Appendix I.

Noise and Vibration Assessments

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NOISE TECHNICAL MEMORANDUM

To:	The Riverview Owner LPV, LLC
From:	Mark Storm, INCE Bd. Cert. (Dudek)
Subject:	Riverview Development – Light Industrial Lot 5 Alternative Noise Assessment
Date:	June 19, 2024
cc:	Chelsea Ohanesian (Dudek), Carey Fernandes (Dudek)
Attachment(s):	Figure 1 – Project Location and Receiver Locations Figure 2 – Project Site Plan Figure 3A – Predicted Stationary Source Operation Noise from Proposed Project (with Standby Generator Active) Figure 3B – Predicted Stationary Source Operation Noise from Proposed Project (without Standby Generator) Attachment A – Construction Noise Prediction Model Worksheets Attachment B – Traffic Noise Modeling Calculations Attachment C – Stationary Operation Noise Prediction Model Inputs

The purpose of this brief noise technical memorandum (memo) is to document that the Riverview Development Project (Project) has changed since the preparation of the original Environmental Noise and Vibration Assessment (ENVA) from March 2023 and its update in August 2023, and to present the results of new predictive analyses and an updated impact noise and vibration assessment that reflects the Project's substitution of a proposed "light industrial" facility in Lot 5 to replace the previously proposed set of studio structures housing media production activities. The contents and organization of this memorandum are as follows: Executive Summary, Project Description and Environmental Setting, Assessment Framework, Impact Assessment, and References Cited.

1 Executive Summary

As analyzed herein, the substitution of the previously studied studio structures with a single light-industrial building for the Planning Area / Lot 5 northwestern portion of the Project site is generally not expected to cause noise and vibration impacts that are greater than those previously assessed in the ENVA. However, for a few of the construction activity phases associated with Lot 5 that is near an existing offsite commercial land use on which a noise-sensitive function occurs, potential noise impacts are anticipated but can be mitigated to a less than significant level.

2 Project Description and Environmental Setting

The Riverview Owner LPV, LLC (Project Applicant) is proposing development of the project in the City of Santa Clarita, California (City). The Project description remains unchanged for Planning Area (PA) or Lots 1, 2, 3, and 4 that involve the proposed construction and operation of 391 single-family units with landscaping improvements, recreational amenities, and a community open space area. Lot 5 would be dedicated to commercial development, which was previously contemplated as 67,692 square feet (sf) of studio buildings and 2,000 sf of office space and is now planned to be a single 121,790 sf structure with potential office spaces and light-industrial uses therein. The project location (as well as studied offsite receiver locations and short-term [ST] measurement positions) is shown on Figure 1 and the site plan is shown in Figure 2.

Section 2 of the previous ENVA provides a summary of the existing noise environment and noise-sensitive receptors (NSR) located near the Project site. Measured samples of the existing outdoor ambient sound environment were 63.8 dBA energy-equivalent sound level (L_{eq}) at a location 100 feet from edge of pavement near the northeastern portion of the Project. At a location 100 feet from a railroad centerline near the southwest portion of the Project, 52.9 dBA L_{eq} was measured. Based on measured sound exposure levels (SEL) during the field survey in late 2022 and per train operations schedule, the existing Metrolink and freight train railroad operations are expected to cause 56.6 dBA L_{dn} at a reference distance of 100 feet from the railroad centerline. Public airports and private airfields are sufficiently distant from the Project site to have negligible aviation noise effects to onsite workers and new Project residents.

3 Assessment Framework

The following subsections provide a review of acoustical concept fundamentals and the relevant noise and vibration regulations, policies and guidance per the City of Santa Clarita General Plan and Municipal Code, against which the Project shall be evaluated for purposes of environmental impact assessment.

3.1 Acoustical Terminology

3.1.1 Noise Level Descriptors

The intensity of environmental noise levels can fluctuate greatly over time and as such, several different descriptors of time-averaged noise levels may be used to provide the most effective means of expressing the noise levels. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment near the receptor(s). Noise descriptors most often used to describe environmental noise are defined below.

- L_{min} (Minimum Noise Level): The minimum noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).
- L_{max} (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

- L_n (Statistical Descriptor): The noise level exceeded "n"% of a specific period of time. For example, L50 is the median noise level, or level exceeded 50% of the time (typically equated to the noise level exceeded 30-minutes out of the hour).

- L_{eq} (Equivalent Noise Level): The energy-average noise level or exposure, from all noise events that occur in a specified period; such as one-minute, one-hour, 24-hours, etc. Leq can be used to report results of short-term noise measurements, usually ranging between 15 minutes and 1 hour, to supplement longer term measurements.

- L_{dn} (Day-Night Average Noise Level): The 24-hour Leq with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The Ldn attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- CNEL (Community Noise Equivalent Level): The CNEL is similar to the Ldn described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, it is typical for the reported CNEL to be approximately 0.5 dBA higher than the Ldn.

Community noise is commonly described in terms of the ambient noise level which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (Leq)which corresponds to the steady-state A-weighted sound level containing the same total energy as the time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and CNEL, as defined above, and shows very good correlation with community response to noise. Use of these descriptors along with the maximum noise level occurring during a given time period provides a great deal of information about the ambient noise environment in an area.

3.1.2 Effect of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance and dissatisfaction, which lead to interference with activities such as communications, sleep and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary

depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to an individual.

3.1.3 Vibration Fundamentals

Vibration amplitudes are commonly expressed in peak particle velocity (PPV), defined as the maximum instantaneous positive or negative peak of a vibration signal, or the quantity of displacement measured from peak to trough of the vibration wave. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2018, California Department of Transportation [Caltrans] 2020). PPV values are nominally described in terms of inches per second (in/sec).

3.2 Regulatory Criteria and Guidance

As outlined in the previously prepared ENVA, the City has developed and adopted goals and policies with the intent of controlling and diminishing environmental noise and to protect its inhabitants from exposure to excessive noise levels. Local noise standards applicable to the proposed Project are contained in the City's General Plan Noise Element and Municipal Code and are summarized or reproduced in the following subsections.

3.2.1 Federal Transit Administration

Although no federal noise regulations are applicable to this project, apart from onsite employee/visitor hearing protection per the Office of Safety and Health Administration (OSHA, or its implementation at the California state level through CalOSHA) that is external to the scope of this proposed Project environmental noise assessment, guidance and methodologies from the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) pertaining to construction noise and vibration are used in this analysis. For example, in its Transit Noise and Vibration Impact Assessment guidance manual (FTA 2018), the Federal Transit Administration (FTA) offers guidance on the estimation of construction noise levels from a construction Project site. It also provides suggested thresholds that include no more than 80 dBA L_{eq} (over an 8-hour daytime period) as received at a residential land use. Since the City does not provide a quantified construction noise limit, this analysis adopts the 80 dBA L_{eq} 8-hour FTA guidance threshold for quantitative construction noise impact assessment.

3.2.2 Santa Clarita General Plan

Goal N1: A healthy and safe noise environment for Santa Clarita Valley residents, employees, and visitors.

Objective N 1.1: Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels

Policy N 1.1.1: Use the Noise and Land Use Compatibility Guidelines contained on Exhibit N-8, which are consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.

Policy N 1.1.2: Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

Policy N 1.1.3: Include consideration of potential noise impacts in land use planning and development review decisions.

Policy N 1.1.4: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.

Policy N 1.1.5: Monitor and update data and information regarding current and projected noise levels in the planning area.

Policy N 1.1.6: Provide development review comments on projects proposed by other agencies and special districts that may generate noise impacts affecting land uses within the Santa Clarita Valley, including any freeway and high-speed rail projects.

Table 1. Summary of Land Use Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (dBA L_{dn})			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential—Low-Density Single-Family, Duplex, Mobile Home	<60	55–70	70–75	75+
Residential—Multifamily	<60	60–70	70–75	75+
Transient Lodging—Motel, Hotel	<60	60–70	70–80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<60	60–70	70–80	80+
Auditoriums, Concert Halls, Amphitheaters	—	<65	65+	—
Sports Arena, Outdoor Spectator Sports	—	<75	75+	—
Playgrounds, Neighborhood Parks	<65	—	65–75	80+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	—	75–80	80+
Office Building, Business Commercial, and Professional	<70	70–75	75+	—
Industrial, Manufacturing, Utilities, Agriculture	<75	75–80	80+	—

Source: Santa Clarita 2010, Exhibit N-8.
Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level.

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

2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

4 New construction or development should generally not be undertaken.

Goal N3: Protect residential neighborhoods from excessive noise.

Objective N 3.1: Prevent and mitigate significant noise levels in residential neighborhoods.

Policy N 3.1.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise levels exceed 60 CNEL provide mitigation measures for the new residences to reduce interior noise levels to 45 CNEL, based on future traffic and railroad noise levels.

Policy N 3.1.2: Require that developers of new single-family and multi-family residential neighborhoods in areas where the projected noise levels exceed 65 CNEL provide mitigation measures (which may include noise barriers, setbacks, and site design) for new residences to reduce outdoor noise levels to 65 CNEL, based on future traffic conditions. This requirement would apply to rear yard areas for single-family developments, and to private open space and common recreational and open space areas for multi-family developments.

Policy N 3.1.3: Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that produce significant discernable noise exceeding recommended levels for residential uses.

Policy N 3.1.4: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.

Policy N 3.1.5: Require that developers of private schools, childcare centers, senior housing, and other noise sensitive uses in areas where the ambient noise level exceeds 65 dBA (day), provide mitigation measures for these uses to reduce interior noise to acceptable levels.

Policy N 3.1.6: Ensure that new residential buildings shall not be located within 150 feet of the centerline for Interstate 5.

Policy N 3.1.7: Ensure that design of parks, recreational facilities, and schools minimize noise impacts to residential neighborhoods.

Policy N 3.1.8: As a condition of issuing permits for special events, require event promoters to mitigate noise impacts to adjacent sensitive uses through limiting hours of operation and other means as appropriate, which may include notification to affected residents.

Policy N 3.1.9: Implement a buyer and renter notification program for new residential developments where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas:

- Within one mile of Six Flags Magic Mountain theme park, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.

- Within 1,000 feet of the railroad, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.
- Within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.
- Within 1,000 feet of the Saugus Speedway, in the event speedway operations are resumed in the future.

Goal N 4: Protection of sensitive uses from commercial and industrial noise generators.

Objective N 4.1: Prevent, mitigate, and minimize noise spillover from commercial and industrial uses into adjacent residential neighborhoods and other noise sensitive uses.

Policy N 4.1.1: Implement and enforce the applicable Noise Ordinance to control noise from commercial and industrial sources that may adversely impact adjacent residential neighborhoods and other sensitive uses.

Policy N 4.1.2: Require appropriate noise buffering between commercial or industrial uses and residential neighborhoods and other sensitive uses.

Policy N 4.1.3: Adopt and enforce standards for the control of noise from commercial and entertainment establishments when adjacent to residential neighborhoods and other sensitive uses.

3.2.2 Santa Clarita Municipal Code

11.44.040 Noise Limits.

A. It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise herein:

Region	Time	Sound Level dB
Residential zone	Day	65
Residential zone	Night	55
Commercial and manufacturing	Day	80
Commercial and manufacturing	Night	70

At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone shall be used.

B. Corrections to Noise Limits. The numerical limits given in subsection (A) of this section shall be adjusted by the following corrections, where the following noise conditions exist:

Noise Condition		Correction (in dB)
(1)	Repetitive impulsive noise	-5
(2)	Steady whine, screech, or hum	-5
The following corrections apply to daytime only:		
(3)	Noise occurring more than 5 but less than 15 minutes per hour	+5
(4)	Noise occurring more than 1 but less than 5 minutes per hour	+10
(5)	Noise occurring less than 1 minute per hour	+20

(Ord. 89-29, 1/23/90)

11.44.050 Loud, Unnecessary and Unusual Noises Prohibited—Standards for Determining.

Notwithstanding any other provision of this chapter, and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made and continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood, or which causes discomfort or annoyance to residents of the area.

The standards which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:

A. The level of the noise.

B. Whether the nature or origin of the noise is usual or unusual.

C. The nature or zoning of the area within which the noise emanates.

D. The density of the inhabitation of the area within which the noise emanates.

E. The time of day or night.

F. The duration of the noise.

G. Whether the noise is recurrent, intermittent or constant.

H. Whether the noise is produced by a commercial or noncommercial activity.

I. The volume and intensity of the background noise, if any.

J. The proximity of the noise to sleeping facilities. (Ord. 89-29, 1/23/90; Ord. 09-11 § 2, 7/14/09)

11.44.070 Special Noise Sources—Machinery, Fans and Other Mechanical Devices.

Any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Section 11.44.040 at any property line, or, if a

condominium or rental units, within any condominium unit or rental unit within the complex, shall be a violation of this chapter. (Ord. 89-29, 1/23/90)

11.44.080 Special Noise Sources—Construction and Building.

No person shall engage in any construction work which requires a building permit from the City on sites within three hundred (300) feet of a residentially zoned property except between the hours of seven a.m. to seven p.m., Monday through Friday, and eight a.m. to six p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day. The Santa Clarita Municipal Code (SCMC) does not quantify a construction noise limit during these allowable daytime hours, nor does it refer to the Section 11.44.040 noise thresholds.

Emergency work as defined in Section 11.44.020(D) is permitted at all times.

The Department of Community Development may issue a permit for work to be done "after hours"; provided, that containment of construction noises is provided. (Ord. 89-29, 1/23/90; Ord. 93-4, 3/9/93; Ord. 00-3, 2/8/00; Ord. 05-1 § 2, 1/25/05; Ord. 06-7 § 1, 10/10/06)

4 Impact Assessment

4.1 Methodology

Potential noise impacts associated with the Project were calculated and analyzed based on project information presented in the Project description, information contained in the updated Project site plan provided by the applicant, and data obtained during on-site pre-Project outdoor ambient sound level monitoring. Observations made during the site survey, along with land-use information and aerial photography, were used to determine potential locations of noise-sensitive receptors in the Project vicinity. The California Environmental Quality Act (CEQA) requires that the noise impacts caused by the project to the surrounding community be considered; and, for proposed residential and commercial development, the principal source of project-generated noise is the addition of vehicle trips to area roadways. As a result, noise impacts resulting from increases in off-site traffic noise levels along roadways which would provide access to the Project site must be evaluated.

4.1.1 Construction Noise

Short-term, construction-related noise effects were assessed with respect to nearby noise-sensitive receptors (NSR) that include the nearest existing offsite residential area (either north or southeast of the Project) and the Action Rehab center adjoining the Project to the northwest and their relative exposures (accounting for intervening topography, barriers, distance, etc.), based on application of a Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) emulator. The emulator was used to evaluate construction noise in two ways: 1) "nearest distance" representing the closest distances (ranging from 65' to 1,315') from the NSR to each construction phase area on the Project site, and 2) the "centroid distance" represents the distances (ranging from 370' to 2,050') from the NSR to the geographic center of each studied construction phase area on the Project site. Predicted construction noise exposure levels at these studied offsite NSR are then compared with the FTA guidance threshold of 80 dBA L_{eq} (8-hour) for the exterior of residential land uses, which would be applicable only during daytime hours as defined by SCMC 11.44.020 and when construction activity is permitted by the City per SCMC

11.44.080. Although the Action Rehab facility is a commercial land use, it is understood that occupants may stay overnight and thus create conditions that emulate those of a residential-type receiver; hence, and for purposes of this assessment, the FTA guidance limit of 80 dBA for construction noise is applied to both this NSR and the nearest existing offsite residential community.

The construction activities that are expected to occur, grouped by phase for the residential Planning Areas (Lots 1-4) and the Lot 5 Light Industrial land use, can be found in Attachment A, Construction Noise Prediction Model Worksheets.

4.1.2 Offsite Operational Traffic

Traffic noise levels for the roadway network in the Project vicinity were incorporated into the noise model based on traffic volume data obtained from the traffic impact assessment (Gibson Transportation Consultants [GTC] 2024) performed for the Project. Traffic noise levels were calculated using the FHWA traffic noise prediction algorithms. Traffic noise levels were modeled for the existing and future traffic scenarios under no-Project and plus-Project conditions, based on the traffic data. Modeling outputs for plus project scenarios were evaluated against the no project case to determine the potential for the Project to result in an increase of traffic noise levels and cause an exceedance of applicable noise level criteria and impact thresholds.

Attachment B, Traffic Noise Modeling Calculations, presents the roadway traffic noise evaluation input parameters for the multiple studied scenarios.

4.1.3 Onsite Stationary Operational Noise Sources

Potential effects associated with long-term onsite and/or stationary (a.k.a., operation-related) noise sources were assessed based on Project documentation, site reconnaissance data and reference noise levels for the various noise sources. A sound propagation model based upon relevant ISO 9613-2 algorithms and reference data (ISO 1996) was applied to evaluate aggregate Project noise emission from these stationary sound sources that include low-speed truck traffic, truck loading dock activities, rooftop HVAC (heating, ventilating, and air-conditioning) equipment, and a standby generator (350 kW) enclosed within a “level II” sound-reducing cabinet (Cummins 2008). Attachment C, Stationary Operation Noise Prediction Model Inputs, describes the features of the Datakustik CadnaA-based model used to predict stationary operation noise from the entire Project.

4.1.4 Construction Vibration

Groundborne vibration impacts were qualitatively assessed based on existing reference documentation (e.g., vibration levels produced by specific construction equipment operations), through the application of Caltrans methodology outlined within the Transportation- and Construction- Induced Vibration Guidance Manual (Caltrans 2020), and the relative distance to potentially sensitive receptors from a given vibration source.

4.2 Analysis Results

The following noise and vibration impact analysis sections are arranged in the same order as the three CEQA Appendix G checklist assessment criteria with abbreviated headings.

A. Generation of substantial temporary or permanent increase in noise levels?

Onsite Construction Noise (Temporary)

Using the RCNM-emulating Excel workbook, and as shown in Attachment A, the predicted noise level exposures from the proposed concurrent construction activities at the nearest distances to the existing offsite residential community range from 56 dBA to 62 dBA 8-hour L_{eq} and are thus quieter than the FTA guidance limit of 80 dBA 8-hour L_{eq} during daytime hours. Offsite construction noise exposures at this NSR as calculated from sound sources at the Project construction site centroid range from 52 dBA to 59 dBA 8-hour L_{eq} and are also thus quieter than the FTA guidance-based noise limit. These predicted construction noise exposure levels are also less than the magnitude of the sampled daytime sound level of 63.8 dBA L_{eq} and would thus be considered comparable to the pre-Project outdoor ambient sound environment; and, they are also coincidentally less than the City's 65 dBA exterior noise limit per Section 11.44.040 that applies to Project operation (post-construction). **Based on these findings, construction noise exposures at these existing offsite residences are considered less than significant impacts**.

