

Appendix 6.13-1: Noise Technical Report





TECHNICAL MEMORANDUM

To: Amanda Acuna and Lisa Kranitz, City of Gardena
From: Olivia Chan and Rita Garcia, Kimley-Horn and Associates
Date: January 31, 2024
Subject: **Noise Technical Report 1610 West Artesia Boulevard Project, California
Peer Review**

Kimley-Horn has conducted a follow-up third-party peer review of the Project's Noise Technical Report (CAJA Environmental Services and DKA Planning, January 2024) on behalf of the City of Gardena to verify that Kimley-Horn's recommendations and Project updates have been incorporated. The revised January 2024 report addressed the third-party peer review comments and thus is in compliance with Kimley-Horn's recommendations. The analysis, as revised, meets the applicable provisions of CEQA and the State CEQA Guidelines and is adequate for inclusion in the Project SCEA.

Please do not hesitate to contact Olivia Chan at 714.939.1030 or olivia.chan@kimley-horn.com with any questions.



Noise Technical Report

for the

1610 Artesia Boulevard Project

City of Gardena

Prepared by

CAJA Environmental Services and DKA Planning

January 2024

NOISE TECHNICAL REPORT

Introduction

This technical report, prepared by CAJA Environmental Services in conjunction with DKA Planning, evaluates noise impacts from construction and operation of the Project at 1610 Artesia Boulevard in the City of Gardena. The analysis discusses applicable regulations and compares impacts to thresholds of significance. Noise measurements, calculation worksheets, and a map of noise receptors and measurement locations are included in the Technical Appendix to this analysis.

The Proposed Project would redevelop an approximately 3.43-acre property into a multi-family residential development with 300 apartment units (283 market rate units and 17 affordable units) in a six-story, podium apartment building. Various apartment types (i.e., studios, and one- and two-bedroom units ranging from 515 square feet to 1,280 square feet) are proposed on levels two to six, with amenities (i.e., pool courtyard, fitness center, golf lounge, business center, and roof deck) on the podium level. Additionally, 528 onsite parking spaces in an on-grade parking garage with one subterranean level are proposed.

Fundamentals of Noise

Characteristics of Sound

Sound can be described in terms of its loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (dB). Because the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is used to reflect the normal hearing sensitivity range. On this scale, the range of human hearing extends from 3 to 140 dBA. Table 1 provides examples of A-weighted noise levels from common sources.

Table 1
A-Weighted Decibel Scale

Typical A-Weighted Sound Levels	Sound Level (dBA L_{eq})
Near Jet Engine	130
Rock and Roll Band	110
Jet flyover at 1,000 feet	100
Power Motor	90
Food Blender	80
Living Room Music	70
Human Voice at 3 feet	60
Residential Air Conditioner at 50 feet	50
Bird Calls	40
Quiet Living Room	30
Average Whisper	20
Rustling Leaves	10

Source: Cowan, James P., Handbook of Environmental Acoustics, 1993.
These noise levels are approximations intended for general reference and informational use.

Noise Definitions

This noise analysis discusses sound levels in terms of equivalent noise level (L_{eq}), maximum noise level (L_{max}) and the Community Noise Equivalent Level (CNEL).

- Equivalent Noise Level (L_{eq}): L_{eq} represents the average noise level on an energy basis for a specific time period. Average noise level is based on the energy content (acoustic energy) of sound. For example, the L_{eq} for one hour is the energy average noise level during that hour. L_{eq} can be thought of as a continuous noise level of a certain period equivalent in energy content to a fluctuating noise level of that same period.
- Maximum Noise Level (L_{max}): L_{max} represents the maximum instantaneous noise level measured during a given time period.
- Community Noise Equivalent Level (CNEL): CNEL is an adjusted noise measurement scale of average sound level during a 24-hour period. Due to increased noise sensitivities during evening and night hours, human reaction to sound between 7:00 P.M. and 10:00 P.M. is as if it were actually 5 dBA higher than had it occurred between 7:00 A.M. and 7:00 P.M. From 10:00 P.M. to 7:00 A.M., humans perceive sound as if it were 10 dBA higher. To account for these sensitivities, CNEL figures are obtained by adding an additional 5 dBA to evening noise levels between 7:00 P.M. and 10:00 P.M. and 10 dBA to nighttime noise levels between 10:00 P.M. and 7:00 A.M. As such, 24-hour CNEL figures are always higher than their corresponding actual 24-hour averages.

