated to exceed the 60 or 70 dBA L_{dn} threshold per GP Policy EC-1.1 and Municipal Code section 20.50.300. Additionally, the incremental increase would be 0.8 dBA L_{dn} at the school; this would not result in exceeding 3 dBA L_{dn} per GP Policy EC-1.2. Therefore, noise impacts from parking lots would be less than significant. With adherence to the City's Municipal Code, impacts associated with landscape maintenance would be less than significant.

Additionally, noise levels would be further attenuated by intervening terrain and structures such as existing walls and fences. Impacts from mechanical equipment, loading area, parking area, and landscape maintenance would be less than significant. Further the combined noise impacts associated with simultaneous operations of all on-site noise sources would be below perceptible levels. Therefore, the Project would not result in a significant impact to operational noise.

Summary

Overall, implementation of Standard Permit Conditions and adherence to Municipal Code requirements, noise impacts associated with traffic, mechanical equipment, loading/unloading activities, parking lot noise, and landscape equipment would be reduced to a less than significant level.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 6.2 Would the Project generate excessive groundborne vibration or groundborne noise levels?

Construction

Increases in groundborne vibration levels attributable to the Project would be primarily associated with construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

Table 14: Typical Construction Equipment Vibration Levels, lists vibration levels at 25 feet and 80 feet for typical construction equipment. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in Table 14, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.001 to 0.016 in/sec PPV at 80 feet from the source of activity. The nearest receptor is approximately 80 feet from the active construction zone and would not experience significant vibration levels.

Table 14: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity At 25 feet (in/sec)	Peak Particle Velocity At 80 feet (in/sec)
Large Bulldozer	0.089	0.016
Loaded Trucks	0.076	0.013
Rock Breaker	0.059	0.010
Small Bulldozer/Tractors	0.003	0.001
1. Calculated using the following formula: PPVequip = PPVref x (25/D)1.5, where: PPVequip = the peak particle velocity in in/sec of the equipment adjusted for the distance; PPVref = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018; D = the distance from the equipment to the receiver.		
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.		

As shown in Table 14, the highest vibration levels are achieved with the large bulldozer operations. This construction activity is expected to take place during grading. Project construction would be approximately 80 feet from the closest structure. However, construction equipment vibration velocities would not exceed the FTA's and City's General Policy 2.3's 0.20 in/sec PPV threshold. In general, other construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest structure. The closest historic resources to the Project site are the Casa Linda Motel and the California Motel, approximately 1,050 and 1,600 feet south of the Project site, respectively.[11] At these distances, vibrations levels at the nearest historic resources would not exceed the 0.08 in/sec PPV threshold. Therefore, vibration impacts associated with the Project construction would be less than significant.

Operations

The Project would include approximately 52 daily line-haul truck trips. Loaded trucks have a PPV of 0.076 in/sec at 25 feet. Sensitive receptors are located along South 7th Street where trucks may travel. Sensitive receptors along South 7th Street are located more than 25 feet away from the closest travel lane.[12] Therefore, Project related delivery truck traffic vibration levels would be 0.076 in/sec PPV or less and would not exceed the City's General Policy EC-2.3's 0.20 in/sec PPV threshold. The Project would not generate groundborne vibration that could be felt at surrounding uses. Project operations would also not involve railroads and therefore would not result in vibration impacts at surrounding uses. As a result, impacts from vibration associated with Project operation would be less than significant.

Mitigation Measures: No mitigation is required.

[11] City of San José. Historic Resources Inventory. Available at: https://experience.arcgis.com/experience/4ef3418d9e58451c9c45086ac9a90d6e#data_s=id%3Awidget_22_output_config_0%3A0. Accessed on October 30, 2024.

[12] Distances measured from the edge of the road to the property line.

Level of Significance: Less than significant impact.

Threshold 6.3 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, would the Project expose people residing or working in the Project area to excessive noise levels?