At the neighboring commercially-zoned land use north of the site, currently the location of a drug rehabilitation facility (Action Rehab) that for purposes of this assessment is considered noise-sensitive due to its function and occupancy, the worksheets in Attachment A show that for some months of Project construction, aggregate noise levels from concurrent phases of construction activity may exceed 80 dBA when the active construction equipment is at their closest distances. These predicted exceedances are no more than 3 decibels and only expected for at most ten months of the five-year Project construction schedule when the Lot 5 light industrial portion of the Project is underway, but these exceedances still represent a potentially significant impact requiring mitigation measure (MM) NOI-1 as follows:

MM-NOI-1 – The following noise control and/or sound abatement measures shall be implemented during construction progress of the Lot 5 (Light Industrial) portion of the proposed Project for the following phases (and expected durations:

A. *Site Preparation* (four months) –

1. To the extent practical, commence earthwork on the east side of the existing hill that represents the current topography of the Lot 5 site, and proceed in an east-to-west direction of progress so as to exploit both the distance between the activity and the Action Rehab facility and the sound-blocking effects of the unworked terrain that should naturally occlude line of sight (LoS) between this construction process and this noise-sensitive commercial land use to the northwest. Consistent with acoustical principles for noise reduction afforded by such natural features, this LoS occlusion should yield the needed decibel reduction at this receptor and result in 8-hour Leq exposure levels that are compatible with FTA guidance (80 dBA).

2. Should LoS occlusion not be feasible per A.1 above, then along or within the property line where the Project site adjoins the Action Rehab facility, install a 20'-tall temporary barrier comprising typical outdoor-appropriate plywood sheeting, acoustical sound blankets, or other materials (having sound transmission class [STC] 20 or better) so as to help ensure LoS occlusion between operating Project construction equipment and this noise-sensitive commercial land use.

B. *Grading* (four months) – after completion of earthwork for the Site Preparation phase, along or within the property line where the Project site adjoins the Action Rehab facility, install a 12'-tall temporary barrier comprising typical outdoor-appropriate plywood sheeting, acoustical sound blankets, or other materials (having sound transmission class [STC] 20 or better) so as to help ensure LoS occlusion between operating Project construction equipment and this noise-sensitive commercial land use,

C. *Paving* (two months) – along or within the property line where the Project site adjoins the Action Rehab facility, install a 12'-tall temporary barrier comprising typical outdoor-appropriate plywood sheeting, acoustical sound blankets, or other materials (having sound transmission class [STC] 20 or better) so as to help ensure LoS occlusion between operating Project construction equipment and this noise-sensitive commercial land use.

Operation Noise

Offsite Roadway Traffic Noise

The proposed Project would result in the creation of additional vehicle trips on local roadways, which could result in increased traffic noise levels at noise-sensitive land uses adjacent to area roadways. Potential off-site noise impacts resulting from the increase in vehicular traffic on the local roadway network, associated with long-term operations of the proposed Project, were evaluated under Existing and Future no-Project and plus-Project scenarios. Traffic volumes and the distribution of those volumes were obtained from the traffic consultant, GTC (GTC 2024). Average vehicle speeds on local area roadways were assumed to be consistent with posted speed limits and remain as such with or without implementation of the proposed project.

Table 2 summarizes modeled L_{dn} traffic noise levels for the Existing and the Future scenarios, at prediction receiver locations representing the NSR outdoor activity areas adjacent to roadway segments in the Project vicinity. The table also presents the relative traffic noise level increase (net change) resulting from development of the proposed Project. Actual traffic noise exposure levels at noise-sensitive receptors in the project vicinity would vary depending on a combination of factors such as variations in daily traffic volumes, vehicle types, relative distances between sources and receiver locations, shielding provided by existing and proposed structures, and meteorological conditions. Refer to Attachment B for modeling inputs and results.

According to Caltrans, a +3 dB change in sound is the beginning at which humans generally notice a barely perceptible change in sound, a +5 dB change is generally readily perceptible, and a +10 dB increase is perceived by most people as a doubling of the existing noise level (Caltrans 2013). Additionally, guidance from Federal Interagency Committee on Noise (FICON) recommends that when an existing noise level is less than 60 dBA, a change of 5 dB would be readily perceptible. But in an existing environment of 60 to 65 dBA, a 3 dB change would be considered potentially impactful even if just barely perceptible; and, at existing outdoor sound levels above 65 dBA, an increase as low as 1.5 dB would be considered an appropriate threshold to determine significant increases in traffic noise for receptors (FICON 1992).

Table 2. Predicted No Project and Plus Project Traffic Noise Levels (dBA Ldn)

Receiver	Roadway	Distance from Centerline (ft)	No Project	Plus Project	Increase Threshold*	Net Change	Impact?
Existing Conditions							
P1	Soledad Canyon Rd.	125	75.1	75.3	+1.5	<1	No
P2	Soledad Canyon Rd.	1,050	61.3	61.4	+3	<1	No
P3	Commuter Way	550	35.3	38.6	+5	+3.3	No
Future Conditions							
P1	Soledad Canyon Rd.	125	76.0	76.2	+1.5	<1	No
P2	Soledad Canyon Rd.	1,050	62.2	62.3	+3	<1	No
P3	Commuter Way	550	35.4	38.6	+5	+3.2	No

Source: Dudek 2024.
Notes: dBA = A-weighted decibels; Ldn = Day/Night average noise level. * per FICON guidance.

Per the results presented in Table 2, the Project is not predicted to cause an exposure of existing noise-sensitive receptors to absolute noise levels exceeding the City's 60 dBA L_{dn} land use compatibility thresholds, with the exception of the P1 and P2 receiver locations that already exceed this value without the project; nor would the Project result in relative increases in the ambient noise environment of more than 1 dB at P1 and P2, and no more than 3.3 dB at P3. **Therefore, these findings of traffic noise levels and Project-attributed changes being compatible with City standards and FICON guidance are comparable to the previous ENVA findings of less than significant impacts**.

Onsite Stationary Sources

Figure 3A illustrates predicted aggregate noise emission, in terms of L_{eq} value, from onsite sources that include rooftop HVAC systems for the light-industrial building and the residential structures, active truck loading docks (i.e., idling truck engines) on the southern side of the light-industrial building, low-speed truck travel routes from the loading docks to the ingress/egress connections along Soledad Canyon Road, and an operating standby generator (housed within a "level II" sound-attenuating enclosure). The HVAC systems were approximately sized in terms of airflow delivery and refrigeration capacity with respect to industry guidance (Loren Cook 1999), which in turn supplies inputs for estimating their source sound power levels. Attachment C details these input sound power levels and other model parameters. The adjoining color-coded bands of 5 dB-wide sound levels in Figure 3A stretch across a horizontal plane five feet above local grade, which has been conservatively considered "flat" terrain (i.e., ignoring sound-occluding topography). Figure 3B shows similar prediction results, but without the acoustical contribution of the operating standby generator. As shown in both figures, sound exposure levels at the nearest offsite residential communities are expected to be well below 35 dBA and thus lower than the City's nighttime noise threshold of 55 dBA for such receiving residential land uses. Predicted noise exposure levels at the offsite Action Rehab commercial use to the north are higher than 35 dBA, but still lower than the 70 dBA nighttime limit for such land uses as allowed by SCMC 11.44.040. The expected nighttime noise emission from the Project is also expected to be less than 55 dBA at this receptor, were it to be considered "residential" due to its understood nighttime occupancy and corresponding increased noise sensitivity. **Therefore, these findings of City-compliant Project onsite operations noise emissions are comparable to the previous ENVA findings of less than significant impacts**.

B. Generation of excessive ground-borne vibration?

Onsite Construction Activities

Predicted groundborne noise and vibration levels attributed to Project construction activities at nearby sensitive receptors are not expected to substantially differ from the previous analyses described in the ENVA and not exceed the Caltrans recommended damage criteria of 0.5 in/sec PPV for the potential to damage new construction (Caltrans 2020). **As such, these findings are comparable to the previous ENVA findings of less than significant impacts**.

The proposed Project does not currently incorporate, nor is expected to feature, any elements that would generate substantial groundborne noise and vibration levels at nearby sensitive receptors during its long-term operation. **Therefore, and consistent with the earlier ENVA findings, this impact would be less than significant.**

C. Expose people to excessive aviation noise levels?

No change to the previous ENVA findings of no impact for this CEQA Appendix G (Noise) significance criterion.

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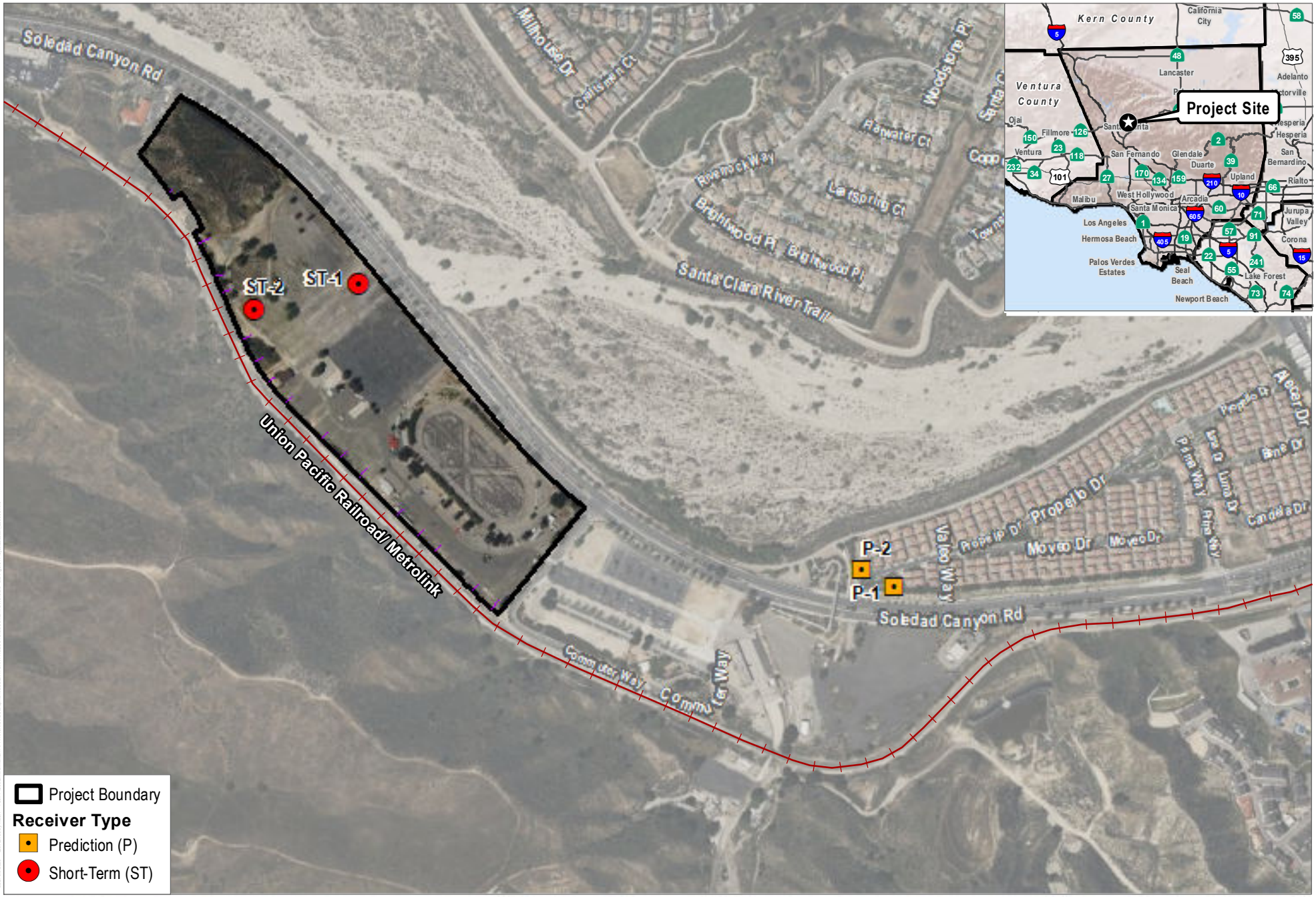


SOURCE: County of Los Angeles; Open Street Maps; Bing Maps

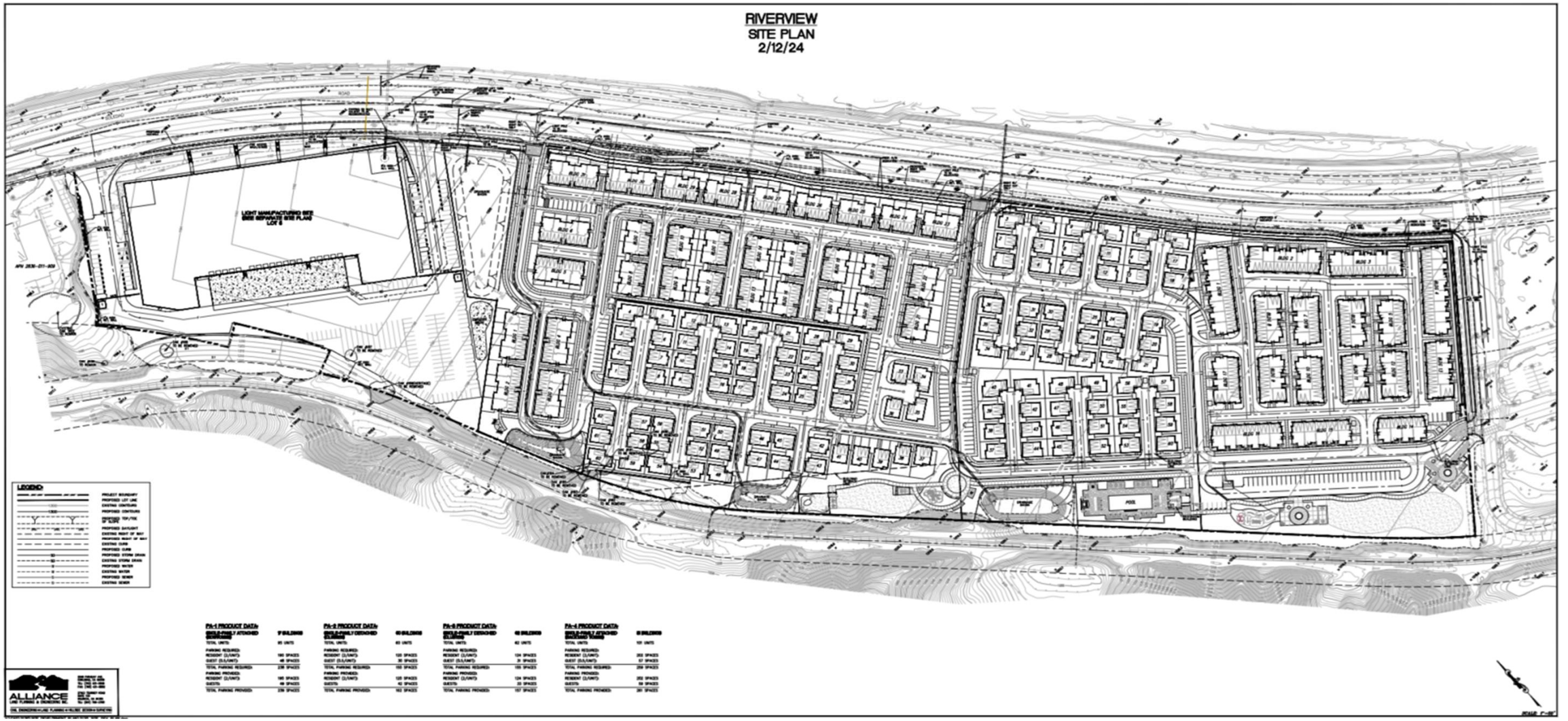
DUDEK

0 295 590 Feet

FIGURE 1

Project Location and Reciever Locations

Riverview Development Project



SOURCE: Riverview Development (Revised) 2024

DUDEK

0 76.5 153 Feet

FIGURE 2

Project Site Plan

Riverview Development Project (Santa Clarita, CA) - Dudek Project No. 14744

SOURCES: Google 2024; Riverview Development (Revised) 2024; Dudek 2024

DUDEK 0 241 482 Feet

FIGURE 3A

Predicted Stationary Source Operation Noise from Proposed Project (with Standby Generator Active)

Riverview Development Project (Santa Clarita, CA) - Dudek Project No. 14744

SOURCES: Google 2024; Riverview Development (Revised) 2024; Dudek 2024

DUDEK

0 241 482 Feet

FIGURE 3B

Predicted Stationary Source Operation Noise from Proposed Project (without Standby Generator)

Riverview Development Project (Santa Clarita, CA) - Dudek Project No. 14744

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Source, receptor, and barrier all share same reference grade elevation; unless otherwise noted)
= Barrier of input height inserted between source and receptor

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
1	Residential Homes - Demolition	excavator	2	40	81	1265	0		52.9	8	480	52	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1265	0		50.9	8	480	50	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1265	0		50.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1265	0		49.9	8	480	46	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Demolition Phase										**56.9**																
2	Residential Homes - Site Preparation	grader	1	40	85	1265	0		56.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	1	40	85	1265	0		56.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	1	20	80	1265	0		51.9	8	480	45	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Site Preparation Phase										**56.2**																
3	Residential Homes - Grading	scraper	2	40	84	1265	0		55.9	8	480	55	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		grader	2	40	85	1265	0		56.9	8	480	56	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	2	40	85	1265	0		56.9	8	480	56	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	2	20	80	1265	0		51.9	8	480	48	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Grading Phase										**60.6**																
4	Residential Homes - Bldg. Construction	excavator	2	40	81	1315	0		52.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1315	0		50.5	8	480	50	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1315	0		46.5	8	480	46	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	4	40	78	1315	0		49.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Bldg. Construction Phase										**56.2**																
5	Residential Homes - Utilities and Infrastructure	excavator	2	40	81	1265	0		52.9	8	480	52	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1265	0		50.9	8	480	50	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1265	0		50.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1265	0		49.9	8	480	46	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Utilities and Infrastructure Phase										**56.9**																
6	Residential Homes - Paving	paver	5	50	77	1265	0		48.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		all other equipment > 5 HP	1	50	85	1265	0		56.9	8	480	54	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	1	40	79	1265	0		50.9	8	480	47	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Paving Phase										**56.9**																
7	Residential Homes - Architectural Coating	compressor (air)	6	40	78	1315	0		49.5	8	480	53	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compressor (air)	4	40	78	1315	0		49.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1315	0		46.5	8	480	46	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Architectural Coating Phase										**56.0**																
A	Light Industrial Facility - Site Preparation	Front End Loader	4	40	79	85	0		74.3	8	480	76	20	5	0	20	65	85	28.3	65.2	86.3	0.00	0.1	12.5	12.5	0.5	0.5	0.1
		Dozer	3	40	82	85	0		77.3	8	480	78	20	5	0	20	65	85	28.3	65.2	86.3	0.00	0.1	12.5	12.5	0.5	0.5	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Site Preparation Phase										**80.3**																
B	Light Industrial Facility - Grading	Excavator	1	40	81	70	0		78.0	8	480	74	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Dozer	1	40	82	70	0		79.0	8	480	75	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Front End Loader	3	40	79	70	0		76.0	8	480	77	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Grader	1	40	85	70	0		82.0	8	480	78	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Grading Phase										**82.3**																
C	Light Industrial Facility - Building Construction	Generator	1	50	72	140	0		63.0	8	480	60	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Crane	1	16	81	140	0		72.0	8	480	64	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Man Lift	3	20	75	140	0		66.0	8	480	64	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Backhoe	3	40	78	140	0		69.0	8	480	70	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Welder / Torch	1	40	73	140	0		64.0	8	480	60	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Building Construction Phase										**72.2**																
D	Light Industrial Facility - Paving	Paver	1	50	77	70	0		74.0	8	480	71	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Concrete Mixer Truck	2	40	79	70	0		76.0	8	480	75	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Concrete Pump Truck	2	20	81	70	0		78.0	8	480	74	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Roller	2	20	80	70	0		77.0	8	480	73	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Backhoe	1	40	78	70	0		75.0	8	480	71	10	5	0	5	65	70	11.2	65.2	70.2	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Paving Phase										**80.1**																
E	Light Industrial Facility - Architectural Coating	compressor (air)	1	40	78	140	0		69.0	8	480	65	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Architectural Coating Phase										**65.0**																