Effects of Noise

The degree to which noise can impact an environment ranges from levels that interfere with speech and sleep to levels that can cause adverse health effects. Most human response to noise is subjective. Factors that influence individual responses include the intensity, frequency, and pattern of noise; the amount of background noise present; and the nature of work or human activity exposed to intruding noise. According to the National Institute of Health (NIH), extended or repeated exposure to sounds at or above 85 dB can cause hearing loss. Sounds of 70 dBA or less, even after continuous exposure, are unlikely to cause hearing loss.¹ The World Health Organization (WHO) reports that adults should not be exposed to sudden “impulse” noise events of 140 dB or greater. For children, this limit is 120 dB.²

Exposure to elevated nighttime noise levels can disrupt sleep, leading to increased levels of fatigue and decreased work or school performance. For the preservation of healthy sleeping environments, the WHO recommends that continuous interior noise levels not exceed 30 dBA

¹ National Institute of Health, National Institute on Deafness and Other Communication, www.nidcd.nih.gov/health/noise-induced-hearing-loss.

² World Health Organization, Guidelines for Community Noise, 1999.

and that individual noise events of 45 dBA or higher be avoided.³ Assuming a conservative exterior to interior sound reduction of 15 dBA, continuous exterior noise levels should therefore not exceed 45 dBA. Individual exterior events of 60 dBA or higher should also be limited. Some epidemiological studies have shown a weak association between long-term exposure to noise levels of 65 to 70 dBA and cardiovascular effects, including ischemic heart disease and hypertension. However, at this time, the relationship is largely inconclusive.

People with normal hearing sensitivity can recognize small changes in sound levels of approximately 3 dBA. Changes of at least 5 dBA can be readily noticeable while sound level increases of 10 dBA or greater are perceived as a doubling in loudness.⁴ However, during daytime, few people are highly annoyed by noise levels below 55 dBA L_{eq} .⁵

Noise Attenuation

Noise levels decrease as the distance from noise sources to receivers increases. For each doubling of distance, noise from stationary sources can decrease by about 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces such as soft dirt and grass). For example, if a point source produces a noise level of 89 dBA at a reference distance of 50 feet over an asphalt surface, its noise level would be approximately 83 dBA at a distance of 100 feet, 77 dBA at 200 feet, etc. Noises generated by mobile sources such as roadways decrease by about 3 dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of distance. It should be noted that because decibels are logarithmic units, they cannot be added or subtracted. For example, two cars each producing 60 dBA of noise would not produce a combined 120 dBA.

Noise is most audible when traveling by direct line-of-sight, an unobstructed visual path between noise source and receptor. Barriers that break line-of-sight between sources and receivers, such as walls and buildings, can greatly reduce source noise levels by allowing noise to reach receivers by diffraction only. As a result, sound barriers can generally reduce noise levels by up to 15 dBA.⁶ The effectiveness of barriers can be greatly reduced when they are not high or long enough to completely break line-of-sight from sources to receivers.

Regulatory Framework

Noise

Federal

No federal noise standards regulate environmental noise associated with short-term construction activities or long-term operations of development projects. As such, temporary and long-term

³ Ibid.

⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2018.

⁵ World Health Organization, Guidelines for Community Noise, 1999.

⁶ California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

noise impacts produced by the Project would be largely regulated or evaluated by State and City of Gardena standards designed to protect public well-being and health.

State

The State's 2017 General Plan Guidelines establish county and city standards for acceptable exterior noise levels based on land use. These standards are incorporated into land use planning processes to prevent or reduce noise and land use incompatibilities. Table 2 illustrates State compatibility considerations between land uses and exterior noise levels.

California Government Code Section 65302 also requires each county and city to prepare and adopt a comprehensive long-range general plan for its physical development. Section 65302(f) requires a noise element to be included in the general plan. This noise element must identify and appraise noise problems in the community, recognize Office of Noise Control guidelines, and analyze and quantify current and projected noise levels.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that are subject to relatively high levels of noise from transportation. The noise insulation standards, collectively referred to as the California Noise Insulation Standards (Title 24, California Code of Regulations) set forth an interior standard of 45 dBA CNEL for habitable rooms. The standards require an acoustical analysis which indicates that dwelling units meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL. Local jurisdictions typically enforce the California Noise Insulation Standards through the building permit application process.