The nearest airport to the Project site is the Reid-Hillview County Airport located approximately 2.7 miles northeast of the Project site. The Project site lies outside of the 60 dBA CNEL noise contours shown in the Reid-Hillview Airport Master Plan published in July 2006.[13] Although aircraft-related noise would occasionally be audible at the Project site, noise from aircraft would not substantially increase ambient noise levels. Exterior noise levels resulting from aircraft would be compatible with the proposed Project. By ensuring compliance with the City's normally acceptable noise level standards, interior noise levels would also be considered acceptable with aircraft noise. Therefore, the Project would not expose people residing or working in the Project area to excessive airport- or airstrip-related noise levels and no mitigation is required.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

6.2 CUMULATIVE NOISE IMPACTS

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts involve development of the Project in combination with ambient growth and other related development projects. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the Project to potentially result in cumulative noise impacts.

Cumulative Construction Noise

The Project's construction activities, when properly mitigated, would not result in a substantial temporary increase in ambient noise levels. The City permits construction hours within 500 feet of a residential unit are limited to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, unless otherwise allowed in a Development Permit or other planning approval. The Project would contribute to other proximate construction noise impacts if construction activities were conducted concurrently. However, based on the noise analysis above, the Project's construction-related noise impacts would be less than significant following compliance with local regulations and City Standard Permit Conditions (**MM NOI-1**) outlined in this study.

Construction activities at other planned and approved projects would be required to take place during daytime hours, and the City and project applicants would be required to evaluate construction noise impacts and implement mitigation, if necessary, to minimize noise impacts. Each project would be required to comply with the applicable City of San José Municipal Code limitations on allowable hours of construction. Therefore, Project construction would not contribute to cumulative impacts and impacts in this regard are not cumulatively considerable.

[13] County of Santa Clara, *Reid Hillview Airport Master Plan,* July 2006.

Cumulative Operational Noise

Cumulative noise impacts describe how much noise levels are projected to increase over existing conditions with the development of the Project and other foreseeable projects. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to buildout of the Project and other projects in the vicinity. However, noise from generators and other stationary sources could also generate cumulative noise levels.

Stationary Noise
As discussed above, impacts from the Project's operations would be less than significant. Due to site distance, intervening land uses, and the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources would be limited to the Project site and vicinity. No known past, present, or reasonably foreseeable projects would compound or increase the operational noise levels generated by the Project. Thus, cumulative operational noise impacts from related projects, in conjunction with Project-specific noise impacts, would not be cumulatively significant.

Traffic Noise
A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. Cumulative increases in traffic noise levels were estimated by comparing the Existing Plus Project and Cumulative Year scenarios to existing conditions.

The following criteria is used to evaluate the combined effect of the cumulative noise increase.

- Combined Effect. The cumulative with Project noise level ("Cumulative Year With Project") would cause a significant cumulative impact if a 3.0 dB increase over "Existing" conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use. Although there may be a significant noise increase due to the Project in combination with other related projects (combined effects), it must also be demonstrated that the Project has an incremental effect. In other words, a significant portion of the noise increase must be due to the Project.

The following criteria have been used to evaluate the incremental effect of the cumulative noise increase.

- Incremental Effects. The "Cumulative Year With Project" causes a 1.0 dBA increase in noise over the "Cumulative Year Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the Project and growth due to occur in the general area would contribute to cumulative noise impacts. Table 15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels, identifies the traffic noise effects along roadway segments in the vicinity of the Project site for "Existing," "Cumulative Year Without Project," and "Cumulative Year With Project," conditions, including incremental and net cumulative impacts.

Table 15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels

Roadway Segment	Existing dBA L_{dn}[1]	Cumulative Year Without Project dBA L_{dn}[1]	Cumulative Year With Project dBA L_{dn}[1]	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
				dBA Difference: Existing and Cumulative Year With Project	dBA Difference: Cumulative Year Without and With Project	
South 7th Street						
East Alma Avenue to Phelan Avenue	60.4	62.0	62.4	2.0	0.4	No
Monterey Road						
East Alma Avenue to Phelan Avenue	64.3	64.4	64.6	0.3	0.2	No
East Alma Avenue						
Monterey Road to South 7th Street	60.5	60.9	61.4	0.9	0.5	No
ADT = average daily trips; dBA = A-weighted decibels; L_{dn}= day-night noise levels						
1. Traffic noise levels are at 100 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography. 2. These are the three roadway intersections required by the City for the Project. Other nearby intersections are not expected to add a measurable number of vehicle trips and therefore are not needed in the intersection operational analysis.						
Source: Based on data from the Transportation Analysis (NV5, 2024). Refer to Appendix A for traffic noise modeling assumptions and results.						