Construction Schedule

Construction Phase — Year 2024

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	✔	✔	✔									
Residential Homes - Site Preparation				✔	✔	✔	✔					
Residential Homes - Grading								✔	✔	✔	✔	
Residential Homes - Bldg. Construction												
Residential Homes - Utilities and Infrastructure												✔
Residential Homes - Paving												
Residential Homes - Architectural Coating												
Light Industrial Facility - Site Preparation				✔	✔	✔	✔					
Light Industrial Facility - Grading								✔	✔	✔	✔	
Light Industrial Facility - Building Construction												✔
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Construction Phase — Year 2025

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction						✔	✔	✔	✔	✔		
Residential Homes - Utilities and Infrastructure	✔	✔	✔								✔	✔
Residential Homes - Paving				✔	✔							
Residential Homes - Architectural Coating											✔	✔
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction	✔	✔	✔									
Light Industrial Facility - Paving				✔	✔							
Light Industrial Facility - Architectural Coating						✔	✔					

Construction Phase — Year 2026

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction					✔	✔	✔	✔	✔			
Residential Homes - Utilities and Infrastructure	✔	✔								✔	✔	✔
Residential Homes - Paving			✔	✔								
Residential Homes - Architectural Coating										✔	✔	
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Construction Phase — Year 2027

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction				✔	✔	✔	✔	✔				
Residential Homes - Utilities and Infrastructure	✔								✔	✔	✔	✔
Residential Homes - Paving		✔	✔									
Residential Homes - Architectural Coating									✔	✔		
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Construction Phase — Year 2028

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction			✔	✔	✔	✔	✔					
Residential Homes - Utilities and Infrastructure												
Residential Homes - Paving	✔	✔										
Residential Homes - Architectural Coating								✔	✔			
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Combined Construction Noise at Nearest Offsite Receptor: RcvrAR (Action Rehab) - Unmitigated Case

Year 2024

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	56.9	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.6	60.6	60.6	60.6	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9
Residential Homes - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	80.3	80.3	80.3	80.3	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.3	82.3	82.3	82.3	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.2
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**80**	**80**	**80**	**80**	**82**	**82**	**82**	**82**	**72**

Year 2025

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9
Residential Homes - Paving	0.0	0.0	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	72.2	72.2	72.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	80.1	80.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	65.0	65.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**72**	**72**	**72**	**80**	**80**	**66**	**66**	**56**	**56**	**56**	**59**	**59**

Year 2026

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9	56.9
Residential Homes - Paving	0.0	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**59**	**59**	**57**

Year 2027

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9	56.9	56.9
Residential Homes - Paving	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**59**	**59**	**57**	**57**

Year 2028

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Paving	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**56**	**56**	**0**	**0**	**0**

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Source, receptor, and barrier all share same reference grade elevation; unless otherwise noted)
= Barrier of input height inserted between source and receptor

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
1	Residential Homes - Demolition	excavator	2	40	81	1865	0		49.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1865	0		47.5	8	480	47	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1865	0		47.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1865	0		46.5	8	480	43	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Demolition Phase										**53.5**																
2	Residential Homes - Site Preparation	grader	1	40	85	1865	0		53.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	1	40	85	1865	0		53.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	1	20	80	1865	0		48.5	8	480	42	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Site Preparation Phase										**52.9**																
3	Residential Homes - Grading	scraper	2	40	84	1865	0		52.5	8	480	52	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		grader	2	40	85	1865	0		53.5	8	480	53	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	2	40	85	1865	0		53.5	8	480	53	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	2	20	80	1865	0		48.5	8	480	45	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Grading Phase										**57.2**																
4	Residential Homes - Bldg. Construction	excavator	2	40	81	1865	0		49.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1865	0		47.5	8	480	47	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1865	0		43.5	8	480	43	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	4	40	78	1865	0		46.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Bldg. Construction Phase										**53.1**																
5	Residential Homes - Utilities and Infrastructure	excavator	2	40	81	1865	0		49.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1865	0		47.5	8	480	47	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1865	0		47.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1865	0		46.5	8	480	43	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Utilities and Infrastructure Phase										**53.5**																
6	Residential Homes - Paving	paver	5	50	77	1865	0		45.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		all other equipment > 5 HP	1	50	85	1865	0		53.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	1	40	79	1865	0		47.5	8	480	44	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Paving Phase										**53.5**																
7	Residential Homes - Architectural Coating	compressor (air)	6	40	78	1865	0		46.5	8	480	50	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compressor (air)	4	40	78	1865	0		46.5	8	480	49	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1865	0		43.5	8	480	43	5	5	0	1800	65	1865	1800.0	65.2	1865.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Architectural Coating Phase										**52.9**																
A	Light Industrial Facility - Site Preparation	Front End Loader	4	40	79	370	0		61.6	8	480	64	95	5	0	305	65	370	319.5	65.2	380.8	0.00	0.1	50.0	50.0	0.0	0.0	0.1
		Dozer	3	40	82	370	0		64.6	8	480	65	95	5	0	305	65	370	319.5	65.2	380.8	0.00	0.1	50.0	50.0	0.0	0.0	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Site Preparation Phase										**67.6**																
B	Light Industrial Facility - Grading	Excavator	1	40	81	370	0		63.6	8	480	60	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Dozer	1	40	82	370	0		64.6	8	480	61	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Front End Loader	3	40	79	370	0		61.6	8	480	62	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Grader	1	40	85	370	0		67.6	8	480	64	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Grading Phase										**67.8**																
C	Light Industrial Facility - Building Construction	Generator	1	50	72	440	0		53.0	8	480	50	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Crane	1	16	81	440	0		62.0	8	480	54	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Man Lift	3	20	75	440	0		56.0	8	480	54	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Backhoe	3	40	78	440	0		59.0	8	480	60	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Welder / Torch	1	40	73	440	0		54.0	8	480	50	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Building Construction Phase										**62.2**																
D	Light Industrial Facility - Paving	Paver	1	50	77	370	0		59.6	8	480	57	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Concrete Mixer Truck	2	40	79	370	0		61.6	8	480	61	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Concrete Pump Truck	2	20	81	370	0		63.6	8	480	60	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Roller	2	20	80	370	0		62.6	8	480	59	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Backhoe	1	40	78	370	0		60.6	8	480	57	10	5	0	305	65	370	305.2	65.2	370.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Paving Phase										**65.7**																
E	Light Industrial Facility - Architectural Coating	compressor (air)	1	40	78	440	0		59.0	8	480	55	10	5	0	375	65	440	375.1	65.2	440.0	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Architectural Coating Phase										**55.1**																

Construction Schedule

Construction Phase

Year	2024											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	✔	✔	✔									
Residential Homes - Site Preparation				✔	✔	✔	✔					
Residential Homes - Grading								✔	✔	✔	✔	
Residential Homes - Bldg. Construction												
Residential Homes - Utilities and Infrastructure												✔
Residential Homes - Paving												
Residential Homes - Architectural Coating												
Light Industrial Facility - Site Preparation				✔	✔	✔	✔					
Light Industrial Facility - Grading								✔	✔	✔	✔	
Light Industrial Facility - Building Construction												✔
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year	2025											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction						✔	✔	✔	✔	✔		
Residential Homes - Utilities and Infrastructure	✔	✔	✔								✔	✔
Residential Homes - Paving				✔	✔							
Residential Homes - Architectural Coating											✔	✔
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction	✔	✔	✔									
Light Industrial Facility - Paving				✔	✔							
Light Industrial Facility - Architectural Coating						✔	✔					

Year	2026											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction					✔	✔	✔	✔	✔			
Residential Homes - Utilities and Infrastructure	✔	✔								✔	✔	✔
Residential Homes - Paving			✔	✔								
Residential Homes - Architectural Coating										✔	✔	
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year	2027											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction				✔	✔	✔	✔	✔				
Residential Homes - Utilities and Infrastructure	✔								✔	✔	✔	✔
Residential Homes - Paving		✔	✔									
Residential Homes - Architectural Coating									✔	✔		
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year	2028											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction			✔	✔	✔	✔	✔					
Residential Homes - Utilities and Infrastructure												
Residential Homes - Paving	✔	✔										
Residential Homes - Architectural Coating								✔	✔			
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Combined Construction Noise at Nearest Offsite Receptor: RcvrAR (Action Rehab)

Year	2024											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	53.5	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	52.9	52.9	52.9	52.9	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.2	57.2	57.2	57.2	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.5
Residential Homes - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	67.6	67.6	67.6	67.6	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.8	67.8	67.8	67.8	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.2
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**54**	**54**	**54**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**63**

Year	2025											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	53.1	53.1	53.1	53.1	53.1	0.0	0.0
Residential Homes - Utilities and Infrastructure	53.5	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.5	53.5
Residential Homes - Paving	0.0	0.0	0.0	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	52.9
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	62.2	62.2	62.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	65.7	65.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	55.1	55.1	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**63**	**63**	**63**	**66**	**66**	**57**	**57**	**53**	**53**	**53**	**56**	**56**

Year	2026											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	53.1	53.1	53.1	53.1	53.1	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.5	53.5	53.5
Residential Homes - Paving	0.0	0.0	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	52.9	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**54**	**54**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**56**	**56**	**54**

Year	2027											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	53.1	53.1	53.1	53.1	53.1	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.5	53.5	53.5	53.5
Residential Homes - Paving	0.0	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	52.9	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**54**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**56**	**56**	**54**	**54**

Year	2028											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	53.1	53.1	53.1	53.1	53.1	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Paving	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	52.9	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**0**	**0**	**0**

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Source, receptor, and barrier all share same reference grade elevation; unless otherwise noted)
= Barrier of input height inserted between source and receptor

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
1	Residential Homes - Demolition	excavator	2	40	81	1265	0		52.9	8	480	52	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1265	0		50.9	8	480	50	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1265	0		50.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1265	0		49.9	8	480	46	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Demolition Phase										**56.9**																
2	Residential Homes - Site Preparation	grader	1	40	85	1265	0		56.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	1	40	85	1265	0		56.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	1	20	80	1265	0		51.9	8	480	45	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Site Preparation Phase										**56.2**																
3	Residential Homes - Grading	scraper	2	40	84	1265	0		55.9	8	480	55	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		grader	2	40	85	1265	0		56.9	8	480	56	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	2	40	85	1265	0		56.9	8	480	56	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	2	20	80	1265	0		51.9	8	480	48	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Grading Phase										**60.6**																
4	Residential Homes - Bldg. Construction	excavator	2	40	81	1315	0		52.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1315	0		50.5	8	480	50	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1315	0		46.5	8	480	46	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	4	40	78	1315	0		49.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Bldg. Construction Phase										**56.2**																
5	Residential Homes - Utilities and Infrastructure	excavator	2	40	81	1265	0		52.9	8	480	52	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1265	0		50.9	8	480	50	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1265	0		50.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1265	0		49.9	8	480	46	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Utilities and Infrastructure Phase										**56.9**																
6	Residential Homes - Paving	paver	5	50	77	1265	0		48.9	8	480	53	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		all other equipment > 5 HP	1	50	85	1265	0		56.9	8	480	54	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	1	40	79	1265	0		50.9	8	480	47	5	5	0	1200	65	1265	1200.0	65.2	1265.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Paving Phase										**56.9**																
7	Residential Homes - Architectural Coating	compressor (air)	6	40	78	1315	0		49.5	8	480	53	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compressor (air)	4	40	78	1315	0		49.5	8	480	52	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1315	0		46.5	8	480	46	5	5	0	1250	65	1315	1250.0	65.2	1315.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Architectural Coating Phase										**56.0**																
A	Light Industrial Facility - Site Preparation	Front End Loader	4	40	79	85	8		66.2	8	480	68	20	5	20	20	65	85	20.0	66.7	86.3	0.39	9.0	32.5	12.5	0.2	0.5	8.2
		Dozer	3	40	82	85	8		69.2	8	480	70	20	5	20	20	65	85	20.0	66.7	86.3	0.39	9.0	32.5	12.5	0.2	0.5	8.2
		Total Aggregate Noise Exposure from Light Industrial Facility - Site Preparation Phase										**72.2**																
B	Light Industrial Facility - Grading	Excavator	1	40	81	70	10		67.7	8	480	64	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Dozer	1	40	82	70	10		68.7	8	480	65	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Front End Loader	3	40	79	70	10		65.7	8	480	67	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Grader	1	40	85	70	10		71.7	8	480	68	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Total Aggregate Noise Exposure from Light Industrial Facility - Grading Phase										**72.0**																
C	Light Industrial Facility - Building Construction	Generator	1	50	72	140	0		63.0	8	480	60	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Crane	1	16	81	140	0		72.0	8	480	64	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Man Lift	3	20	75	140	0		66.0	8	480	64	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Backhoe	3	40	78	140	0		69.0	8	480	70	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Welder / Torch	1	40	73	140	0		64.0	8	480	60	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Building Construction Phase										**72.2**																
D	Light Industrial Facility - Paving	Paver	1	50	77	70	10		63.7	8	480	61	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Concrete Mixer Truck	2	40	79	70	10		65.7	8	480	65	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Concrete Pump Truck	2	20	81	70	10		67.7	8	480	64	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Roller	2	20	80	70	10		66.7	8	480	63	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Backhoe	1	40	78	70	10		64.7	8	480	61	10	5	12	5	65	70	5.4	65.4	70.2	0.58	10.7	19.5	7.5	0.4	0.6	10.4
		Total Aggregate Noise Exposure from Light Industrial Facility - Paving Phase										**69.8**																
E	Light Industrial Facility - Architectural Coating	compressor (air)	1	40	78	140	0		69.0	8	480	65	10	5	0	75	65	140	75.7	65.2	140.1	0.00	0.1	7.5	7.5	0.6	0.6	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Architectural Coating Phase										**65.0**																

Construction Schedule

Construction Phase

Year 2024 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	✓	✓	✓									
Residential Homes - Site Preparation				✓	✓	✓	✓					
Residential Homes - Grading								✓	✓	✓	✓	
Residential Homes - Bldg. Construction												
Residential Homes - Utilities and Infrastructure												✓
Residential Homes - Paving												
Residential Homes - Architectural Coating												
Light Industrial Facility - Site Preparation				✓	✓	✓	✓					
Light Industrial Facility - Grading								✓	✓	✓	✓	
Light Industrial Facility - Building Construction												✓
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2025 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction						✓	✓	✓	✓	✓		
Residential Homes - Utilities and Infrastructure	✓	✓	✓								✓	✓
Residential Homes - Paving				✓	✓							
Residential Homes - Architectural Coating											✓	✓
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction	✓	✓	✓									
Light Industrial Facility - Paving				✓	✓							
Light Industrial Facility - Architectural Coating						✓	✓					

Year 2026 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction					✓	✓	✓	✓	✓			
Residential Homes - Utilities and Infrastructure	✓	✓								✓	✓	✓
Residential Homes - Paving			✓	✓								
Residential Homes - Architectural Coating										✓	✓	
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2027 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction				✓	✓	✓	✓	✓				
Residential Homes - Utilities and Infrastructure	✓								✓	✓	✓	✓
Residential Homes - Paving		✓	✓									
Residential Homes - Architectural Coating									✓	✓		
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2028 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction			✓	✓	✓	✓	✓					
Residential Homes - Utilities and Infrastructure												
Residential Homes - Paving	✓	✓										
Residential Homes - Architectural Coating								✓	✓			
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Combined Construction Noise at Nearest Offsite Receptor: RcvrAR (Action Rehab)

2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	56.9	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.6	60.6	60.6	60.6	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9
Residential Homes - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	72.2	72.2	72.2	72.2	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.0	72.0	72.0	72.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.2
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**72**	**72**	**72**	**72**	**72**	**72**	**72**	**72**	**72**

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9
Residential Homes - Paving	0.0	0.0	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	72.2	72.2	72.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	69.8	69.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	65.0	65.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**72**	**72**	**72**	**70**	**70**	**66**	**66**	**56**	**56**	**56**	**59**	**59**

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9	56.9
Residential Homes - Paving	0.0	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**59**	**59**	**57**

2027	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	56.9	56.9	56.9
Residential Homes - Paving	0.0	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**59**	**59**	**57**	**57**

2028	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	56.2	56.2	56.2	56.2	56.2	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Paving	56.9	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	56.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**56**	**56**	**56**	**56**	**56**	**56**	**56**	**0**	**0**	**0**

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Source, receptor, and barrier all share same reference grade elevation; unless otherwise noted)
= Barrier of input height inserted between source and receptor