**Table 2
State of California Noise/Land Use Compatibility Matrix**

Land Use Category	Community Noise Exposure (dB, L _{dn} or CNEL)					
	55	60	65	70	75	80
Residential - Low Density Single-Family, Duplex, Mobile Homes	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Residential - Multi-Family	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Transient Lodging - Motels Hotels	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Sports Arena, Outdoor Spectator Sports	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Office Buildings, Business Commercial and Professional	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable

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

 Conditionally Acceptable - 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 system or air conditioning will normally suffice.

 Normally Unacceptable - 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.

 Clearly Unacceptable - New construction or development should generally not be undertaken.

Source: California Office of Planning and Research "General Plan Guidelines, Noise Element Guidelines (Appendix D, Figure 2), 2017.

General Plan

The City of Gardena General Plan includes a Noise Plan that serves as the State-mandated Noise Element. It includes goals and policies to guide the control of noise to protect residents, workers, and visitors. Its primary goal is to regulate long-term noise impacts to preserve acceptable noise environments for all types of land uses. It includes programs applicable to construction projects that call for protection of noise sensitive uses and use of best practices to minimize short-term noise impacts. However, the Noise Plan contains no quantitative or other thresholds of significance for evaluating a project's noise impacts. Instead, it adopts the State's guidance on noise and land use compatibility, shown in Table 2, above, "to help guide determination of appropriate land use and mitigation measures vis-à-vis existing or anticipated ambient noise levels."

The Plan includes three goals and several policies relevant to development projects:

N Goal 1: Use noise control measures to reduce the impact from transportation noise sources.

Policy N 1.1. Minimize noise conflicts between land uses and the circulation network, and mitigate sound levels where necessary or feasible to ensure the peace and quiet of the community.

Policy N 1.8: Encourage walking, biking, carpooling, use of public transit and other alternative modes of transportation to minimize vehicular use and associated traffic noise.

N Goal 2: Incorporate noise considerations into land use planning decisions.

Policy N 2.1: Promote noise regulations that establish acceptable noise standards for various land uses throughout Gardena.

Policy N 2.2: Require noise/land use compatibility standards to guide future planning and development.

Policy N 2.4: Require mitigation of all significant noise impacts as a condition of project approval.

Policy N 2.5: Require proposed projects to be reviewed for compatibility with nearby noise-sensitive land uses with the intent of reducing noise impacts.

Policy N 2.6: Require new residential developments located in proximity to existing commercial/ industrial operations to control residential interior noise levels as a condition of approval and minimize exposure of residents in the site design.

Policy N 2.9: Encourage the creative use of site and building design techniques as a means to minimize noise impacts.

Policy N 2.10: Promote replacement of significant noise sources with non-noise-generating land uses when plans for future use of areas are developed.

N Goal 3: Develop measures to control non-transportation noise impacts.

Policy N 3.2: Require compliance with noise regulations. Review and update Gardena’s policies and regulations affecting noise.

Policy N 3.3: Require compliance with construction hours to minimize the impacts of construction noise on adjacent land.

Municipal Code

Chapter 8.36 of the City of Gardena Municipal Code (GMC) sets noise policy. The City also has adopted guidelines for noise levels by land use (Table 3) that help guide land use decisions.

**Table 3
City of Gardena Exterior Noise Standards**

Land Use	15-Minute Average Noise Level (Leq)		Maximum Noise Level (Lmax)	
	7 A.M.-10 P.M.	10 P.M.-7 A.M.	7 A.M.-10 P.M.	10 P.M.-7 A.M.
Residential	55 dB(A)	50 dB(A)	75 dB(A)	70 dB(A)
Residential portions of mixed-use	60 dB(A)	50 dB(A)	80 dB(A)	70 dB(A)
Commercial	65 dB(A)	60 dB(A)	85 dB(A)	80 dB(A)
Industrial	70 dB(A)	70 dB(A)	90 dB(A)	90 dB(A)
Source: City of Gardena Municipal Code, Section 8.36.040.				

Section 8.36.080 exempts construction noise, repair, remodeling, grading or demolition of any real property that occur between 7:00 A.M. and 6:00 P.M. on weekdays or 9:00 A.M. and 6:00 P.M. Construction activities are prohibited on Sundays or national holidays.