First, it must be determined whether the "Cumulative Year With Project" increase above existing conditions (Combined Effects) is exceeded. As indicated in Table 15, the Project has no street segments that exceed the combined effects criterion. Under the Incremental Effects criteria, cumulative noise impacts are defined by determining if the forecast ambient ("Cumulative Year Without Project") noise level is increased by 1 dB or more. As indicated above, the Project does not exceed the Incremental Effects criteria for any roadway segment analyzed.

Therefore, the Project's cumulative noise contribution would be less than significant. Based on the significance criteria set forth in this Report, no roadway segments would result in significant impacts because they would not exceed the City's threshold for noise at nearby sensitive receptors. The Project would not result in long-term mobile noise impacts based on Project-generated traffic as well as cumulative and incremental noise levels. Therefore, the Project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact. The Project's contribution to noise levels would not be cumulatively considerable.

7 REFERENCES

1. California Department of Transportation, *Traffic Noise Analysis Protocol*, 2011.
2. California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.
3. California Department of Transportation, *Transportation and Construction-Induced Vibration Guidance Manual*, 2004.
4. City of San José, *Envision San José 2040 General Plan*, 2014.
5. City of San José, *Municipal Code*, 2024.
6. County of Santa Clara, *Reid-Hillview Airport Master Plan,* July 2006.
7. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden. *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.
8. Federal Highway Administration, *Roadway Construction Noise Model*, 2006.
9. Federal Highway Administration, Roadway *Construction Noise Model User's Guide Final Report*, 2006.
10. Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, 1992.
11. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.
12. Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.
13. NV5, *1605 South 7th Street Transportation Analysis*, September 2024.
14. United States Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, 1979.

Appendix A

Noise Data

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Existing
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	Ldn at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	10,594	35	0	2.0%	1.0%	60.5	-	-	112	355
2	7th Street	At Alma Ave Intersection	2	10	10,604	35	0	2.0%	1.0%	60.4	-	-	110	347
3	Monterey Road	At Alma Ave Intersection	6	12	24,560	35	0	2.0%	1.0%	64.3	-	86	271	856

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Existing Plus Project
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway				
#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Medium Trucks	Heavy Trucks	Ldn at 100 Feet	Distance to Contour 70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	11,305	35	0	1.874%	1.17%	60.9	-	-	123	390
2	7th Street	At Alma Ave Intersection	2	10	11,587	35	0	2.055%	1.1%	61.0	-	40	125	396
3	Monterey Road	At Alma Ave Intersection	6	12	24,735	35	0	2.091%	1.1%	64.5	-	90	283	895

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Opening Year
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	Ldn at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	10,717	35	0	2.0%	1.0%	60.5	-	-	113	359
2	7th Street	At Alma Ave Intersection	2	10	10,610	35	0	2.0%	1.0%	60.4	-	-	110	347
3	Monterey Road	At Alma Ave Intersection	6	12	24,711	35	0	2.0%	1.0%	64.4	-	86	272	861

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Opening Year Plus Project
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	Ldn at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	11,428	35	0	2.1%	1.2%	61.1	-	-	128	405
2	7th Street	At Alma Ave Intersection	2	10	11,593	35	0	2.1%	1.1%	61.0	-	40	125	397
3	Monterey Road	At Alma Ave Intersection	6	12	24,886	35	0	2.1%	1.1%	64.5	-	90	285	900

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Horizon Year
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	Ldn at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	11,509	35	0	2.0%	1.0%	60.9	-	-	122	385
2	7th Street	At Alma Ave Intersection	2	10	15,181	35	0	2.0%	1.0%	62.0	-	50	157	497
3	Monterey Road	At Alma Ave Intersection	6	12	25,018	35	0	2.0%	1.0%	64.4	-	87	276	872