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
1	Residential Homes - Demolition	excavator	2	40	81	1250	0		53.0	8	480	52	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1250	0		51.0	8	480	50	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1250	0		51.0	8	480	53	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1250	0		50.0	8	480	46	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Demolition Phase										**57.0**																
2	Residential Homes - Site Preparation	grader	1	40	85	1250	0		57.0	8	480	53	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	1	40	85	1250	0		57.0	8	480	53	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	1	20	80	1250	0		52.0	8	480	45	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Site Preparation Phase										**56.3**																
3	Residential Homes - Grading	scraper	2	40	84	1250	0		56.0	8	480	55	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		grader	2	40	85	1250	0		57.0	8	480	56	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	2	40	85	1250	0		57.0	8	480	56	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	2	20	80	1250	0		52.0	8	480	48	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Grading Phase										**60.7**																
4	Residential Homes - Bldg. Construction	excavator	2	40	81	1250	0		53.0	8	480	52	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1250	0		51.0	8	480	50	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1250	0		47.0	8	480	46	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	4	40	78	1250	0		50.0	8	480	52	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Bldg. Construction Phase										**56.6**																
5	Residential Homes - Utilities and Infrastructure	excavator	2	40	81	1250	0		53.0	8	480	52	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	1250	0		51.0	8	480	50	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	1250	0		51.0	8	480	53	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	1250	0		50.0	8	480	46	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Utilities and Infrastructure Phase										**57.0**																
6	Residential Homes - Paving	paver	5	50	77	1250	0		49.0	8	480	53	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		all other equipment > 5 HP	1	50	85	1250	0		57.0	8	480	54	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	1	40	79	1250	0		51.0	8	480	47	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Paving Phase										**57.0**																
7	Residential Homes - Architectural Coating	compressor (air)	6	40	78	1250	0		50.0	8	480	54	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compressor (air)	4	40	78	1250	0		50.0	8	480	52	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	1250	0		47.0	8	480	46	5	5	0	5	1245	1250	7.1	1245.0	1250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Architectural Coating Phase										**56.4**																
A	Light Industrial Facility - Site Preparation	Front End Loader	4	40	79	1235	0		51.1	8	480	53	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Dozer	3	40	82	1235	0		54.1	8	480	55	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Site Preparation Phase										**57.1**																
B	Light Industrial Facility - Grading	Excavator	1	40	81	1235	0		53.1	8	480	49	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Dozer	1	40	82	1235	0		54.1	8	480	50	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Front End Loader	3	40	79	1235	0		51.1	8	480	52	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Grader	1	40	85	1235	0		57.1	8	480	53	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Grading Phase										**57.3**																
C	Light Industrial Facility - Building Construction	Generator	1	50	72	1235	0		44.1	8	480	41	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Crane	1	16	81	1235	0		53.1	8	480	45	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Man Lift	3	20	75	1235	0		47.1	8	480	45	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Backhoe	3	40	78	1235	0		50.1	8	480	51	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Welder / Torch	1	40	73	1235	0		45.1	8	480	41	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Building Construction Phase										**53.2**																
D	Light Industrial Facility - Paving	Paver	1	50	77	1235	0		49.1	8	480	46	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Concrete Mixer Truck	2	40	79	1235	0		51.1	8	480	50	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Concrete Pump Truck	2	20	81	1235	0		53.1	8	480	49	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Roller	2	20	80	1235	0		52.1	8	480	48	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Backhoe	1	40	78	1235	0		50.1	8	480	46	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Paving Phase										**55.2**																
E	Light Industrial Facility - Architectural Coating	compressor (air)	1	40	78	1235	0		50.1	8	480	46	5	5	0	5	1230	1235	7.1	1230.0	1235.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Architectural Coating Phase										**46.1**																

Construction Schedule

Construction Phase

Year 2024 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	✔	✔	✔									
Residential Homes - Site Preparation				✔	✔	✔	✔					
Residential Homes - Grading								✔	✔	✔	✔	
Residential Homes - Bldg. Construction												
Residential Homes - Utilities and Infrastructure												✔
Residential Homes - Paving												
Residential Homes - Architectural Coating												
Light Industrial Facility - Site Preparation				✔	✔	✔	✔					
Light Industrial Facility - Grading								✔	✔	✔	✔	
Light Industrial Facility - Building Construction												✔
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2025 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction						✔	✔	✔	✔	✔		
Residential Homes - Utilities and Infrastructure	✔	✔	✔								✔	✔
Residential Homes - Paving				✔	✔							
Residential Homes - Architectural Coating											✔	✔
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction	✔	✔	✔									
Light Industrial Facility - Paving				✔	✔							
Light Industrial Facility - Architectural Coating						✔	✔					

Year 2026 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction					✔	✔	✔	✔	✔			
Residential Homes - Utilities and Infrastructure	✔	✔								✔	✔	✔
Residential Homes - Paving			✔	✔								
Residential Homes - Architectural Coating										✔	✔	
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2027 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction				✔	✔	✔	✔	✔				
Residential Homes - Utilities and Infrastructure	✔								✔	✔	✔	✔
Residential Homes - Paving		✔	✔									
Residential Homes - Architectural Coating									✔	✔		
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2028 / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction			✔	✔	✔	✔	✔					
Residential Homes - Utilities and Infrastructure												
Residential Homes - Paving	✔	✔										
Residential Homes - Architectural Coating								✔	✔			
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Combined Construction Noise at Nearest Offsite Receptor: Rcvr01

2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	57.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	56.3	56.3	56.3	56.3	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.7	60.7	60.7	60.7	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Residential Homes - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	57.1	57.1	57.1	57.1	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.3	57.3	57.3	57.3	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**60**	**60**	**60**	**60**	**62**	**62**	**62**	**62**	**59**

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	56.6	56.6	56.6	56.6	56.6	0.0	0.0
Residential Homes - Utilities and Infrastructure	57.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	57.0
Residential Homes - Paving	0.0	0.0	0.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.4	56.4
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	53.2	53.2	53.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	55.2	55.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	46.1	46.1	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**59**	**59**	**59**	**59**	**59**	**57**	**57**	**57**	**57**	**57**	**60**	**60**

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	56.6	56.6	56.6	56.6	56.6	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	57.0	57.0
Residential Homes - Paving	0.0	0.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.4	56.4	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**60**	**60**	**57**

2027	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	56.6	56.6	56.6	56.6	56.6	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	57.0	57.0	57.0
Residential Homes - Paving	0.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.4	56.4	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**60**	**60**	**57**	**57**

2028	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	56.6	56.6	56.6	56.6	56.6	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Paving	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.4	56.4	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**56**	**56**	**0**	**0**	**0**

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Source, receptor, and barrier all share same reference grade elevation; unless otherwise noted)
= Barrier of input height inserted between source and receptor

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
1	Residential Homes - Demolition	excavator	2	40	81	2050	0		48.7	8	480	48	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	2050	0		46.7	8	480	46	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	2050	0		46.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	2050	0		45.7	8	480	42	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Demolition Phase										**52.7**																
2	Residential Homes - Site Preparation	grader	1	40	85	2050	0		52.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	1	40	85	2050	0		52.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	1	20	80	2050	0		47.7	8	480	41	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Site Preparation Phase										**52.0**																
3	Residential Homes - Grading	scraper	2	40	84	2050	0		51.7	8	480	51	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		grader	2	40	85	2050	0		52.7	8	480	52	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		vacuum excavator (Vac-truck)	2	40	85	2050	0		52.7	8	480	52	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compactor (ground)	2	20	80	2050	0		47.7	8	480	44	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Grading Phase										**56.4**																
4	Residential Homes - Bldg. Construction	excavator	2	40	81	2050	0		48.7	8	480	48	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	2050	0		46.7	8	480	46	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	2050	0		42.7	8	480	42	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	4	40	78	2050	0		45.7	8	480	48	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Bldg. Construction Phase										**52.3**																
5	Residential Homes - Utilities and Infrastructure	excavator	2	40	81	2050	0		48.7	8	480	48	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	2	40	79	2050	0		46.7	8	480	46	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	4	40	79	2050	0		46.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		backhoe	1	40	78	2050	0		45.7	8	480	42	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Utilities and Infrastructure Phase										**52.7**																
6	Residential Homes - Paving	paver	5	50	77	2050	0		44.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		all other equipment > 5 HP	1	50	85	2050	0		52.7	8	480	50	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		front end loader	1	40	79	2050	0		46.7	8	480	43	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Paving Phase										**52.7**																
7	Residential Homes - Architectural Coating	compressor (air)	6	40	78	2050	0		45.7	8	480	49	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		compressor (air)	4	40	78	2050	0		45.7	8	480	48	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		man lift	4	20	75	2050	0		42.7	8	480	42	5	5	0	5	2045	2050	7.1	2045.0	2050.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Residential Homes - Architectural Coating Phase										**52.1**																
A	Light Industrial Facility - Site Preparation	Front End Loader	4	40	79	1450	0		49.7	8	480	52	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Dozer	3	40	82	1450	0		52.7	8	480	53	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Site Preparation Phase										**55.7**																
B	Light Industrial Facility - Grading	Excavator	1	40	81	1450	0		51.7	8	480	48	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Dozer	1	40	82	1450	0		52.7	8	480	49	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Front End Loader	3	40	79	1450	0		49.7	8	480	50	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Grader	1	40	85	1450	0		55.7	8	480	52	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Grading Phase										**55.9**																
C	Light Industrial Facility - Building Construction	Generator	1	50	72	1450	0		42.7	8	480	40	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Crane	1	16	81	1450	0		51.7	8	480	44	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Man Lift	3	20	75	1450	0		45.7	8	480	43	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Backhoe	3	40	78	1450	0		48.7	8	480	49	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Welder / Torch	1	40	73	1450	0		43.7	8	480	40	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Building Construction Phase										**51.9**																
D	Light Industrial Facility - Paving	Paver	1	50	77	1450	0		47.7	8	480	45	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Concrete Mixer Truck	2	40	79	1450	0		49.7	8	480	49	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Concrete Pump Truck	2	20	81	1450	0		51.7	8	480	48	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Roller	2	20	80	1450	0		50.7	8	480	47	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Backhoe	1	40	78	1450	0		48.7	8	480	45	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Paving Phase										**53.8**																
E	Light Industrial Facility - Architectural Coating	compressor (air)	1	40	78	1450	0		48.7	8	480	45	5	5	0	5	1445	1450	7.1	1445.0	1450.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
		Total Aggregate Noise Exposure from Light Industrial Facility - Architectural Coating Phase										**44.7**																

Construction Schedule

Construction Phase

Year 2024 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	✔	✔	✔									
Residential Homes - Site Preparation				✔	✔	✔	✔					
Residential Homes - Grading								✔	✔	✔	✔	
Residential Homes - Bldg. Construction												
Residential Homes - Utilities and Infrastructure												✔
Residential Homes - Paving												
Residential Homes - Architectural Coating												
Light Industrial Facility - Site Preparation				✔	✔	✔	✔					
Light Industrial Facility - Grading								✔	✔	✔	✔	
Light Industrial Facility - Building Construction												✔
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2025 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction						✔	✔	✔	✔	✔		
Residential Homes - Utilities and Infrastructure	✔	✔	✔								✔	✔
Residential Homes - Paving				✔	✔							
Residential Homes - Architectural Coating											✔	✔
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction	✔	✔	✔									
Light Industrial Facility - Paving				✔	✔							
Light Industrial Facility - Architectural Coating						✔	✔					

Year 2026 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction					✔	✔	✔	✔	✔			
Residential Homes - Utilities and Infrastructure	✔	✔								✔	✔	✔
Residential Homes - Paving			✔	✔								
Residential Homes - Architectural Coating										✔	✔	
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2027 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction				✔	✔	✔	✔	✔				
Residential Homes - Utilities and Infrastructure	✔								✔	✔	✔	✔
Residential Homes - Paving		✔	✔									
Residential Homes - Architectural Coating									✔	✔		
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Year 2028 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition												
Residential Homes - Site Preparation												
Residential Homes - Grading												
Residential Homes - Bldg. Construction			✔	✔	✔	✔	✔					
Residential Homes - Utilities and Infrastructure												
Residential Homes - Paving	✔	✔										
Residential Homes - Architectural Coating								✔	✔			
Light Industrial Facility - Site Preparation												
Light Industrial Facility - Grading												
Light Industrial Facility - Building Construction												
Light Industrial Facility - Paving												
Light Industrial Facility - Architectural Coating												

Combined Construction Noise at Nearest Offsite Receptor: Rcvr01

Year 2024 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	52.7	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	52.0	52.0	52.0	52.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.4	56.4	56.4	56.4	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7
Residential Homes - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	55.7	55.7	55.7	55.7	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.9	55.9	55.9	55.9	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.9
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**53**	**53**	**53**	**57**	**57**	**57**	**57**	**59**	**59**	**59**	**59**	**55**

Year 2025 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	0.0	52.3	52.3	52.3	52.3	52.3	0.0	0.0
Residential Homes - Utilities and Infrastructure	52.7	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	52.7
Residential Homes - Paving	0.0	0.0	0.0	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	52.1
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	51.9	51.9	51.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	53.8	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	44.7	44.7	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**55**	**55**	**55**	**56**	**56**	**53**	**53**	**52**	**52**	**52**	**55**	**55**

Year 2026 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	0.0	52.3	52.3	52.3	52.3	52.3	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	52.7	52.7
Residential Homes - Paving	0.0	0.0	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	52.1	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**53**	**53**	**53**	**53**	**52**	**52**	**52**	**52**	**52**	**55**	**55**	**53**

Year 2027 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	0.0	52.3	52.3	52.3	52.3	52.3	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	52.7	52.7	52.7
Residential Homes - Paving	0.0	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	52.1	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**53**	**53**	**53**	**52**	**52**	**52**	**52**	**52**	**55**	**55**	**53**	**53**

Year 2028 – Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Residential Homes - Demolition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Bldg. Construction	0.0	0.0	52.3	52.3	52.3	52.3	52.3	0.0	0.0	0.0	0.0	0.0
Residential Homes - Utilities and Infrastructure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Paving	52.7	52.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Homes - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	52.1	0.0	0.0	0.0
Light Industrial Facility - Site Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Grading	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Building Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Industrial Facility - Architectural Coating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concurrent Total (dBA)	**53**	**53**	**52**	**52**	**52**	**52**	**52**	**52**	**52**	**0**	**0**	**0**

Attachment B

Traffic Noise Modeling Calculations - Summary

Project: 14744 Riverview Development

Number	Name	Segment Description and Location From	To	Existing	Existing + Project	Δ Existing – Existing + Project	Future	Future + Project	Δ Future – Future + Project
Summary of Net Changes									
1	Soledad Canyon Rd			75.1	75.3	0.2	76.0	76.2	0.1
2	Soledad Canyon Rd			61.3	61.4	0.2	62.2	62.3	0.1
3	Commuter Way			35.3	38.6	3.3	35.4	38.6	3.2

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Attachment B - 1

Traffic Noise Model Calculations

Project: 14744 Riverview Development

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: Peak
Traffic K-Factor: 10

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics										
Number	Name	From	To	Peak Hour Volume	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	Distance to Contour, (feet)[3] 70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	Soledad Canyon Rd			11,471	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	75.1	274	591	1272	2741
2	Soledad Canyon Rd			11,471	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	61.3	274	591	1272	2741
3	Commuter Way			52	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	35.3	3	6	12	27

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Attachment B - 2

Traffic Noise Model Calculations

Project: 14744 Riverview Development

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: Peak
Traffic K-Factor: 10

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics										
Number	Name	From	To	Peak Hour Volume	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	Distance to Contour, (feet)[3] 70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	Soledad Canyon Rd			11,913	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	75.3	281	606	1305	2811
2	Soledad Canyon Rd			11,913	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	61.4	281	606	1305	2811
3	Commuter Way			111	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	38.6	4	9	20	44

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Attachment B - 3

Traffic Noise Model Calculations

Project: 14744 Riverview Development

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: Peak
Traffic K-Factor: 10

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics							Distance to Contour, (feet)$_3$			
Number	Name	From	To	Peak Hour Volume	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	Ldn, (dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Future Conditions																		
1	Soledad Canyon Rd			14,190	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	76.0	316	681	1466	3159
2	Soledad Canyon Rd			14,190	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	62.2	316	681	1466	3159
3	Commuter Way			54	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	35.4	3	6	13	27

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Attachment B - 4

Traffic Noise Model Calculations

Project: 14744 Riverview Development

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: Peak
Traffic K-Factor: 10

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	Peak Hour Volume	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Future + Project Conditions																		
1	Soledad Canyon Rd			14,638	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	76.2	322	695	1497	3225
2	Soledad Canyon Rd			14,638	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	62.3	322	695	1497	3225
3	Commuter Way			113	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	38.6	4	10	21	45