Existing Conditions

Noise Sensitive Receptors

The Project Site is located on the Artesia Boulevard corridor, which is populated with a mix of residential, retail, and commercial uses. Noise-sensitive receptors within 0.25 miles of the Project Site include, but are not limited to, the following representative sampling:

- Residences, 1602-1608 Artesia Square, as close as approximately 20 feet to the east.
- Residence, 17338 Denker Avenue, approximately 125 feet to the northeast.
- Residences, 17341 Denker Avenue, approximately 170 feet to the north
- Residences, 17700 Denker Avenue, approximately 280 feet to the south.
- Mobile Home Park, 17700 Western Avenue, approximately 300 feet to the south.

Existing Ambient Noise Levels

The Project Site is improved with two commercial buildings totaling approximately 39,510 square feet. Approximately 31,010 square feet is occupied by auto repair uses while the remaining 8,500 square feet are vacant. Noise from open service bays includes mechanical work on engines, brakes, and transmissions of cars and motorcycles, as well as auto body work. Most of the service bays face to the west and south, where there are no noise-sensitive receptors. Nine service bays along the eastern portion of the Project Site face multi-family residences to the east, separated by a five-foot high concrete masonry wall.

There is noise from the operation of the parking lot, including tire friction as vehicles navigate to and from parking spaces, minor engine acceleration, doors slamming, and occasional car alarms. Most of these sources are instantaneous (e.g., car alarm chirp, door slam) while others may last a few seconds. There is also infrequent noise from occasional solid waste management and collection activities that are of short duration, as well as the occasional loading of goods.

Traffic is the primary source of noise near the Project Site, largely from the operation of vehicles with internal combustion engines and frictional contact with the ground and air.⁷ This includes traffic on Artesia Boulevard, which carries 2,854 vehicles at Western Avenue in the A.M. peak hour, inclusive of trips from the existing development on the Project Site.⁸ Existing development on the Project Site adds 822 daily vehicle trips to traffic on Artesia Boulevard, including 47 trips in the A.M. peak hour and 78 trips in the P.M. peak hour.⁹

In May 2023, DKA Planning took short-term noise measurements near the Project Site to determine the ambient noise conditions of the neighborhood near sensitive receptors.¹⁰ As shown in Table 4, noise levels along roadways near the Project Site ranged from 65.7 to 68.0 dBA L_{eq} . Figure 1 illustrates where ambient noise levels were measured near the Project Site to establish the noise environment and their relationship to the applicable sensitive receptor(s). 24-hour CNEL noise levels are generally considered “Conditionally Acceptable” for the types of land uses near the Project Site.

⁷ World Health Organization, <https://www.who.int/docstore/peh/noise/Comnoise-2.pdf> accessed March 18, 2021.

⁸ Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Vehicle Miles Traveled Assessment; July 21, 2023.

⁹ Ibid.

¹⁰ Noise measurements were taken using a Quest Technologies Sound Examiner SE-400 Meter. The Sound Examiner meter complies with the American National Standards Institute (ANSI) and International Electrotechnical Commission (IEC) for general environmental measurement instrumentation. The meter was equipped with an omni-directional microphone, calibrated before the day’s measurements, and set at approximately five feet above the ground.



Table 4
Existing Noise Levels

Noise Measurement Locations	Primary Noise Source	Sound Levels		Nearest Sensitive Receptor(s)	Noise/Land Use Compatibility ^b
		dBA (Leq)	dBA (CNEL) ^a		
A. Gardena Village	Traffic on Artesia Blvd.	65.7	63.7	Residences – Begonia Way, Artesia Bl (north side)	Conditionally Acceptable
B. 1602 Artesia Bl.	Traffic on Artesia Blvd.	68.0	66.0	Residences – 17332 Artesia Bl., 1602-1604 Artesia Sq., 1608 Artesia Sq.	Conditionally Acceptable
C. 17700 Western Ave.	Traffic on Western Ave.	66.6	64.6	Mobile Home Park – 17700 Western Ave.	Conditionally Acceptable

^a Estimated based on short-term (15-minute) noise measurement using Federal Transit Administration procedures from 2018 Transit Noise and Vibration Impact Assessment Manual, Appendix E, Option 4.

^b Pursuant to California Office of Planning and Research “General Plan Guidelines, Noise Element Guidelines, 2017. When noise measurements apply to two or more land use categories, the more noise-sensitive land use category is used. See Table 2 above for definition of compatibility designations.

Source: DKA Planning, 2023.