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: San Jose Prologis
Project Number:
Scenario: Horizon Year Plus Project
Ldn/CNEL: Ldn

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Medium Trucks	Heavy Trucks	Ldn at 100 Feet	Distance to Contour 70 Ldn	65 Ldn	60 Ldn	55 Ldn
1	Alma Avenue	Monterey Road to 7th Street	4	12	12,220	35	0	2.1%	1.15%	61.4	-	-	137	432
2	7th Street	At Alma Ave Intersection	2	10	16,164	35	0	2.0%	1.1%	62.4	-	55	173	546
3	Monterey Road	At Alma Ave Intersection	6	12	25,193	35	0	2.1%	1.1%	64.6	-	91	288	911

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

Project: 7th Street Prologis

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	Daytime hours (7 am to 7 pm)	8
	Evening hours (7 pm to 10 pm)	0
	Nighttime hours (10 pm to 7 am)	0
Leq to L10 factor		3

	Receptor (Land Use)	Average Distance (feet)	Distance to Property Line (feet)	Shielding	Direction
1	School	550	100	0	W
2	Commercial	500	100	0	W
3	Industrial	400	80	0	E
4	Residential	1,300	800	0	W

Construction Noise Levels by Phase (Leq)

Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Construction Phase 7	Construction Phase 8	Maximum Construction
65.6	66.8	67.4	65.8	65.7	52.9	10.8	10.8	70.1
66.5	67.6	68.2	66.6	66.5	53.7	10.8	10.8	70.9
68.4	69.6	70.2	68.5	68.5	55.7	10.8	10.8	72.9
56.8	59.3	59.9	58.3	58.2	45.4	10.8	10.8	62.6

Construction Phase	Equipment Type	No. of Equip.	Acoustical Usage Factor	Reference Noise Level at 50ft per Unit, Lmax	RECEPTOR 1: Distance (feet)	RECEPTOR 1: Noise Level at Receptor 1, Lmax	RECEPTOR 1: Noise Level at Receptor 1, Leq	RECEPTOR 2: Distance (feet)	RECEPTOR 2: Noise Level at Receptor 2, Lmax	RECEPTOR 2: Noise Level at Receptor 2, Leq	RECEPTOR 3: Distance (feet)	RECEPTOR 3: Noise Level at Receptor 3, Lmax	RECEPTOR 3: Noise Level at Receptor 3, Leq	RECEPTOR 4: Distance (feet)	RECEPTOR 4: Noise Level at Receptor 4, Lmax	RECEPTOR 4: Noise Level at Receptor 4, Leq
Demolition																
	Dozer	2	40%	82	550	63.9	59.9	500.0	64.7	60.7	400.0	66.6	62.7	1300.0	56.4	52.4
	Excavator	3	40%	81	550	64.6	60.7	500.0	65.5	61.5	400.0	67.4	63.4	1300.0	57.2	53.2
	Concrete Saw	1	20%	90	550	68.8	61.8	500.0	69.6	62.6	400.0	71.5	64.5	1300.0	61.3	54.3
	Combined LEQ						**65.6**			**66.5**			**68.4**			**56.8**
Site Preparation																
	Dozer	3	40%	82	550	65.6	61.7	500.0	66.5	62.5	400.0	68.4	64.4	1300.0	58.2	54.2
	Tractor	4	40%	84	550	69.2	65.2	500.0	70.0	66.0	400.0	72.0	68.0	1300.0	61.7	57.7
	Combined LEQ						**66.8**			**67.6**			**69.6**			**59.3**
Grading																
	Grader	1	40%	85	550	64.2	60.2	500.0	65.0	61.0	400.0	66.9	63.0	1300.0	56.7	52.7
	Excavator	2	40%	81	550	62.9	58.9	500.0	63.7	59.7	400.0	65.6	61.7	1300.0	55.4	51.4
	Tractor	2	40%	84	550	66.2	62.2	500.0	67.0	63.0	400.0	68.9	65.0	1300.0	58.7	54.7
	Scraper	2	40%	84	550	65.8	61.8	500.0	66.6	62.6	400.0	68.5	64.6	1300.0	58.3	54.3
	Dozer	1	40%	82	550	60.9	56.9	500.0	61.7	57.7	400.0	63.6	59.7	1300.0	53.4	49.4
	Combined LEQ						**67.4**			**68.2**			**70.2**			**59.9**
Building Construction																
	Backhoe	3	40%	78	550	61.5	57.6	500.0	62.4	58.4	400.0	64.3	60.3	1300.0	54.1	50.1
	Generator	1	50%	81	550	59.8	56.8	500.0	60.6	57.6	400.0	62.5	59.5	1300.0	52.3	49.3
	Crane	1	16%	81	550	59.8	51.8	500.0	60.6	52.6	400.0	62.5	54.6	1300.0	52.3	44.3
	Welder/Torch	1	40%	74	550	53.2	49.2	500.0	54.0	50.0	400.0	55.9	52.0	1300.0	45.7	41.7
	Tractor	3	40%	84	550	67.9	64.0	500.0	68.8	64.8	400.0	70.7	66.7	1300.0	60.5	56.5
	Combined LEQ						**65.8**			**66.6**			**68.5**			**58.3**
Paving																
	Paver	2	50%	77	550	59.4	56.4	500.0	60.2	57.2	400.0	62.1	59.1	1300.0	51.9	48.9
	Pavement Scrafier	2	20%	90	550	71.7	64.7	500.0	72.5	65.5	400.0	74.4	67.5	1300.0	64.2	57.2
	Roller	2	20%	80	550	62.2	55.2	500.0	63.0	56.0	400.0	64.9	58.0	1300.0	54.7	47.7
	Combined LEQ						**65.7**			**66.5**			**68.5**			**58.2**
Architectural Coating																
	Compressor (air)	1	40%	78	550	56.9	52.9	500.0	57.7	53.7	400.0	59.6	55.7	1300.0	49.4	45.4
Combined LEQ							**52.9**			**53.7**			**55.7**			**45.4**