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Point Sources

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (ft²)	Attenuati	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (ft)	Coordinates X (ft)	Y (ft)	Z (ft)
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	1989.8	1800.24	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2015.59	1808.97	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2040.57	1816.32	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2062.61	1823.66	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2083.18	1832.48	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2098.98	1840.93	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2122.86	1847.17	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2144.16	1854.52	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2166.21	1863.34	5
Truck Loading		IdlingTruc	82.9	82.9	82.9	Lw	IdlingTruck		0	0	0							0		(none)	5 r	2189.72	1871.42	5
Standby Generator 350 kW - with l		GENL2	97	97	97	SET												0		(none)	8.6 r	2350.77	1983.58	8.6
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2591.92	2142.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2591.92	2120.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2644.28	2144.97	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2647.04	2120.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2704.91	2150.48	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2704.91	2125.68	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2760.03	2149.1	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2758.65	2127.06	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2808.26	2149.1	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2808.26	2129.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2842.71	2127.06	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2842.71	2151.86	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2888.18	2154.62	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2890.94	2129.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2924.01	2128.43	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2921.25	2158.75	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2980.5	2154.62	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2984.64	2128.43	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3023.22	2125.68	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3023.22	2155.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3060.43	2151.86	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3063.18	2131.19	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3105.9	2131.19	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3101.76	2151.86	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3140.35	2155.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3144.48	2132.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3185.82	2133.95	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3185.82	2158.75	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3225.78	2154.62	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3225.78	2132.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3269.88	2131.19	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3269.88	2153.24	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3304.32	2157.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3305.7	2131.19	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3348.42	2132.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3349.8	2157.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2594.67	2022.33	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2594.67	2001.66	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2649.79	2003.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2651.17	2023.71	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2600.19	1946.54	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2600.19	1927.25	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2649.79	1927.25	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2649.79	1946.54	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2751.76	2043	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2773.81	2043	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2775.19	2003.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2757.27	2001.66	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2831.68	2004.42	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2852.35	2003.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2831.68	2045.76	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2849.6	2047.13	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2896.45	2049.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2922.63	2049.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2901.96	2008.55	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2926.76	2009.93	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2979.13	2005.8	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2999.8	2005.8	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3050.78	2008.55	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3076.96	2007.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3129.32	2007.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3161.02	2007.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3206.49	2005.8	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3234.05	2011.31	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3301.57	1997.53	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3327.75	1994.77	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3327.75	2043	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3302.95	2044.38	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3231.29	2049.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3210.62	2049.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3156.88	2049.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3134.84	2052.65	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3072.83	2052.65	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3053.54	2055.4	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3002.55	2051.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2976.37	2051.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2751.76	1963.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2775.19	1961.7	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2837.2	1963.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2857.87	1963.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2903.34	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2924.01	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2987.39	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3008.06	1964.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3050.78	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3078.34	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3130.7	1964.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3155.5	1965.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3205.11	1964.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3232.67	1964.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3297.43	1958.94	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3330.51	1963.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3326.37	1916.23	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3302.95	1916.23	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3235.43	1921.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3207.87	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3159.64	1925.87	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3129.32	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3075.58	1921.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3054.91	1923.12	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3012.2	1923.12	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2987.39	1923.12	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2929.52	1921.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2904.72	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2860.62	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2837.2	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2776.57	1917.61	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2751.76	1920.36	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2550.48	1816.24	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2576.73	1814.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2552.67	1759.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2578.92	1759.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2553.77	1705.78	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2581.11	1706.87	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2555.95	1647.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2577.83	1647.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2634.7	1650	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2662.04	1648.91	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2637.98	1707.97	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2657.67	1707.97	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2634.7	1754.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2657.67	1756.09	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2633.6	1816.24	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2653.29	1815.15	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2771.41	1872.02	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2770.32	1823.9	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2770.32	1785.62	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2770.32	1741.87	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2841.41	1744.06	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2842.5	1783.43	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2844.69	1827.18	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2839.22	1870.93	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2890.62	1870.93	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2891.72	1833.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2892.81	1788.9	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2895	1746.25	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2962.81	1745.15	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3017.49	1745.15	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3016.4	1789.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2962.81	1788.9	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2963.9	1826.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3012.02	1828.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2967.18	1872.02	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3008.74	1872.02	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3084.21	1874.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3124.67	1874.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3194.67	1875.3	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3196.86	1834.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3197.95	1793.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3197.95	1751.71	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3137.8	1752.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3136.7	1789.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3133.42	1834.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3077.64	1835.93	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3078.74	1792.18	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3079.83	1752.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3304.04	1829.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3347.79	1829.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3347.79	1760.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3300.76	1754.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2762.66	1647.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2761.57	1607.35	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2759.38	1562.5	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2831.56	1563.6	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2876.4	1567.97	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2942.03	1570.16	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2989.05	1567.97	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2829.38	1611.72	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2827.19	1651.09	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2876.4	1652.19	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2877.5	1609.53	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2940.93	1609.53	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2943.12	1654.38	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2994.52	1654.38	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	2995.62	1612.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3061.24	1612.81	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3059.05	1655.47	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3110.45	1654.38	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3111.55	1613.91	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3176.08	1613.91	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3173.89	1657.66	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3218.73	1646.72	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3253.73	1650	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3294.19	1648.91	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3335.76	1664.22	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3371.85	1665.31	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3460.87	2177.79	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3527.58	2178.88	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3583.36	2178.88	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3657.73	2183.26	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3710.23	2181.07	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3788.98	2181.07	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3792.26	2147.16	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3790.07	2105.6	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3717.89	2099.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3668.67	2099.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3592.11	2093.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3526.49	2091.38	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3459.77	2089.2	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3456.49	2134.04	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3529.77	2132.95	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3585.55	2137.32	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3658.83	2139.51	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3713.51	2141.69	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3456.49	1999.51	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3456.49	1959.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3456.49	1914.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3528.68	1914.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3525.4	1960.14	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3527.58	2001.7	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3571.33	2003.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3574.61	1959.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3574.61	1916.39	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3650.08	1916.39	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3640.23	1965.61	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3633.67	2004.98	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3693.83	2007.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3694.92	1968.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3693.83	1925.14	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3767.1	1924.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3761.63	1971.08	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3760.54	2010.45	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3481.65	1831.09	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3548.36	1843.12	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3608.52	1857.33	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3675.23	1870.46	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3732.1	1881.4	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3796.63	1893.43	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3808.66	1846.4	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3816.32	1803.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3821.79	1768.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3758.35	1755.62	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3747.42	1794.99	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3743.04	1836.55	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3682.89	1822.34	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3693.83	1781.87	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3702.58	1742.5	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3633.67	1729.37	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3622.74	1772.03	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3618.36	1809.21	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3560.39	1797.18	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3496.96	1784.06	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3505.71	1739.22	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3513.37	1699.84	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3565.86	1754.53	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3574.61	1714.06	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3861.16	2158.1	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3872.1	2123.1	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3884.13	2078.26	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3895.07	2041.07	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3946.47	2171.22	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3974.91	2171.22	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4006.62	2177.79	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4036.15	2187.63	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4101.77	2190.91	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4128.02	2188.72	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4163.02	2198.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4190.36	2212.79	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4266.92	2222.63	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4270.2	2192	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4282.23	2140.6	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4290.98	2103.42	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4305.2	2039.98	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4308.48	2012.64	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4313.95	1986.39	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4320.51	1964.52	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4299.73	1883.58	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4273.48	1878.11	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4253.8	1872.65	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4235.2	1868.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4157.55	1855.15	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4138.96	1849.68	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4106.15	1843.12	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4078.81	1837.65	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4023.03	1822.34	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3998.97	1821.24	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3961.78	1810.31	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3934.44	1803.74	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3925.69	1889.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3930.06	1907.64	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3923.5	1930.61	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3910.38	1951.39	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3970.53	2083.73	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3970.53	2061.86	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3977.09	2039.98	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	3983.65	2026.86	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4000.06	1962.33	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4000.06	1944.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4002.25	1926.24	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4008.81	1913.11	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4085.37	1917.49	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4082.09	1932.8	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4077.71	1954.67	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4072.24	1972.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4056.93	2039.98	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4054.74	2054.2	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4049.28	2073.89	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4047.09	2093.57	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4128.02	2102.32	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4131.3	2081.54	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4135.68	2059.67	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4144.43	2045.45	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4157.55	1994.05	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4154.27	1979.83	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4158.65	1960.14	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4165.21	1937.17	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4243.95	1953.58	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4243.95	1973.27	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4236.3	1998.42	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4227.55	2012.64	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4215.52	2060.76	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4214.42	2076.07	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4208.96	2101.23	25
Residential HVAC		ResHVAC	75.1	75.1	75.1	Lw	ResAHU++ResACC		0	0	0							0		(none)	25 r	4205.67	2119.82	25

Area Sources

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Correction			Sound Reduction		Attenuatio	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
Warehouse HVAC		WARHS_H	98.1	98.1	98.1	61.9	61.9	61.9	Lw	WARHS_AHU++WARH		0	0	0								0	(none)			

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuatio	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(mph)
Low-speed Onsite Truck Traffic - 3.6 t		OTRXE	88.5	88.5	88.5	65.9	65.9	65.9	Lw	IdlingTruck		0	0	0			-5.6					0	(none)				
Low-speed Onsite Truck Traffic - 3.6 p		OTRXW	88.5	88.5	88.5	66	66	66	Lw	IdlingTruck		0	0	0			-5.6					0	(none)				

*73 truck trips for a 24-hour period, no peak hour # provided, (-) attenuation not added

24-hour				
Soledad	73	18.6	assume a peak hour for trucks onsite is 10% of the daily total:	7.3

5.622929 = dB to add to each of two truck routes

Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Truck Scales	IdlingTruck	Lw		96	87	88	86	80	77	72	63	55	82.9	97.5	one truck (based on Charles M. Salter, 2min idle)

Sound Levels (local)

Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
ResACC	ResACC	Lw			68	68	67	66	72	68	62	56	74.7	76.6	Loren Cook's "Engineering Cookbook" 1999 pp.59-60
ResAHU	ResAHU	Li	A		46	58	59	60	57	50	44	39	64.9	77.1	Loren Cook's "Engineering Cookbook" 1999 pp.41
Truck	IdlingTruck	Lw		96	87	88	86	80	77	72	63	55	82.9	97.5	one truck (based on Charles M. Salter, 2min idle)
Warehouse ACC	WARHS_AC	Lw		0	97	91	94	93	94	87	85	78	97	101.5	Loren Cook's "Engineering Cookbook" 1999 pp.59-60
Warehouse AHU	WARHS_AH	Li	A		73	85	86	87	84	77	71	66	91.9	104.1	Loren Cook's "Engineering Cookbook" 199 pp. 41

Environmental Noise and Vibration Assessment

Riverview Development

MARCH 2023

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APPENDICES

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ANSI	American National Standards Institute, now revised to ANSI
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
ERO	Environmental review officer
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, And Air Conditioning
In./sec.	inches per second
L_{dn}	Day-night sound level
L_{eq}	Energy-equivalent average sound level
L_n	Sound level exceeded “n” percentage of a period
NSLU	Noise-sensitive land use
PPV	Peak Particle Velocity
SEL	Sound Exposure Level

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1 Introduction

This report reviews applicable noise standards and criteria, evaluates the existing noise environment, describes modeling assumptions and methodologies used to predict noise impacts and effects associated with the proposed Riverview Development project (project). The report assesses the potential for project-generated noise levels to result in noise impacts on nearby noise-sensitive receptors. Appendix A provides a discussion of acoustical fundamentals and terminology used in this report. Appendix B presents the traffic noise modeling and traffic count data.

1.1 Project Description

The Riverview Owner LPV, LLC (Project Applicant) is proposing development of the project in the City of Santa Clarita. The Project involves the construction and operation of a mixed-use development with 318 single-family units and 69,692 square feet (sf) of commercial space on an approximately 35.4-acre site (Accessor's Parcel Number [APN] 2836-011-018). The tentative tract map for the proposed project subdivides the lot into the following five Planning Areas (PA)/Lots; PA-1/Lot-1, PA-2/Lot-2, PA-3/Lot 3, PA-4/Lot 4, and Lot 5. PA-1/Lot-1 through PA-4/Lot-4 would be dedicated to residential development which would include landscaping improvements, recreational amenities, and a community open space area. Lot 5 would be dedicated to commercial development, which would include 67,692 sf of studio buildings and 2,000 sf of office space. A total of 819 residential and 412 commercial parking spaces would be provided. The project location is shown on Figure 1 and the site plan is shown in Figure 2.

1.2 Noise Analysis Study Area

The proposed project is located on Soledad Canyon Road, between Bouquet Canyon Road and Golden Valley Road, in City of Santa Clarita (City), California. The site is bounded by Soledad Canyon Road and the Santa Clara River to the north/ northeast, the Santa Clarita Metrolink Station to the southeast, Metrolink transit rail line to the south and west, and a professional/institutional use to the northwest. The existing site is primarily surfaced with asphalt concrete for previous use as the Santa Clarita Open Air Market, the Santa Clarita Swap Meet, and the Saugus Speedway.

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2 Existing Noise Environment

The proposed project is located in the central portion of the City of Santa Clarita. The project site is zoned as Mixed-use corridor/commercial, which is consistent with the General Plan Land Use Map. The dominant noise source affecting the overall area is transportation noise, primarily generated from vehicular traffic on the local roadway network and the adjacent railroad.

The existing ambient noise environment in the project area was quantified through a noise measurement survey of the existing area and through the application of accepted noise prediction methodologies, based on industry-standard references. Separate discussions of identified major noise sources and their respective effects are provided in the following sections.

2.1 Existing Sensitive Land Uses

Sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of the intended purpose. Land uses that are used for relaxation, rest, meditation, learning, and rehabilitative care are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. These noise-sensitive receptor types typically include residential units, transient lodging, houses of worship, schools, libraries, hospitals, childcare and similar facilities.

Existing land uses within the immediate project vicinity consist of single family residential, public and institutional uses. Sensitive land uses nearest the proposed project are the existing single-family residences located approximately 1,115-feet north of the northeastern project boundary, off Millhouse Drive, and approximately 1,185-feet northeast of the northeastern project boundary, off Brightwood Place. Additional single family residential, educational and childcare uses, that would be considered noise-sensitive are located further to the east of the nearest noise-sensitive land uses mentioned near Millhouse Drive and Brightwood Place.[1]

2.2 Existing Ambient Noise Survey

An ambient noise survey was performed by Dudek on December 12, 2022, to document the existing noise environment in the project area and characterize noise sources near the project site. Noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement guidelines. Short-term noise monitoring was conducted at two (2) locations to provide insight into the existing ambient noise environment in the proposed project vicinity. During the ambient noise monitoring, traffic noise measurements with concurrent vehicle classification counts were performed, along with sound exposure levels (SELs) for Metrolink pass-by events. Ambient monitoring locations are shown on Figure 1. Additional information on the ambient noise level monitoring locations are summarized in Table 1, with monitoring data and conditions provided in Appendix B.

[1] In terms of impact analysis for the proposed project on the existing noise-sensitive land uses in the project vicinity, compliance with the applicable standards and thresholds would also result in compliance at other noise-sensitive land uses located at further distances from the project site.

Noise measurements were performed using Soft dB Piccolo II integrating sound level meters (SLMs). Field calibrations were performed on the SLMs with an acoustic calibrator before and after the measurements. The equipment used meets all pertinent specifications of ANSI for Type 2 sound level meters (ANSI S1.4-1983 [R2006]). Meteorological conditions during the monitoring period were stable with temperatures of approximately 46°F; winds between 0 and 3 mph, and a humidity of 78% during the short-term measurement period. The sky was clear with no precipitation occurring during the monitoring period. As such, meteorological conditions during the monitoring period were not determined to substantially effect the collection of ambient noise level data.

The primary noise sources affecting the noise monitoring locations was vehicular traffic on the regional roadway network and the Metrolink commuter rail pass-bys on the Union Pacific Railroad. Additional noise sources experienced during the noise-monitoring program included aircraft overflights, and noise from the natural environment.

Table 1. Summary of Ambient Noise Measurements

Site	Location[1]	Time/Date[2]	Average Noise Levels, dBA		
			L_{eq}	L_{max}	L_{90}
ST-1	Northeast portion of project site. 100-feet from edge of pavement.	12:35 pm 12/12/2022	63.8	77.8	62.1
ST-2	Southwest portion of project site. Approximately 100-feet from railroad centerline.	13:00 pm 12/12/2022	52.9	61.4	51.5

Source: Dudek performed for this analysis.
Notes: dBA = A-weighted decibels; L_{dn} = Day Night noise level; L_{eq} = average equivalent noise level; Lmax = maximum noise level; L90 = sound level exceeded 90% of the period.
1 Locations of noise monitoring sites are shown on Figure 1.
2 Noise measurements were 15-minutes in duration.

2.3 Existing Traffic Noise

Observations and cataloged noise level data collected during the ambient noise survey indicate that the noise level exposure at receptors in the area surrounding the project site is primarily attributable to vehicular traffic. The magnitude of the noise level exposure at each receptor location would be dependent on the relative distance from nearby roadways to noise receptor locations, the traffic volume of vehicles on the roadway, and shielding provided by natural or man-made intervening structures.

To determine existing traffic noise levels, the average daily traffic volumes for the roadway segments immediately adjacent to the project site were used as inputs to the Federal Highway Administration (FHWA) traffic noise modeling prediction methodologies. The FHWA traffic noise modeling algorithms incorporate sound emissions and sound propagation algorithms based on well-established theory and accepted standards. The acoustical algorithms contained within the FHWA traffic noise model have been validated with respect to carefully conducted noise measurement programs and show excellent agreement in most cases for sites with and without noise barriers. The noise modeling accounted for factors such as vehicle volume, speed, vehicle type, roadway configuration, distance to the receiver, and propagation over different types of ground (acoustically soft and hard ground).

In order to ensure that modeled existing traffic noise levels correlate with measured traffic noise levels, observations and concurrent traffic counts, with vehicle type classifications[2], collected during short-term noise monitoring and the measured noise levels were used to perform the traffic noise model calibration process. Modeled traffic noise levels were found to be reasonably consistent with the traffic calibration measurement conducted at the project site. A 1.5 dB difference between measured and predicted noise levels is within the tolerances of the traffic noise prediction model and the calibration methodology provided by the California Department of Transportation (Caltrans) (Caltrans 2020a), as such calibration offsets were not applied to the model.

Modeled existing traffic noise levels are summarized in Table 2, based on existing annual average daily traffic volumes from the traffic impact assessment prepared by Gibson Transportation Consulting for the project (Gibson 2022) and observations noted during the ambient noise survey (posted and observed speeds, and vehicle classification/type percentages). The provided traffic data includes volumes for two roadway segments, Soledad Canyon Rd. and Commuter Way. The traffic noise levels were modeled at reference setback distances representing the property line of noise-sensitive receptors adjacent to Soledad Canyon Rd. and the receptors nearest to Commuter Way.

Table 2. Summary of Modeled Existing Traffic Noise Levels in the Project Vicinity

Site	Roadway	AADT	Vehicle Type, %			Distance to Receptor	Modeled Day/Night Noise Level, dBA Ldn
			A	MT	HT		
P-1	Soledad Canyon Rd.	37,710	95.5	1.6	2.9	125 feet	70.3
P-2	Commuter Way	890	95.5	1.6	2.9	550 feet	37.6

Source: Based on traffic noise analysis performed by Dudek 2022, and traffic volumes from Gibson Transportation Consulting 2022.
Notes: AADT = Annual Average Daily Traffic volumes; dBA = A-weighted decibels; L_{dn} = Day Night noise level.
Vehicle classification/type: A – Auto, **MT** – Medium Truck, **HT** – Heavy Truck.
Locations of prediction receivers are shown on Figure 1.

As shown in Table 2, existing traffic noise levels at the receivers representing the residential setback distances near the project site, adjacent to Soledad Canyon Rd were modeled to be exposed to noise levels of approximately 70 dBA Ldn. Existing traffic volumes for Commuter Way were modeled to result in traffic noise levels of approximately 38 dBA Ldn. Due to the distance of the existing noise-sensitive receptors nearest to Commuter Way, the lower traffic volumes and being located adjacent to Soledad Canyon Rd., traffic noise levels associated with Commuter Way would be masked by noise levels generated by Soledad Canyon Rd.

2.4 Existing Railroad Operations

Existing rail operations in the vicinity of the proposed project are primarily due to Metrolink commuter rail operations on the Santa Clarita Railroad Administration, Antelope Valley Line, which is also used by the Union Pacific Railroad (UPRR) for freight operations. According to the EIR prepared for the Antelope Valley Line Capacity and Service Improvement Program, current operations (as of the July 2021 EIR) include up to 30 Metrolink commuter trains and an average of 5 Union Pacific Railroad freight trains per day on the Antelope Valley Line. The current Metrolink

[2] Vehicular traffic observed during the short-term monitoring periods were classified based on the vehicle types developed for use in the prediction of roadway traffic noise using the FHWA traffic noise prediction models. Automobiles generally weigh less than 9,900 pounds gross vehicle weight (GVW), Medium Trucks generally have two axles and six tires with a GVW between 9,900 pounds and 26,400 pounds, Heavy Trucks have three or more axles with a GVW greater than 26,400 pounds.

timetable shows that there are 22 scheduled commuter rail stops at the Santa Clarita Metrolink Station with 4 commuter rail pass-by events (2 pass-by events in each direction).