Project Impacts

Methodology

On-Site Construction Activities

Construction noise levels at off-site sensitive receptors were estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Key inputs include distance to sensitive receptors, equipment use, and use factor. Equipment assumptions for each phase are identified in Table 6.

Off-Site Construction Activities

The Project’s off-site construction noise impact from haul trucks, vendor deliveries, worker commutes, and other vehicles accessing the Project Site was analyzed by considering the Project’s anticipated vehicle trip generation with existing traffic and roadway noise levels along local roadways, particularly those likely to be part of any haul route. Because it takes a doubling of traffic volumes on a roadway to generate the increased sound energy it takes to elevate ambient noise levels by 3 dBA,¹¹ the analysis focuses on whether truck and auto traffic would double traffic volumes on key roadways to be used for hauling soils to and/or from the Project Site during construction activities. Because haul trucks generate more noise than traditional passenger vehicles, a 19.1 passenger car equivalency (PCE) was used to convert noise from haul truck trips to a reference level of an equivalent number of passenger vehicles.¹² For vendor deliveries, a 9.55 PCE was used to reflect a blend of medium- and heavy-duty vehicles. It should be noted that because an approved haul route may not be approved as of the preparation of this analysis, assumptions were made about logical routes that would minimize haul truck traffic on local streets in favor of major arterials that can access regional-serving freeways.

As the anticipated landfill is the Olinda Alpha Landfill facility near Brea, the likely haul route would have outbound trucks heading eastbound from the Project Site along Artesia Boulevard before transitioning to the eastbound 91 freeway. As such, off-site construction vehicles should almost exclusively use Artesia Boulevard and avoid travel on local roadways.

¹¹ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

¹² Caltrans, Technical Noise Supplement Table 3-3, 2013. Assumes 35 mph speed. As trucks traveling at higher speeds would have lower equivalency values (e.g., PCE is 15.1 at 40 mph), the 35 mph-assumptions used in this analysis would likely overstate truck noise when travel speeds are higher. While these equivalent vehicle factors do not consider source heights, they do not involve a sound path where the measurements are intercepted by a barrier or natural terrain feature.

On-Site Operational Activities

The Project's potential to result in significant noise impacts from on-site operational noise sources was evaluated by identifying sources of on-site noise and considering the impact that they could produce given the nature of the source (i.e., loudness and whether noise would be produced during daytime or more-sensitive nighttime hours), distances to nearby sensitive receptors, ambient noise levels near the Project Site, the presence of similar noise sources in the vicinity, and maximum noise levels permitted.

Off-Site Operational Activities

The Project's off-site noise impact from Project-related traffic was evaluated based its potential to increase traffic volumes on local roadways that serve the Project site. Because it takes a doubling of traffic volumes on a roadway to generate the increased sound energy it takes to elevate ambient noise levels by 3 dBA, the analysis focuses on whether vehicle trips generated by the Project would double traffic volumes on key roadways that access the Project Site.

Thresholds of Significance

Construction Noise

For the purposes of this analysis, construction noise impacts would be considered significant if:

- Construction activities would exceed existing ambient exterior noise levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use.¹³

Operational Noise

In addition to applicable City standards and guidelines that would regulate or otherwise moderate the Project's operational noise impacts, the following criteria are adopted to assess the impact of the Project's operational noise sources:

- Project operations would cause ambient noise levels at off-site locations to increase by 3 dBA CNEL or more to or within "normally unacceptable" or "clearly unacceptable" noise/land use compatibility categories, as defined by the State's 2017 General Plan Guidelines.
- Project operations would cause any 5 dBA CNEL or greater noise increase.¹⁴

¹³ A 3 dBA increase represents a slightly noticeable change in noise level. Therefore, for temporary construction activities, this threshold considers any increase in ambient noise levels of 10 dBA to be significant.

¹⁴ As a 3 dBA increase represents a slightly noticeable change in noise level, this threshold considers any increase in ambient noise levels to or within a land use's "normally unacceptable" or "clearly unacceptable" noise/land use compatibility categories to be significant so long as the noise level increase can be considered barely perceptible. In instances where the noise level increase would not necessarily result in "normally unacceptable" or "clearly unacceptable" noise/land use compatibility, a 5 dBA increase is still considered to be significant. Increases less

Analysis of Project Impacts

- a. **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less Than Significant Impact with Mitigation Incorporated.