	Receptor	Phase	Direction	Distance to Center of Site	Ambient (dBA Leq)	Project Construction Noise Level dBA Leq	Threshold	Exceeds Threshold?	over threshold
1	School	Demolition	0	550	100	65.6	80.0	No	--
		Site Preparation				66.8		No	--
		Grading				67.4		No	--
		Building Construction				65.8		No	--
		Paving				65.7		No	--
		Architectural Coating				52.9		No	--
2	Commercial	Demolition	0	500	100	66.5	80.0	No	--
		Site Preparation				67.6		No	--
		Grading				68.2		No	--
		Building Construction				66.6		No	--
		Paving				66.5		No	--
3	Industrial	Demolition	0	400	100	68.4	80.0	No	--
		Site Preparation				69.6		No	--
		Grading				70.2		No	--
		Building Construction				68.5		No	--
		Paving				68.5		No	--
		Architectural Coating				55.7		No	--
4	Residential	Demolition	0	1300	100	56.8	80.0	No	--
		Site Preparation				59.3		No	--
		Grading				59.9		No	--
		Building Construction				58.3		No	--
		Paving				58.2		No	--
		Architectural Coating				45.4		No	--

Noise Measurement Field Data

Project:	7th Street	**Job Number:**	
Site No.:	ST-1	**Date:**	5/24/2024
Analyst:	Mia Berg & David Padilla	**Time:**	3:18 PM
Location:	South 7th Street		
Noise Sources:	Truck hauling		
Comments:	Lots of trucks next to nearby driveway of truck yard		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
69.0	58.8	81.6	94.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	79
Wind (mph):	10
Sky:	Clear
Bar. Pressure:	29.89
Humidity:	41%

Photo:



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Measurement Report

Report Summary

Meter's File Name	LxT_Data.095.s	Computer's File Name	LxTse_0006073-20240522 151819-LxT_Data.095.ldbin
Meter	LxT SE 0006073	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-05-22 15:18:19	Duration	0:10:00.0		
End Time	2024-05-22 15:28:19	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-05-14 13:40:49	Post-Calibration	None	Calibration Deviation	—