During the ambient noise survey, SELs for Metrolink and freight operations were documented on the project site, at measurement location ST-2. The Metrolink pass-by generated a sound exposure level of 74.7 dBA and the freight train generated a sound exposure level of 81.6 dBA. Based on the commuter rail schedule, the average freight pass-bys, the recorded Metrolink and freight train SELs, and accounting for a 10 dB penalty on noise generated during nighttime hours (10:00 p.m. to 7:00 a.m.), existing railroad operations from the rail line adjacent to the proposed project would generate a sound level of 56.6 dBA Ldn at a reference distance of 100-feet from the railroad centerline.

Outdoor activity areas associated with existing noise-sensitive land uses range from approximately 235-feet at the Aqua neighborhood of Villa Metro development to the east, approximately 380-feet at the residences off Sempra Place to the east, and between approximately 1,720-feet (NSLUs off Millhouse Dr.) and 1,875-feet (NSLUs off Brightwood Place) at the River Village neighborhood to the north. Existing noise-sensitive residential outdoor activity areas associated with the Agua neighborhood, would be exposed to noise levels of approximately 51 dBA Ldn, generated from the rail operations on the UPRR Antelope Valley Line.

2.5 Existing Aircraft Operations

There are no operational public use airports in the vicinity of the project site. The project site is approximately 12.2 nautical miles northwest of the Whiteman Airport (WHP) and 12.6 nautical miles northwest of Hollywood Burbank Airport (BUR). The proposed project location is not located within any currently adopted 60, 65 or 70 dBA community noise equivalent level (CNEL)\L_{dn} airport noise contours. As such, noise associated with existing and future aircraft operations in the area is not a substantial contributor to the ambient noise environment.

2.6 Existing Vibration

There are no major sources of groundborne vibration in the project area. Transportation-related vibration from roadways in the vicinity of the project site is the primary source of groundborne vibration. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the roadway right-of-way (Caltrans 2013).

3 Regulatory Criteria

The City has developed and adopted goals and policies with the intent of controlling and diminishing environmental noise and to protect its inhabitants from exposure to excessive noise levels. Local noise standards applicable to the proposed Project are contained in the City's General Plan Noise Element and Municipal Code and are summarized in the following sections.

3.1 Santa Clarita General Plan

Goal N1: A healthy and safe noise environment for Santa Clarita Valley residents, employees, and visitors.

Objective N 1.1: Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels

Policy N 1.1.1: Use the Noise and Land Use Compatibility Guidelines contained on Exhibit N-8, which are consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.

Policy N 1.1.2: Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

Policy N 1.1.3: Include consideration of potential noise impacts in land use planning and development review decisions.

Policy N 1.1.4: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.

Policy N 1.1.5: Monitor and update data and information regarding current and projected noise levels in the planning area.

Policy N 1.1.6: Provide development review comments on projects proposed by other agencies and special districts that may generate noise impacts affecting land uses within the Santa Clarita Valley, including any freeway and high-speed rail projects.

Table 3. Summary of Land Use Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (dBA L_{dn})			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential—Low-Density Single-Family, Duplex, Mobile Home	<60	55–70	70–75	75+
Residential—Multifamily	<60	60–70	70–75	75+
Transient Lodging—Motel, Hotel	<60	60–70	70–80	80+

Table 3. Summary of Land Use Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (dBA L_{dn})			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Schools, Libraries, Churches, Hospitals, Nursing Homes	<60	60–70	70–80	80+
Auditoriums, Concert Halls, Amphitheaters	—	<65	65+	—
Sports Arena, Outdoor Spectator Sports	—	<75	75+	—
Playgrounds, Neighborhood Parks	<65	—	65–75	80+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	—	75–80	80+
Office Building, Business Commercial, and Professional	<70	70–75	75+	—
Industrial, Manufacturing, Utilities, Agriculture	<75	75–80	80+	—

Source: Santa Clarita 2010, Exhibit N-8.
Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level.

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

2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

4 New construction or development should generally not be undertaken.

Goal N3: Protect residential neighborhoods from excessive noise.

Objective N 3.1: Prevent and mitigate significant noise levels in residential neighborhoods.

Policy N 3.1.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise levels exceed 60 CNEL provide mitigation measures for the new residences to reduce interior noise levels to 45 CNEL, based on future traffic and railroad noise levels.

Policy N 3.1.2: Require that developers of new single-family and multi-family residential neighborhoods in areas where the projected noise levels exceed 65 CNEL provide mitigation measures (which may include noise barriers, setbacks, and site design) for new residences to reduce outdoor noise levels to 65 CNEL, based on future traffic conditions. This requirement would apply to rear yard areas for single-family developments, and to private open space and common recreational and open space areas for multi-family developments.

Policy N 3.1.3: Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that produce significant discernable noise exceeding recommended levels for residential uses.

Policy N 3.1.4: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.

Policy N 3.1.5: Require that developers of private schools, childcare centers, senior housing, and other noise sensitive uses in areas where the ambient noise level exceeds 65 dBA (day), provide mitigation measures for these uses to reduce interior noise to acceptable levels.

Policy N 3.1.6: Ensure that new residential buildings shall not be located within 150 feet of the centerline for Interstate 5.

Policy N 3.1.7: Ensure that design of parks, recreational facilities, and schools minimize noise impacts to residential neighborhoods.

Policy N 3.1.8: As a condition of issuing permits for special events, require event promoters to mitigate noise impacts to adjacent sensitive uses through limiting hours of operation and other means as appropriate, which may include notification to affected residents.

Policy N 3.1.9: Implement a buyer and renter notification program for new residential developments where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas:

a Within one mile of Six Flags Magic Mountain theme park, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.

b Within 1,000 feet of the railroad, potential buyers and renters should receive notice that noise may occasionally be generated from this facility and that the frequency and loudness of noise events may change over time.

c Within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.

d Within 1,000 feet of the Saugus Speedway, in the event speedway operations are resumed in the future.

Commercial and Industrial Noise

Goal N 4: Protection of sensitive uses from commercial and industrial noise generators.

Objective N 4.1: Prevent, mitigate, and minimize noise spillover from commercial and industrial uses into adjacent residential neighborhoods and other noise sensitive uses.

Policy N 4.1.1: Implement and enforce the applicable Noise Ordinance to control noise from commercial and industrial sources that may adversely impact adjacent residential neighborhoods and other sensitive uses.

Policy N 4.1.2: Require appropriate noise buffering between commercial or industrial uses and residential neighborhoods and other sensitive uses.

Policy N 4.1.3: Adopt and enforce standards for the control of noise from commercial and entertainment establishments when adjacent to residential neighborhoods and other sensitive uses.

3.2 Santa Clarita Municipal Code

11.44.040 Noise Limits.

A. It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise herein:

Region	Time	Sound Level dB
Residential zone	Day	65
Residential zone	Night	55
Commercial and manufacturing	Day	80
Commercial and manufacturing	Night	70

At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone shall be used.

B. Corrections to Noise Limits. The numerical limits given in subsection (A) of this section shall be adjusted by the following corrections, where the following noise conditions exist:

Noise Condition		Correction (in dB)
(1)	Repetitive impulsive noise	-5
(2)	Steady whine, screech, or hum	-5
The following corrections apply today only:		
(3)	Noise occurring more than 5 but less than 15 minutes per hour	+5
(4)	Noise occurring more than 1 but less than 5 minutes per hour	+10
(5)	Noise occurring less than 1 minute per hour	+20

(Ord. 89-29, 1/23/90)

11.44.050 Loud, Unnecessary and Unusual Noises Prohibited—Standards for Determining.

Notwithstanding any other provision of this chapter, and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made and continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood, or which causes discomfort or annoyance to residents of the area.

The standards which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:

A. The level of the noise.

B. Whether the nature or origin of the noise is usual or unusual.

C. The nature or zoning of the area within which the noise emanates.

D. The density of the inhabitation of the area within which the noise emanates.

E. The time of day or night.

F. The duration of the noise.

G. Whether the noise is recurrent, intermittent or constant.

H. Whether the noise is produced by a commercial or noncommercial activity.

I. The volume and intensity of the background noise, if any.

J. The proximity of the noise to sleeping facilities. (Ord. 89-29, 1/23/90; Ord. 09-11 § 2, 7/14/09)

11.44.070 Special Noise Sources—Machinery, Fans and Other Mechanical Devices.

Any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Section 11.44.040 at any property line, or, if a condominium or rental units, within any condominium unit or rental unit within the complex, shall be a violation of this chapter. (Ord. 89-29, 1/23/90)

11.44.080 Special Noise Sources—Construction and Building.

No person shall engage in any construction work which requires a building permit from the City on sites within three hundred (300) feet of a residentially zoned property except between the hours of seven a.m. to seven p.m., Monday through Friday, and eight a.m. to six p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day.

Emergency work as defined in Section 11.44.020(D) is permitted at all times.

The Department of Community Development may issue a permit for work to be done "after hours"; provided, that containment of construction noises is provided. (Ord. 89-29, 1/23/90; Ord. 93-4, 3/9/93; Ord. 00-3, 2/8/00; Ord. 05-1 § 2, 1/25/05; Ord. 06-7 § 1, 10/10/06)

11.44.092 Acts Constituting Disturbing, Excessive, Loud, Offensive Noise.

The following activities, among others, are declared to cause disturbing, excessive, loud, or offensive noises in violation of this chapter and causing or permitting such activities is unlawful; provided, however, that inclusion in this section shall not be construed as limiting the type of activities which may be found to cause disturbing, excessive, loud, or offensive noises:

A. Loud Parties. Causing or permitting a gathering of two or more people on private property which is determined by law enforcement personnel at the scene to be a loud party in violation of this section because it is disruptive to the public peace, health, safety, or welfare due to the magnitude of the crowd, noise, disturbances, unruly behavior of those attending the party or gathering, excessive traffic or traffic congestion, illegally parked vehicles blocking other traffic or fire access or destruction of property.

1. For the purposes of this chapter, "responsible person" means the person who owns the property where the party, gathering or event takes place; the person in charge of the premises; and/or the person who organized the event. If the responsible person is a minor, then the parents or guardians of that minor are also responsible persons whether or not they are present at the party. All responsible persons, as defined herein, are deemed to have caused or permitted the loud party and are responsible for and may be charged with a violation of this chapter; provided, however, a property owner who is not present at the party or gathering may not be charged with a violation of this chapter unless the absentee owner had knowledge that the party or gathering was occurring, was planned to occur or reasonably should have known the party or gathering would occur. This exception does not apply to a parent or guardian of a responsible person who is a minor.

2. Prima Facie Violations of This Subsection. The following shall constitute evidence of a prima facie violation of this subsection; provided, however, that inclusion herein shall not be construed as limiting the activities which may be found to violate this subsection: A party, event or gathering where:

   a. Noise emanating from or attributable to that party, event or gathering is audible from a distance of fifty (50) feet from the source of that noise; or

   b. Persons present at the party or gathering are acting in a wild, unruly, uncontrollable manner disruptive to neighbors; or

   c. The number of persons present violates the fire code, presenting a fire hazard; or

   d. Vehicles of those attending the party or gathering are illegally parked or parked in a manner to cause traffic congestion or to block traffic or fire access; or

   e. Persons present at the party or gathering have caused or are causing destruction to property of others. (Ord. 09-11 § 3, 7/14/09)

11.44.100 Exemptions from Chapter.

A. There are exempted from this chapter lawfully conducted parades.

B. There is exempted from this chapter emergency work as defined in Section 11.44.020(D) of this chapter. (Ord. 89-29, 1/23/90)

4 Methodology

Potential noise impacts associated with the project were calculated and analyzed based on project information presented in the project description, information contained in the project site plan provided by the applicant, and data obtained during on-site noise monitoring. Observations made during the site survey, along with land-use information and aerial photography, were used to determine potential locations of noise-sensitive receptors in the project vicinity. The California Environmental Quality Act requires that the noise impacts *caused by* the project be considered; for proposed residential and commercial development, the principal source of project-generated noise is the addition of vehicle trips to area roadways. As a result, noise impacts resulting from increases in off-site traffic noise levels along roadways which would provide access to the project site must be evaluated.

Short-term, construction-related noise effects were assessed with respect to nearby noise-sensitive receptors and their relative exposure (accounting for intervening topography, barriers, distance, etc.), based on application of FHWA Roadway Construction Noise Model (RCNM) and Federal Transit Administration (FTA) reference noise level data and usage-factors.

Traffic noise levels for the roadway network in the project vicinity were incorporated into the noise model based on traffic volume data obtained from the traffic impact assessment performed for the project. Traffic noise levels were calculated using the FHWA traffic noise prediction algorithms. Traffic noise levels were modeled for the existing and future traffic scenarios under no project and plus project conditions, based on the traffic data. Modeling outputs for plus project scenarios were evaluated against the no project case to determine the potential for the project to result in an increase of traffic noise levels and cause an exceedance of applicable noise level criteria and impact thresholds.

Potential effects associated with long-term (operation-related) noise sources were assessed based on project documentation, site reconnaissance data and reference noise levels for the various noise sources. The ISO 9613 sound propagation model for stationary noise sources was implemented for this project. This international standard propagation model is used in the U.S. and abroad for stationary noise sources, due to its accurate and reliable propagation equations; which, account for variations in terrain and ground type.

Groundborne vibration impacts were qualitatively assessed based on existing reference documentation (e.g., vibration levels produced by specific construction equipment operations), through the application of Caltrans methodology outlined within the Transportation- and Construction- Induced Vibration Guidance Manual, and the relative distance to potentially sensitive receptors from a given vibration source.

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5 Project Analysis

5.1 Construction Noise

Development of the proposed project would generate noise levels associated with the operation of heavy construction equipment and construction-related activities in the project area. It is anticipated that the project would be constructed in phases over five years, beginning in Winter 2023 and concluding in Summer 2028. Construction phasing for the commercial component of the project would occur before or during the residential component to minimize impacts to sensitive receptors. The project would involve demolition of existing on-site structures, site preparation and grading, building construction, utility and infrastructure improvements, paving, and landscaping. The construction activities associated with this project are anticipated to occur between 7:00 a.m. and 7:00 p.m., Monday through Friday, with limited work potentially occurring on Saturday during daytime hours of 8:00 a.m. to 6:00 p.m. Nighttime construction activities are not anticipated.

Construction noise levels in the project area would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors during the different stages of construction. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 4. Note that the equipment noise levels presented in Table 4 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low or no power, producing average noise levels over time that are less than the maximum noise level. This is accounted for through the use of an "acoustical usage factor", expressing the percentage of time a piece of equipment is typically operational. The sound level produced by the construction activity also depends on where the equipment actually operates on site and the intensity of construction activities. Inputs assumptions, distances, fleet make-up and findings of the construction noise modeling are detailed in Appendix C.

Table 4. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (Lmax, dBA at 50 Feet)	Usage Factor, %
All Other Equipment > 5 HP	85	40
Backhoe	78	40
Compressor (air)	78	40
Concrete Saw	90	20
Crane	81	16
Dozer	82	40
Excavator	81	40
Flat Bed Truck	74	40
Front End Loader	79	40
Generator	72	50
Grader	85	40
Man Lift	75	20
Paver	77	50
Roller	80	20
Scraper	84	40
Welder / Torch	73	40

Source: DOT 2006. FTA 2018.
Note: L_{max} = maximum sound level; dBA = A-weighted decibels.

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted using FHWA RCNM methodologies at two distances to the nearest existing noise-sensitive receptor: 1) from the nearest position of the construction site boundary and 2) from the geographic center of the construction site, which serves as the time-averaged location or geographic acoustical centroid of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. At the site boundary distance, the analysis assumes that up to only one piece of equipment, for each listed type per phase, will be involved in the construction activity for a limited portion of the 8-hour period. In other words, at such proximity along the boundary of the site, the operating equipment cannot "stack" or crowd the vicinity and still be able to operate. The distance from the boundary of the project's construction operations and the nearest noise-sensitive receptor would be approximately 1,150-feet, at the southwestern residences of the River Village neighborhood off Millhouse Drive and off Craftsmen Court.

The distance to the acoustical centroid is used in a manner similar to the general assessment technique as described in the FTA guidance for construction noise assessment (FTA 2018), where the location of individual equipment for a given construction phase is uncertain and where construction equipment is anticipated to operate over some extent of the construction site, near and far. For the acoustical centroid case, which intends to be a geographic average position for all equipment during the indicated phase, this analysis assumes that the equipment may be operating up to all 8 hours per day. The distance from the acoustics centroid of the project's construction operations and the nearest nose-sensitive receptor would be approximately 1,440-feet, also at the southwestern residences of the River Village neighborhood off Millhouse Drive and off Craftsmen Court. Table 5 summarizes these distances to the apparent closest noise-sensitive receptor for each of the seven sequential construction phases. Inputs assumptions and findings of the construction noise modeling are detailed in Appendix C.

Table 5. Predicted Construction Noise Levels per Activity Phase

Construction Phase (and Equipment Types Involved)	8-Hour Leq at Nearest Noise-Sensitive Receptor to Construction Site Boundary (dBA)	8-Hour Leq at Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (dBA)
Demolition (concrete saw, excavator, dozer)	52.8	55.9
Site Preparation (dozer, backhoe)	53.8	55.2
Grading (excavator, grader, dozer, backhoe)	56.8	59.5
Building construction (crane, man-lift, generator, backhoe, welder)	52.8	55.4
Utility and Infrastructure	52.8	55.8
Paving (paver, roller, concrete mixer truck)	54.8	55.8
Architectural Coating (compressor)	54.6	55.2

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

As presented in Table 5, the estimated construction noise levels associated with equipment operating along the boundary of the project site are predicted to be approximately as high as 57 dBA energy-equivalent average sound level (L_{eq}) over an 8-hour period at the nearest existing noise-sensitive residences (off Millhouse Drive and off Craftsmen Court), during the grading phase. Modeled average construction noise levels propagated from the acoustical centroid of the construction activities are calculated to reach approximately 60 dBA L_{eq} over an 8-hour period at the nearest existing residences, also occurring during the grading phase of project construction. Construction equipment noise levels for other construction activity phases are modeled to range from approximately 53 to 56 dBA L_{eq} at existing noise-sensitive receptors nearest the project site. The modeled construction noise levels would be less than the City of Santa Clarita Municipal Code daytime standard of 65 dBA L_{eq} and construction operations with the potential to generate elevated noise levels would not be operational outside of the daytime construction hours, consistent with the Municipal Code. As such, noise generated from construction activities associated with the development of the proposed project would be less than significant.