Construction

On-Site Construction Activities

Construction would generate noise during the approximately 27 months of demolition, site preparation, grading, utilities trenching, building construction, paving, and application of architectural coatings, as shown in Table 5. During all construction phases, noise-generating activities could occur at the Project Site between 7:00 A.M. and 6:00 P.M. Monday through Friday, in accordance with the GMC.

**Table 5
Construction Schedule Assumptions**

Phase	Duration	Notes
Demolition	Months 1-2	Removal of approximately 1,600 tons of demolition debris in 10-cubic yard capacity trucks, hauled 40 miles to the Olinda Alpha Landfill.
Site Preparation	Month 3 (one week)	Grubbing and removal of trees, plants, landscaping, and weeds.
Grading	Months 3-5	Approximately 60,000 cubic yards of soil hauled 40 miles to Olinda Alpha Landfill in 10-cubic yard capacity trucks.
Trenching	Months 6-11	Trenching for utilities, including gas, water, electricity, and telecommunications.
Building Construction	Months 6-27	Footings and foundation work (e.g., pouring concrete pads, drilling for piers), framing, welding; installing mechanical, electrical, and plumbing. Floor assembly, cabinetry and carpentry, elevator installations, low voltage systems, trash management.
Paving	Months 24-27	Flatwork, including paving of driveways and walkways.
Architectural Coatings	Months 22-27	Application of interior and exterior coatings and sealants.
Source: DKA Planning, 2023.		

Individual pieces of construction equipment that would be used for construction produce maximum noise levels of 74 dBA to 89 dBA at a reference distance of 50 feet from the noise

than 3 dBA are unlikely to result in noticeably louder ambient noise conditions and would therefore be considered less than significant.

source, as shown in Table 6. The construction equipment noise levels at 50 feet distance (Referred to as Maximum Noise Levels) are based on the FHWA Roadway Construction Noise Model User's Guide, which is a technical report containing actual measured noise data for construction equipment. These maximum noise levels would occur when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites often operates under less than full power conditions, or part power. To more accurately characterize construction-period noise levels, the average (Hourly L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment operating simultaneously.

Table 6 provides the estimated construction noise levels for various construction phases at the off-site noise sensitive receptors. To present a conservative impact analysis, the estimated noise levels were calculated with all pieces of construction equipment for each construction phase assumed to operate simultaneously. These assumptions represent a conservative noise scenario because construction activities would typically be spread out throughout the Project Site, and, thus, some equipment would be farther away from the affected receptors.

Table 6
Typical Construction Noise Levels

Type of Equipment	Acoustical Usage Factor (%)	Reference Noise Level at 50 Feet (dBA L_{max})
Backhoe	40	78
Concrete Mixer Truck	40	79
Crane	16	81
Dozer	40	82
Forklift	20	75
Gradall	40	83
Dump/Haul Truck	40	76
Excavator	40	81
Jackhammer	20	89
Man Lift	20	75
Grader	40	85
Rubber Tired Loader	40	79
Delivery Truck	40	74
Welders	40	74
Pneumatic Tool	50	85

Source: Federal Transit Administration, Roadway Construction Noise Model User's Guide, Table 1, 2006.

**Table 7
Construction Noise Impacts at Off-Site Sensitive Receptors (Without Mitigation)**

Receptor	Estimated Noise Levels dBA (Leq)						Measured Ambient Noise Levels dBA (Leq)	Significance Threshold	Significant?
	Demo	Site Prep	Grading	Trenching	Building Construction	Paving/Coatings			
1. Residences – Begonia Way	73.3	73.1	70.3	67.5	69.7	69.1	65.7	75.7	No
2. Residences – Artesia Bl. (north side)	73.1	71.7	71.5	69.8	71.3	67.4	65.7	75.7	No
3. Residences – 17332 Artesia Bl.	73.3	71.7	71.9	71.5	73.0	68.9	68.0	78.0	No
4. Residences – 1602-1604 Artesia Sq.	75.9	75.1	73.5	71.5	73.5	69.2	68.0	78.0	No
5. Residences – 1608 Artesia Sq.	81.6	76.6	73.9	71.5	74.0	69.2	68.0	78.0	Yes
6. Mobile Home Park– 17700 Western Ave.	70.5	66.0	69.3	68.1	69.0	67.1	66.6	76.6	No

Source: DKA Planning, 2023.