Results

Overall Metrics

LA_{eq}	69.0 dB		
LAE	96.8 dB	SEA	— dB
EA	529.6 µPa²h		
LA_{peak}	99.8 dB	2024-05-22 15:20:12	
LAS_{max}	81.6 dB	2024-05-22 15:20:12	
LAS_{min}	58.8 dB	2024-05-22 15:22:03	
LA_{eq}	69.0 dB		
LC_{eq}	77.4 dB	LC_{eq} - LA_{eq}	8.4 dB
LAI_{eq}	71.3 dB	LAI_{eq} - LA_{eq}	2.3 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApk > 135.0 dB	0	0:00:00.0
LApk > 137.0 dB	0	0:00:00.0
LApk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
69.0 dB	69.0 dB	0.0 dB

LDEN	LDay	LEve	LNight
69.0 dB	69.0 dB	— dB	— dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	69.0 dB		77.4 dB		— dB	
$Ls_{(max)}$	81.6 dB	2024-05-22 15:20:12	— dB	None	— dB	None
$LS_{(min)}$	58.8 dB	2024-05-22 15:22:03	— dB	None	— dB	None
$L_{Peak(max)}$	99.8 dB	2024-05-22 15:20:12	— dB	None	— dB	None

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	73.3 dB
LAS 10.0	72.2 dB
LAS 33.3	69.1 dB
LAS 50.0	67.5 dB
LAS 66.6	65.2 dB
LAS 90.0	60.8 dB

Noise Measurement Field Data

Project:	7th Street	**Job Number:**	
Site No.:	ST-2	**Date:**	5/24/2024
Analyst:	Mia Berg & David Padilla	**Time:**	3:37 PM
Location:	SJSU Ticket Office		
Noise Sources:	street paving, regular traffic		
Comments:	street paver passed noise meter		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
74.4	58.4	85.5	102.2

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	79
Wind (mph):	10
Sky:	Clear
Bar. Pressure:	29.89
Humidity:	40%

Photo:



Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.097.s	Computer's File Name	LxTse_0006073-20240522 153749-LxT_Data.097.ldbin
Meter	LxT SE 0006073	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-05-22 15:37:49	Duration	0:10:00.0		
End Time	2024-05-22 15:47:49	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-05-14 13:40:49	Post-Calibration	None	Calibration Deviation	—

Results

Overall Metrics

LA_{eq}	74.4 dB		
LAE	102.2 dB	SEA	— dB
EA	1.8 mPa²h		
LA_{peak}	102.2 dB	2024-05-22 15:40:53	
LAS_{max}	85.5 dB	2024-05-22 15:40:54	
LAS_{min}	58.4 dB	2024-05-22 15:43:15	
LA_{eq}	74.4 dB		
LC_{eq}	82.2 dB	LC_{eq} - LA_{eq}	7.8 dB
LAI_{eq}	76.1 dB	LAI_{eq} - LA_{eq}	1.7 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	1	0:00:02.2
LAS > 115.0 dB	0	0:00:00.0
LApk > 135.0 dB	0	0:00:00.0
LApk > 137.0 dB	0	0:00:00.0
LApk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
74.4 dB	74.4 dB	0.0 dB

LDEN	LDay	LEve	LNight
74.4 dB	74.4 dB	— dB	— dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	74.4 dB		82.2 dB		— dB	
$Ls_{(max)}$	85.5 dB	2024-05-22 15:40:54	— dB	None	— dB	None
$LS_{(min)}$	58.4 dB	2024-05-22 15:43:15	— dB	None	— dB	None
$L_{Peak(max)}$	102.2 dB	2024-05-22 15:40:53	— dB	None	— dB	None

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	82.1 dB
LAS 10.0	78.0 dB
LAS 33.3	71.8 dB
LAS 50.0	70.1 dB
LAS 66.6	68.6 dB
LAS 90.0	65.0 dB

Noise Measurement Field Data

Project:	7th Street	**Job Number:**	
Site No.:	ST-3	**Date:**	5/24/2024
Analyst:	Mia Berg & David Padilla	**Time:**	3:56 PM
Location:	Backside of Sungarden Center		
Noise Sources:	Loading docks		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
58.5	49.3	72.3	86.5