5.2 Construction Vibration

Construction activities on the project site may result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. For the potential for continuous/frequent intermittent vibration to result in damage to structures, Caltrans indicates a threshold of 0.5 in/sec PPV for "new residential construction" (Caltrans 2020), such as the types of structures in the proposed project vicinity. Representative groundborne vibration levels for various types of construction equipment that may be associated with the proposed project are summarized below in Table 6 at a reference distance of 25 feet (FTA 2018).

Groundborne vibration attenuates rapidly, even over short distances, with vibration levels varying depending on soil conditions, construction methods, and the equipment used. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. Based on the 25-foot reference levels, construction vibration levels were calculated using standard Caltrans and FTA equations at a distance of 65 feet to the west, to represent the closest existing structure to the project site, the Action Family Treatment.

Table 6. Representative Vibration Levels for Construction Equipment

Equipment	PPV (in/sec)	
	25 feet (Reference Level)	65 feet[1,2]
Hydraulic Breaker/Hoe Ram	0.089	0.021
Large Bulldozer	0.089	0.021
Caisson Drilling	0.089	0.021
Heavy-duty Trucks (Loaded)	0.076	0.018
Jackhammer	0.035	0.008
Small Bulldozer	0.003	0.001

Source: FTA 2018.
Notes: PPV = peak particle velocity; in/sec = inches per second.
1 Vibration levels can be approximated at other locations and distances using the above reference levels and the following equation: $PPV_{equip} = PPV_{ref} (25/D)^{1.5}$ (in/sec); where "PPV ref" is the given reference value in the above table (25-feet), "D" is the distance for the equipment to the new receiver in feet.
2 Representative of the exposure of the closest existing structure (to the south).

As shown in Table 6, project-generated groundborne noise and vibration levels at nearby sensitive receptors are not predicted to exceed the Caltrans recommended damage criteria of 0.5 in/sec PPV for the potential to damage new construction (Caltrans 2020). As such, predicted project-generated construction vibration levels would be a less than significant impact.

5.3 Long-Term Operational Noise Sources

Off-site Vehicular Traffic Noise

The proposed project would result in the creation of additional vehicle trips on local roadways in the vicinity of the project (i.e., N. California Street and E. Harding Way), which could result in increased traffic noise levels at noise-sensitive land uses adjacent to area roadways. Potential off-site noise impacts resulting from the increase in vehicular traffic on the local roadway network, associated with long-term operations of the proposed project, were evaluated under Existing (2022) and Future (2042) no project and plus project scenarios. Traffic volumes and the distribution of those volumes were obtained from the traffic consultant, GTC (GTC 2022). Average vehicle speeds on local area roadways were assumed to be consistent with posted speed limits and remain as such with or without implementation of the proposed project.

Table 7 summarizes modeled Ldn traffic noise levels for the Existing (2022) and the Future 2042 (2042) scenarios, at prediction receiver locations representing the outdoor activity areas of noise-sensitive land-uses adjacent to roadway segments in the project vicinity. The table also presents the relative traffic noise level increase (net change) resulting from development of the proposed project. Actual traffic noise exposure levels at noise-sensitive receptors in the project vicinity would vary depending on a combination of factors such as variations in daily traffic volumes, vehicle types, relative distances between sources and receiver locations, shielding provided by existing and proposed structures, and meteorological conditions. Refer to Appendix D for modeling inputs and results.

According to Caltrans, a +3 dB change in sound is the beginning at which humans generally notice a barely perceptible change in sound, a +5 dB change is generally readily perceptible, and a +10 dB increase is perceived by most people as a doubling of the existing noise level (Caltrans 2013a). Due to the existing and proposed setting of the project, a readily perceptible change in traffic noise levels (+3 dBA change) would be an appropriate threshold to determine significant increases in traffic noise for receptors.

Table 7. Predicted No Project and Plus Project Traffic Noise Levels

Receiver	Roadway	Distance from Centerline	No Project	Plus Project	Increase Threshold	Net Change	Impact?
Existing Conditions (2022)							
P1	Soledad Canyon Rd.	125	70.3	70.5	+3	<1	No
P2	Soledad Canyon Rd.	1,050	56.4	56.7	+3	<1	No
P3	Commuter Way	550	37.6	40.0	+3	+2.4	No
Future Conditions (2042)							
P1	Soledad Canyon Rd.	125	70.5	70.7	+3	<1	No
P2	Soledad Canyon Rd.	1,050	56.6	56.9	+3	<1	No
P3	Commuter Way	550	41.5	42.7	+3	+1.2	No

Source: Dudek 2022.

Notes: dBA = A-weighted decibels; Ldn = Day/Night average noise level

* Traffic noise levels are predicted at prediction receiver locations representing the distance to the outdoor activity area of noise-sensitive land uses adjacent to major roadway segments in the project vicinity and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Existing (2022) traffic noise levels presented in Table 7 indicate that existing traffic noise levels in the project vicinity currently range from approximately 56 to 70 dBA Ldn at the sensitive receptors exposed to Soledad Canyon Rd., and approximately 38 dBA at the noise-sensitive receptors within the Riverview development exposed solely to traffic noise generated by Commuter Way. Development of the proposed project under the Existing (2022) scenario is not predicted to result in exposure of existing noise-sensitive receptors to absolute noise levels exceeding the City's 60 dBA Ldn land use compatibility thresholds or result in relative increases in the ambient noise environment of +3dB or more.

Future (2042) traffic noise levels presented in Table 7 indicate that future traffic noise levels in the project vicinity would range from approximately 57 to 71 dBA Ldn at the sensitive receptors exposed to Soledad Canyon Rd., and approximately 42 dBA at the noise-sensitive receptors within the Riverview development exposed solely to traffic noise generated by Commuter Way. Development of the proposed project under the Future (2042) scenario is not predicted to result in exposure of existing noise-sensitive receptors to absolute noise levels exceeding the City's 60 dBA Ldn land use compatibility thresholds or result in relative increases in the ambient noise environment of +3dB or more. Therefore, traffic noise levels associated with the proposed project would be a less-than-significant impact.

Parking Structure and Surface Parking

The proposed project includes surface parking and a multistory Parking Structure in the western portion of the studio facilities. The project would incorporate 36 surface parking stalls across the studio facilities. The proposed parking structure would include a ground floor and four elevated floors, to accommodate up to 377 parking stalls. The transportation analysis prepared for the proposed project indicates that 91 vehicle trips would be generated during the AM peak hour and 117 vehicle trips during the PM peak hour, with a total daily trip generation of 1,028 (GTC 2022). The residential dwelling units proposed for the eastern portion of the project would generate 2,435 vehicle trips per day with 167 of those trips occurring in the morning peak hour and 214 in afternoon peak hour (GTC 2022).

Activities making up a single parking event included vehicle arrival, limited idling, occupants exiting the vehicle, door closures, conversations among passengers, occupants entering the vehicle, and vehicle startup and departure. These parking actions can be described based on the duration of an event, the average noise level, and the maximum noise level occurring with a discreet parking action, summarized through the single-event SEL metric.[3] Empirical sound level measurement data for parking lot activity, documented by Dudek staff, indicate that the average SEL associated with a single parking event is approximately 71 dBA at a distance of 50 feet from the center of parking activity.

Based on the traffic impact analysis prepared for the proposed project, 117 trips would be generated by the studio during the afternoon (PM) peak hour and 214 trips would be generated by the residential portion of the project site during the afternoon (PM) peak hour. However, this analysis conservatively assumes that each parking space would have the potential to experience one vehicle trip during a peak hour, resulting in up to 413 vehicle trips associated with the studio and 818 vehicle trips associated with the residential uses during a peak hour. The studio parking

[3] SEL is the total sound energy for an event summed into 1-second.

structure would be approximately 1,375 feet southwest of the nearest noise-sensitive receptors on Millhouse Dr., and 1,580 feet from the acoustical center of the proposed project's residential land uses. For the nearby noise-sensitive land uses to the northeast, off Brightwood Pl., would be approximately 1,480 feet from the acoustical center of the studio parking structure and 2,120 feet from the acoustical center of the project's residential use.

Based on the project trip generation rates, the average single-event SEL of 71 dBA at a distance of 50-feet, and a standard attenuation rate of 6 dB per doubling of distance between the source and receiver, studio parking activities would generate a noise level of approximately 37 dBA L_{eq} at the nearest existing residences on Millhouse Dr., and 35 dBA L_{eq} at the existing residences off Brightwood Pl. during peak hour parking activities. As both the AM and PM peak hour vehicle trips would take place during the daytime 7:00 a.m. to 9:00 p.m. hours, the peak hour parking structure activities are evaluated against the City Code's daytime 65 dBA L_{eq} threshold. Parking noise levels occurring during off-peak time periods, such as the nighttime hours of 9:00 p.m. to 7:00 a.m., would be reduced commiserate to the lower trip generation during the respective periods, and would be evaluated against the nighttime noise limit of 55 dBA L_{eq}. Proposed project parking activity noise levels would be less than both the daytime (65 dBA L_{eq}) and nighttime (55 dBA L_{eq}) City noise limits. Additionally, the peak hour parking activity noise levels would be more than 10 dB below the average noise levels occurring in the existing ambient environment. Therefore, the proposed parking operations are predicted to comply with the City Code absolute noise level limits and would not result in a relative increase in ambient noise levels at nearby noise-sensitive receptors. Therefore, noise levels associated with the proposed project parking structure and surface parking are considered to be a less-than-significant impact.

Building Mechanical/HVAC

Mechanical equipment associated with the long-term operation of various uses which include conditioned spaces generally can include HVAC equipment, backup generators, and various fans, pumps, and compressors that can be significant noise sources. HVAC equipment serving commercial spaces is often mounted on rooftops, partially enclosed at grade adjacent to buildings, or located within enclosed mechanical equipment rooms, with residential HVAC outdoor equipment located at-grade. Noise levels generated by the HVAC and other mechanical equipment vary significantly depending on unit size, efficiency, location, type of rotating or reciprocating components, and orientation of openings.

HVAC equipment for the studio portion of the proposed project is assumed to be located within rooftop parapets, rooftop mechanical equipment screens or enclosed within equipment rooms at each of the separate commercial spaces. Detailed information about equipment types and configurations has yet to be specified for the Project; however, commercial uses similar to the project empirically utilize package rooftop air-conditioning/heat-pump systems comprised of multiple 5-to-20-ton refrigeration capacity units per building. These units are generally evenly distributed across the rooftops of the commercial uses, shielded by rooftop parapets and mechanical equipment shields.

Based on empirical cooling capacity requirements for usage type and building square footage, approximate cooling capacity requirements were calculated for each of the sound stages. Based on the estimated cooling capacities required, the sound power level (L_{wA}) of the rooftop HVAC units was calculated, based on formulas developed from empirical data (BBN 1981), to be 100.6 dB L_{wA}, which would be equivalent to a sound pressure level of approximately 65 dB L_{eq} at a distance of 50 feet. Not accounting for additional reductions in packaged rooftop HVAC noise levels provided by atmospheric attenuation, ground absorption or shielding provided by the parapet/mechanical screen, HVAC associated the studio sound stages would generate a noise exposure of 47.5 dB L_{eq} during peak operations. During off-peak periods the HVAC systems would operate under reduced loads and

cycle times, reducing generated noise levels commensurately. Therefore, the HVAC noise levels modeled for the proposed project are anticipated to comply with the City of Santa Clarita non-transportation noise level thresholds and would be considered a less-than-significant impact.

On-Site Tractor-Trailer/Semi-Truck Operations

The proposed project incorporates forty-eight (48) parking stalls intended for tractor-trailer/semi-truck (aka, heavy trucks in FHWA nomenclature) or recreational vehicles (RV). The extended parking spaces are located adjacent to each of the sound stages and on the eastern portion of the project site, nearest the Riverview residential development. Noise associated with the activities of tractor-trailers/RVs would typically include vehicles entering and exiting the site, temporary idling (limited to 5-minutes in one location per California regulations), setting and releasing of air brakes, doors opening and closing, and back-up alarms/parking activities at the docks and parking areas.

Based on the FTA Transit Noise and Vibration Impact Assessment Manual, the reference source noise levels at a distance of 50-feet from the operational centerline would range from 80 to 83 dBA SEL during a pass-by event. As with the parking structure, this analysis conservatively assumes that each of the extended truck parking stalls would have the potential to result in one vehicle trip per parking stall (i.e., 48 truck/RV trips during a peak hour). The energy equivalent average for 48 diesel truck/bus/RV vehicle trips are calculated to result in a noise level of 55.4 dBA L_{eq} at a distance of 50-feet from the acoustical center of truck/bus/RV operations. Assuming a 4.5 dB reduction in noise levels per doubling of distance and a speed of 15 miles per hour (mph) or less on the project site, the 48 heavy vehicle trips would generate a noise exposure level of 33.9 dBA L_{eq} at the nearest noise-sensitive receptors to the northeast of the truck/bus/RV parking areas. Additionally, the modeled on-site truck/bus/RV noise levels would be more than 10 dB below the documented ambient noise levels and would not result in an increase of noise levels in the existing ambient environment. Therefore, project noise levels generated by heavy truck and bus activity in a conservative peak hour are predicted to comply with the City of Santa Clarita General Plan and Municipal Code non-transportation noise level thresholds and the relative increase threshold of +3 dB in the ambient environment. As such, noise levels generated by on-site heavy truck and bus/RV activity would be considered a less-than-significant impact.

5.4 Long-term Operational Groundborne Vibration

The proposed project does not incorporate any project elements that would generate substantial groundborne noise and vibration levels at nearby sensitive receptors during its long-term operation. Therefore, this impact would be less than significant.

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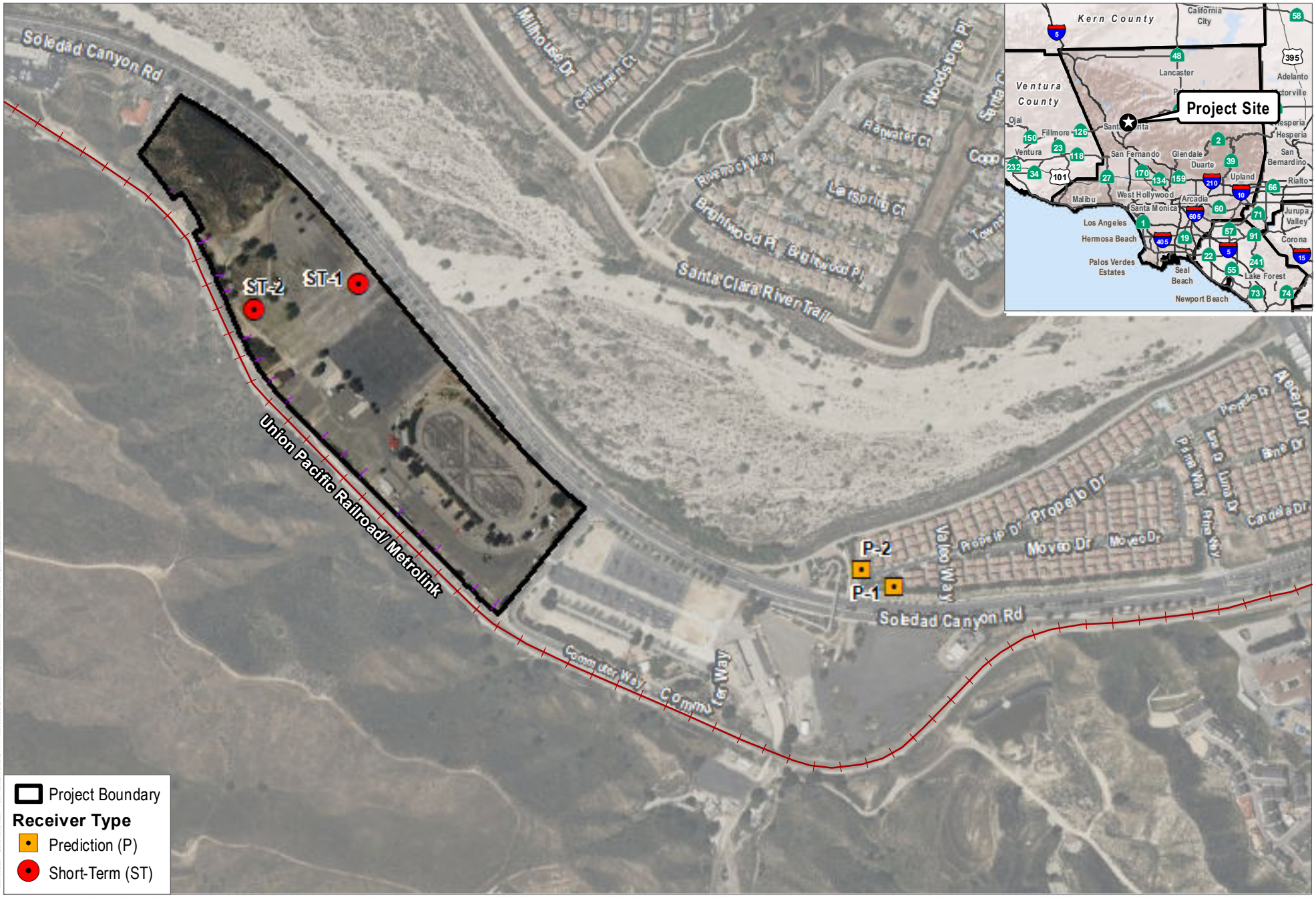

SOURCE: County of Los Angeles; Open Street Maps; Bing Maps

DUDEK

0 295 590 Feet

FIGURE 1

Project Location and Reciever Locations

Riverview Development Project

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EARTHWORK SUMMARY

CUT: 500,000 cy
FILL: 420,000 cy
OVEREX: 800,000 cy (10% SHRINK 80,000 cy)
IMPORT/EXPORT: 0 cy

PA-1 PRODUCT DATA:

SINGLE-FAMILY ATTACHED (ROWTOWNS)	17 BUILDINGS
TOTAL UNITS:	95 UNITS
PARKING REQUIRED:	
RESIDENT (2/UNIT):	190 SPACES
GUEST (0.5/UNIT):	48 SPACES
TOTAL PARKING REQUIRED:	238 SPACES
PARKING PROVIDED:	
RESIDENT (2/UNIT):	190 SPACES
GUESTS:	49 SPACES
TOTAL PARKING PROVIDED:	239 SPACES

PA-2 PRODUCT DATA:

SINGLE-FAMILY DETACHED (CLUSTER)	60 BUILDINGS
TOTAL UNITS:	60 UNITS
PARKING REQUIRED:	
RESIDENT (2/UNIT):	120 SPACES
GUEST (0.5/UNIT):	30 SPACES
TOTAL PARKING REQUIRED:	150 SPACES
PARKING PROVIDED:	
RESIDENT (2/UNIT):	120 SPACES
GUESTS:	42 SPACES
TOTAL PARKING PROVIDED:	162 SPACES

PA-3 PRODUCT DATA:

SINGLE-FAMILY DETACHED (CLUSTER)	62 BUILDINGS
TOTAL UNITS:	62 UNITS
PARKING REQUIRED:	
RESIDENT (2/UNIT):	124 SPACES
GUEST (0.5/UNIT):	31 SPACES
TOTAL PARKING REQUIRED:	155 SPACES
PARKING PROVIDED:	
RESIDENT (2/UNIT):	124 SPACES
GUESTS:	33 SPACES
TOTAL PARKING PROVIDED:	157 SPACES

PA-4 PRODUCT DATA:

SINGLE-FAMILY ATTACHED (BACKYARD TOWNS)	31 BUILDINGS
TOTAL UNITS:	101 UNITS
PARKING REQUIRED:	
RESIDENT (2/UNIT):	202 SPACES
GUEST (0.5/UNIT):	57 SPACES
TOTAL PARKING REQUIRED:	259 SPACES
PARKING PROVIDED:	
RESIDENT (2/UNIT):	202 SPACES
GUESTS:	59 SPACES
TOTAL PARKING PROVIDED:	261 SPACES

SCALE: 1"=50'

SOURCE: Alliance Land Planning & Engineering Inc., 2022

DUDEK

FIGURE 2

Site Plan

Riverview Development Project

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Appendix A

Acoustic Terminology and Fundamentals

Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person. Common sources of environmental noise and relative noise levels are shown in Figure A-1.

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz (Hz), which is equivalent to one complete cycle per second.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the decibel (dB) scale was introduced. Sound level expressed in decibels (dB) is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure and the second pressure being that of the sound source of concern. For sound pressure in air, the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly added. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason, the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

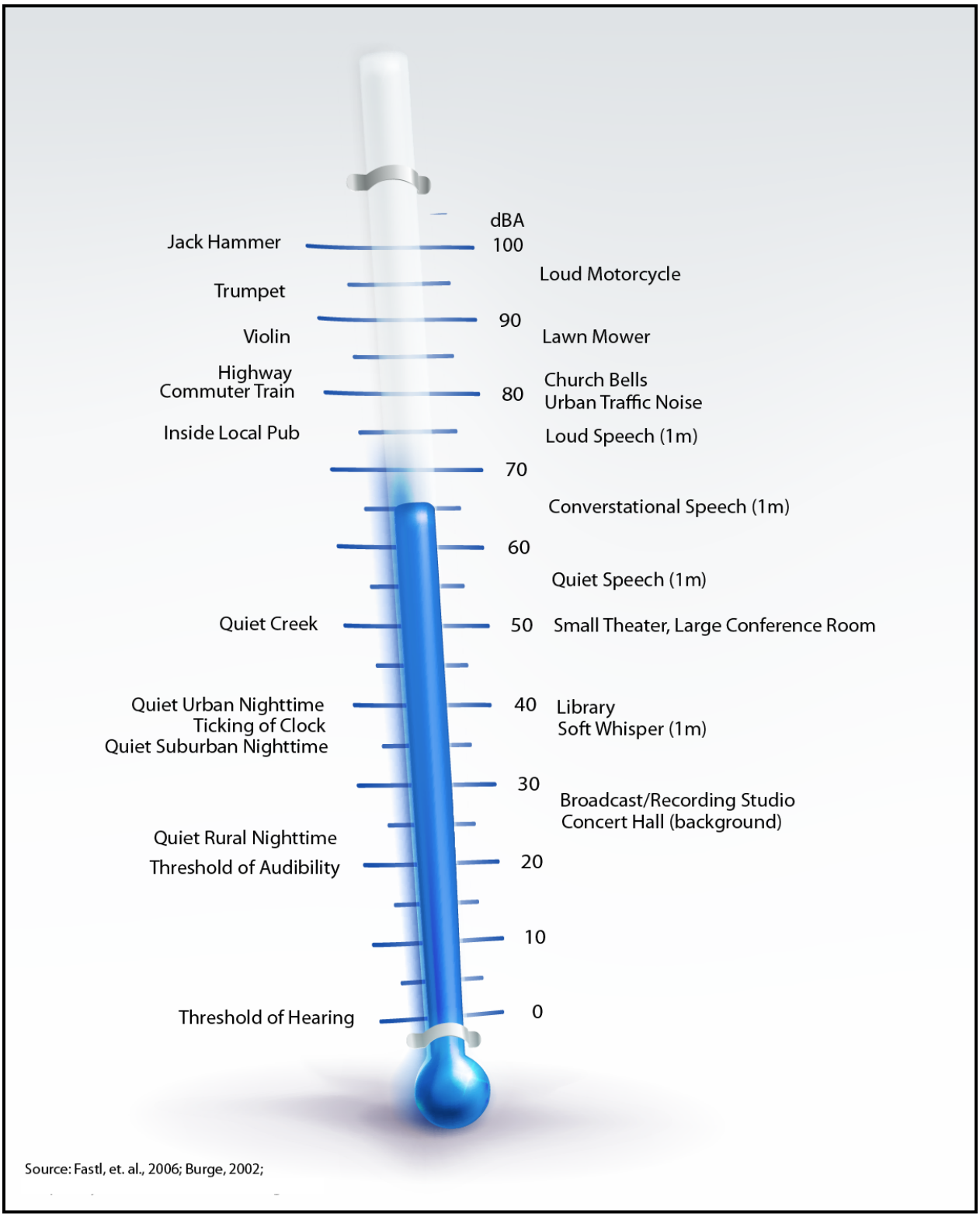

Figure A-1 -Common Noise Sources and Levels.

Noise can be generated by a number of sources, including mobile sources (transportation noise) such as automobiles, trucks, and airplanes and stationary sources (non-transportation noise) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuate at a rate of 3dBA (typical for hard surfaces, such as asphalt) to 4.5 dBA (typical for soft surfaces, such as grasslands) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dBA per doubling of distance for hard and soft sites, respectively.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction or "shielding" provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural barriers such as berms, hills, or dense woods as well as man-made features such as buildings, berms and walls may be effective barriers for the reduction of source noise levels.

Noise Level Descriptors

The intensity of environmental noise levels can fluctuate greatly over time and as such, several different descriptors of time-averaged noise levels may be used to provide the most effective means of expressing the noise levels. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment near the receptor(s). Noise descriptors most often used to describe environmental noise are defined below.

Lmin (Minimum Noise Level): The minimum noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

Lmax (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

SEL (Sound Exposure Level): The cumulative exposure to sound energy over a stated period of time.

Ln (Statistical Descriptor): The noise level exceeded "n"% of a specific period of time. For example, L50 is the median noise level, or level exceeded 50% of the time (typically equated to the noise level exceeded 30-minutes out of the hour).

Leq (Equivalent Noise Level): The energy-average noise level or exposure, from all noise events that occur in a specified period; such as one-minute, one-hour, 24-hours, etc. Leq can be used to report results of short-term noise measurements, usually ranging between 15 minutes and 1 hour, to supplement longer term measurements.

Ldn (Day-Night Average Noise Level): The 24-hour Leq with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The Ldn attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

CNEL (Community Noise Equivalent Level): The CNEL is similar to the Ldn described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, it is typical for the reported CNEL to be approximately 0.5 dBA higher than the Ldn.

Community noise is commonly described in terms of the ambient noise level which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (Leq)which corresponds to the steady-state A-weighted sound level containing the same total energy as the time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and CNEL, as defined above, and shows very good correlation with community response to noise. Use of these descriptors along with the maximum noise level occurring during a given time period provides a great deal of information about the ambient noise environment in an area.

Effect of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance and dissatisfaction, which lead to interference with activities such as communications, sleep and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to an individual.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is generally imperceptible outside of a laboratory environment, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). These subjective reactions to changes in noise levels was developed on the basis of test subjects' reactions to changes in the levels of steady-state, pure tones or broad-band noise and to changes in levels of a given noise source. Perception and reaction to changes in noise levels in this manner is thought to be most applicable in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Vibration Fundamentals

Vibration is similar to noise in that it is a pressure wave traveling through an elastic medium involving a periodic oscillation relative to a reference point. Vibration is most commonly described in respect to the excitation of a structure or surface, such as in buildings or the ground. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions, impacts). Vibration levels can be depicted in terms of amplitude and frequency; relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal, or the quantity of displacement measured from peak to trough of the vibration wave. Root-mean-square is defined as the positive and negative statistical measure of the magnitude of a varying quantity. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of one second. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2006, California Department of Transportation [Caltrans] 2004). PPV and RMS vibration velocity are nominally described in terms of inches per second (in/sec). However, as with airborne sound, vibration velocity can also be expressed using decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration and allow for the presentation of vibration levels in familiar terms.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. Human response to vibration has been found to correlate well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity.

Typical outdoor sources of perceptible groundborne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads. Although the effects of vibration may be imperceptible at low levels, effects may result in detectable vibrations and slight damage to nearby structures at moderate and high levels, respectively. At the elevated levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in damage to structural components. The range of vibration relevant to this analysis occurs from approximately 60 VdB, which is the typical background vibration-velocity level; to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (FTA 2006).

Appendix B

Sound Level Monitoring Datasheets

FORMS DUDEK FIELD DATA REPORT

Field Noise Measurement Data

Record: 1546	
Project Name	*Riverview*
Project #	*14744*
Observer(s)	
Date	*2022-12-12*

Meteorological Conditions	
Temp (F)	*46.3*
Humidity % (R.H.)	*78.3*
Wind	*Light*
Wind Speed (MPH)	*2.5*
Wind Direction	*South West*
Sky	*Partly Cloudy*

Instrument and Calibrator Information	
Instrument Name List	*Piccolo #1893*
Instrument Name	*Piccolo #1893*
Instrument Name Lookup Key	*Piccolo #1893*
Manufacturer	*Soft dB inc.*
Model	*Piccolo*
Serial Number	*P0222050202*
Calibration Date	*5/02/2022*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name Lookup Key	*(SB) LD CAL200*
Calibrator Manufacturer	*Larson Davis*
Calibrator Model	*LD CAL200*
Calibrator Serial #	*19952*
GPS Assistance Used	*No*
Pre-Test (dBA SPL)	*94.1*
Post-Test (dBA SPL)	*94*
Windscreen	*Yes*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*
ANSI?	*Yes*

Monitoring	
Record #	*1*
Site ID	*ST2*
Site Location Lat/Long	*34.418041, -118.531269*
Begin (Time)	*12:35:00*
End (Time)	*12:50:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Traffic*
Other Noise Sources Additional Description	*Metrolink*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Soft*

Site Photos

Photo

Comments / Description	*ST2 Southwest*

Site Photos

Photo

Comments / Description	*ST2 Northeast*

Site Photos

Photo	
	
Comments / Description	*ST2 Southeast*

Site Photos

Photo	
	
Comments / Description	*ST2 Northwest*

FORMS FIELD DATA REPORT

Monitoring

Record #	*2*
Site ID	*ST1*
Site Location Lat/Long	*34.418041, -118.531269*
Begin (Time)	*13:00:00*
End (Time)	*13:15:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Source Info and Traffic Counts

Number of Lanes	*6*
Lane Width (feet)	*10*
Roadway Width (feet)	*70*
Roadway Width (m)	*21.3*
Distance to Roadway (feet)	*100*
Distance to Roadway (m)	*30.5*
Distance Measured to Centerline or Edge of Pavement?	*Edge of Pavement*
Roadway Type	*Road*
Estimated Vehicle Speed (MPH)	*55*
Speeds Estimated by:	*Driving the Pace*
Posted Speed Limit Sign (MPH)	*50*

Traffic Counts

Vehicle Count Summary	*A 589, MT 5, HT 1, B 3, MC 1*
Select Method for Recording Count Duration	*Enter Manually*
Counting Both Directions?	*Yes*
Count Duration (minutes)	*15*
Vehicle Count Tally	
Select Method for Vehicle Counts	*Enter Manually*
Number of Vehicles - Autos	*589*
Number of Vehicles - Medium Trucks	*5*
Number of Vehicles - Heavy Trucks	*1*
Number of Vehicles - Buses	*3*
Number of Vehicles - Motorcyles	*1*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo	
	
Comments / Description	*ST2 Northeast*

Site Photos

Photo	
	
Comments / Description	*ST2 Southwest*

Site Photos

Photo	
	
Comments / Description	*ST2 Northwest*

Site Photos

Photo	
	
Comments / Description	*ST2 Southeast*

Appendix C
Noise Analysis Calculations

Riverview Development

Construction Operational Noise - Boundary operations at nearest receiver

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Predicted 8-hour Leq
Demolition	excavator	2	40	81		1150	53.8	8	53
									52.8
Site Preparation	Grader	1	40	85		1150	57.8	8	54
									53.8
Grading	grader	2	40	85		1150	57.8	8	57
									56.8
Building Construction	excavator	2	40	81		1150	53.8	8	53
									52.8
Utility and Infrastructure	excavator	2	40	81		1150	53.8	8	53
									52.8
Paving	All Other Equipment > 5 HP	1	50	85	Paving Equipment	1150	57.8	8	55
									54.8
Architectural Coating	Compressor (air)	6	40	78		1150	50.8	8	55
									54.6

Riverview Development

Construction Operational Noise - Acoustical Center

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Predicted 8-hour Leq
Demolition	excavator	2	40	81		1440	51.8	8	51
	Front End Loader	2	40	79		1440	49.8	8	49
	Front End Loader	4	40	79	Bobcat	1440	49.8	8	52
	backhoe	1	40	78		1440	48.8	8	45
									55.8
Site Preparation	Grader	1	40	85		1440	55.8	8	52
	Vacuum Excavator (Vac-truck)	1	40	85	water truck	1440	55.8	8	52
	Compactor (ground)	1	20	80		1440	50.8	8	44
									55.2
Grading	scraper	2	40	84		1440	54.8	8	54
	grader	2	40	85		1440	55.8	8	55
	Vacuum Excavator (Vac-truck)	2	40	85	water truck	1440	55.8	8	55
	Compactor (ground)	2	20	80		1440	50.8	8	47
									59.5
Building Construction	excavator	2	40	81		1440	51.8	8	51
	Front End Loader	2	40	79		1440	49.8	8	49
	Man Lift	4	20	75		1440	45.8	8	45
	backhoe	4	40	78		1440	48.8	8	51
									55.4
Utility and Infrastructure	excavator	2	40	81		1440	51.8	8	51
	Front End Loader	2	40	79		1440	49.8	8	49
	Front End Loader	4	40	79	Bobcat	1440	49.8	8	52
	backhoe	1	40	78		1440	48.8	8	45
									55.8
Paving	paver	5	50	77		1440	47.8	8	52
	All Other Equipment > 5 HP	1	50	85	Paving Equipment	1440	55.8	8	53
	Front End Loader	1	40	79		1440	49.8	8	46
									55.8
Architectural Coating	Compressor (air)	6	40	78	paint sprayers	1440	48.8	8	53
	Compressor (air)	4	40	78	stucco rigs	1440	48.8	8	51
	man lift	4	20	75		1440	45.8	8	45
									55.2

Appendix C

Traffic Noise Modeling Calculations - Summary

Project: **Riverview - 14744**

Number	Segment Description and Location: Name	From	To	Existing	Existing + Project	Δ Existing – Existing + Project	Future	Future + Project	Δ Future – Future + Project
Summary of Net Changes									
1	Soledad Canyon Rd			70.3	70.5	0.2	70.5	70.7	0.2
2	Soledad Canyon Rd			56.4	56.7	0.2	56.6	56.9	0.2
3	Commuter Way			37.6	40.0	2.4	41.5	42.7	1.1

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 1

Traffic Noise Model Calculations

Project: Riverview - 14744

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	Soledad Canyon Rd			37,710	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	70.3	131	281	606	1305
2	Soledad Canyon Rd			37,710	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	56.4	131	281	606	1305
3	Commuter Way			890	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	37.6	4	8	18	38

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 2

Traffic Noise Model Calculations

Project: Riverview - 14744

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	Soledad Canyon Rd			39,860	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	70.5	135	292	629	1354
2	Soledad Canyon Rd			39,860	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	56.7	135	292	629	1354
3	Commuter Way			1,550	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	40.0	5	12	26	55

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 3

Traffic Noise Model Calculations

Project: Riverview - 14744

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Future Conditions																		
1	Soledad Canyon Rd			39,590	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	70.5	135	290	626	1348
2	Soledad Canyon Rd			39,590	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	56.6	135	290	626	1348
3	Commuter Way			2,210	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	41.5	7	15	32	70

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 4

Traffic Noise Model Calculations

Project: Riverview - 14744

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Future + Project Conditions																		
1	Soledad Canyon Rd			41,740	50	125	125	95.5%	1.6%	2.9%	80.0%		20.0%	70.7	140	301	648	1396
2	Soledad Canyon Rd			41,740	50	1050	1050	95.5%	1.6%	2.9%	80.0%		20.0%	56.9	140	301	648	1396
3	Commuter Way			2,870	25	550	550	95.5%	1.6%	2.9%	80.0%		20.0%	42.7	8	18	38	83

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C

Project-Generated Parking Lot Noise Prediction Model

Riverview Development

Ref SEL: 71 **Metric: Leq**

Description	# of Stalls	Trip Multiplier	Trips /Period	Lp @ 50'	Distance to Rec.	Shielding Offset	Lp at Rec.
PL1	413	1	413	61.6	1480	0	32.1
PL2	818	1	818	64.5	2120	0	32.0

Combined Noise Level: 35.1 dBA Leq

Appendix C

Packaged HVAC Noise Prediction Model

Project Name : Riverview Development - Studios
Project Number : 14744
Metric (L_{eq}, L_{dn}) : Leq
Cooling Capacity / 1,000SqFt: 1.2

ID	Building Description	Square footage	Cooling Capacity, Tons	Shielding Offset	L_w	Distance to Reciever	L_p @ Receiver
1	Sound Stage 1	11,282	13.5	0	100.6	1340	40.1
2	Sound Stage 2	11,282	13.5	0	100.6	1420	39.6
3	Sound Stage 3	11,282	13.5	0	100.6	1480	39.2
4	Sound Stage 4	11,282	13.5	0	100.6	1320	40.2
5	Sound Stage 5	11,282	13.5	0	100.6	1385	39.8
6	Sound Stage 6	11,282	13.5	0	100.6	1460	39.3
							47.5

Source: Bolt Beranek and Newman Inc. (BBN). 1981. *Noise Control for Buildings and Manufacturing Plants*. Cambridge MA.