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	79
Wind (mph):	10
Sky:	Clear
Bar. Pressure:	29.88
Humidity:	40%

Photo:



Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.098.s	Computer's File Name	LxTse_0006073-20240522 155728-LxT_Data.098.ldbin
Meter	LxT SE 0006073	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-05-22 15:57:28	Duration	0:10:00.0		
End Time	2024-05-22 16:07:28	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-05-14 13:40:49	Post-Calibration	None	Calibration Deviation	—

Results

Overall Metrics

LA_{eq}	58.5 dB		
LAE	86.3 dB	SEA	— dB
EA	47.2 µPa²h		
LA_{peak}	86.5 dB	2024-05-22 15:58:52	
LAS_{max}	72.3 dB	2024-05-22 16:06:44	
LAS_{min}	49.3 dB	2024-05-22 16:00:10	
LA_{eq}	58.5 dB		
LC_{eq}	71.5 dB	LC_{eq} - LA_{eq}	13.0 dB
LAI_{eq}	60.7 dB	LAI_{eq} - LA_{eq}	2.2 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApk > 135.0 dB	0	0:00:00.0
LApk > 137.0 dB	0	0:00:00.0
LApk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
58.5 dB	58.5 dB	0.0 dB

LDEN	LDay	LEve	LNight
58.5 dB	58.5 dB	— dB	— dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	58.5 dB		71.5 dB		— dB	
$Ls_{(max)}$	72.3 dB	2024-05-22 16:06:44	— dB	None	— dB	None
$LS_{(min)}$	49.3 dB	2024-05-22 16:00:10	— dB	None	— dB	None
$L_{Peak(max)}$	86.5 dB	2024-05-22 15:58:52	— dB	None	— dB	None

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	65.1 dB
LAS 10.0	62.1 dB
LAS 33.3	55.0 dB
LAS 50.0	53.6 dB
LAS 66.6	52.9 dB
LAS 90.0	51.6 dB

Measurement Report

Report Summary

Meter's File Name	LxT_Data.099.s	Computer's File Name	LxTse_0006073-20240522 162525-LxT_Data.099.ldbin
Meter	LxT SE 0006073	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-05-22 16:25:25	Duration	24:00:00.0		
End Time	2024-05-23 16:25:25	Run Time	24:00:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-05-14 13:40:49	Post-Calibration	None	Calibration Deviation	—

Results

Overall Metrics

LA_{eq}	63.4 dB		
LAE	112.8 dB	SEA	130.9 dB
EA	21.0 mPa²h		
LA_{peak}	120.9 dB	2024-05-22 18:36:26	
LAS_{max}	101.7 dB	2024-05-23 13:07:14	
LAS_{min}	46.2 dB	2024-05-22 23:36:16	
LA_{eq}	63.4 dB		
LC_{eq}	73.9 dB	LC_{eq} - LA_{eq}	10.5 dB
LAI_{eq}	66.9 dB	LAI_{eq} - LA_{eq}	3.5 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	14	0:00:41.6
LAS > 115.0 dB	0	0:00:00.0
LApk > 135.0 dB	0	0:00:00.0
LApk > 137.0 dB	0	0:00:00.0
LApk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
66.6 dB	64.9 dB	0.0 dB

LDEN	LDay	LEve	LNight
67.1 dB	65.3 dB	62.9 dB	58.5 dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	63.4 dB		73.9 dB		— dB	
$Ls_{(max)}$	101.7 dB	2024-05-23 13:07:14	— dB	None	— dB	None
$LS_{(min)}$	46.2 dB	2024-05-22 23:36:16	— dB	None	— dB	None
$L_{Peak(max)}$	120.9 dB	2024-05-22 18:36:26	— dB	None	— dB	None

Overloads

Count	Duration	OBA Count	OBA Duration
2	0:00:04.1	2	0:00:04.1

Statistics

LAS 5.0	67.2 dB
LAS 10.0	65.1 dB
LAS 33.3	60.4 dB
LAS 50.0	57.7 dB
LAS 66.6	54.3 dB
LAS 90.0	50.1 dB