As illustrated in Table 7, the estimated construction noise levels would exceed the City’s exterior noise standard at the residences at 1608 Artesia Square, which would exceed the 10 dBA significance threshold. Noise mitigation measure MM-NOI-1 requires the proper maintenance of construction equipment and installation of noise muffling devices. The Federal Highway Administration (FHWA) indicates that muffler systems can reduce noise levels by 10 dBA or more.¹⁵ Therefore, noise mitigation measure MM-NOI-1 would provide approximately 4.6 dBA noise reduction, which is substantial noise reduction for the residences east of the Project Site.

Mitigation Measure

MM NOI-1 Construction Equipment Noise. Prior to issuance of any Demolition or Grading Permit, the Public Works Department shall verify that the Project plans and specifications include provisions that require best practice construction methods to be used during Project construction to ensure that ambient noise levels at analyzed sensitive receptors are not elevated by more than 10 dBA Leq over the measured ambient noise levels at 1608 Artesia Square during any construction phase. Such methods may include, but are not limited to:

- Placing advanced exhaust mufflers on internal combustion engines for all noise-generating construction equipment, and properly maintaining equipment to assure that no additional noise, due to worn or improperly maintained parts, would be generated.
- Enclosing stationary noise-producing machinery when operating.

¹⁵ Federal Highway Administration, *Special Report – Measurement, Prediction, and Mitigation*, Chapter 4 Mitigation, 2017.

Level of Significance After Mitigation

As illustrated in Table 8, incorporation of MM NOI-1 would reduce construction noise levels below the City’s exterior noise standard at the residences at 1608 Artesia Square and impacts would be less than significant. As a result, all analyzed sensitive receptors would experience less than a 10 dBA L_{eq} increase in ambient noise levels. As such, construction noise impacts would be less than significant with mitigation.

**Table 8
Construction Noise Impacts at Off-Site Sensitive Receptors (With Mitigation)**

Receptor	Estimated Noise Levels dBA (L_{eq})						Measured Ambient Noise Levels dBA (L_{eq})	Significance Threshold	Significant?
	Demo	Site Prep	Grading	Trenching	Building Construction	Paving/Coatings			
1. Residences – Begonia Way	73.3	73.1	70.3	67.5	69.7	69.1	65.7	75.7	No
2. Residences – Artesia Bl. (north side)	73.1	71.7	71.5	69.8	71.3	67.4	65.7	75.7	No
3. Residences – 17332 Artesia Bl.	73.3	71.7	71.9	71.5	73.0	68.9	68.0	78.0	No
4. Residences – 1602-1604 Artesia Sq.	75.9	75.1	73.5	71.5	73.5	69.2	68.0	78.0	No
5. Residences – 1608 Artesia Sq.	77.0	76.6	73.9	71.5	74.0	69.2	68.0	78.0	No
6. Mobile Home Park– 17700 Western Ave.	70.5	66.0	69.3	68.1	69.0	67.1	66.6	76.6	No

Source: DKA Planning, 2023.

Off-Site Construction Activities

The Project would also generate noise at off-site locations from haul trucks moving debris and soil from the Project Site during demolition and grading activities, respectively; vendor trips; and worker commute trips. These activities would generate noise equivalent to an estimated 596 peak hourly PCE vehicle trips, as summarized in Table 9, during the grading phase.¹⁶ This would represent noise equivalent to approximately 20.9 percent of traffic volumes on Artesia Boulevard, which carries about 2,854 vehicles at Western Avenue in the morning peak hour of traffic.¹⁷ Because workers and vendors will likely use more than one route to travel to and from the Project Site, this conservative assessment of traffic volumes overstates the likely traffic volumes from construction activities at this intersection.

Artesia Boulevard would serve as part of the haul route for any soil exported from the Project Site given its direct access to the Harbor Freeway. Because the Project’s construction-related trips would not cause a doubling in traffic volumes (i.e., 100 percent increase) on Artesia Boulevard,

¹⁶ This is a conservative, worst-case scenario, as it assumes all workers travel to the worksite at the same time and that vendor and haul trips are made in the same early hour, using the same route as haul trucks to travel to and from the Project Site.

¹⁷ Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Vehicle Miles Traveled Assessment; July 21, 2023.

the Project's construction-related traffic would not increase existing noise levels by 3 dBA or more, which is less than the 10 dBA threshold of significance for off-site construction noise activities. Therefore, the Project's noise impacts from construction-related traffic would be less than significant.

**Table 9
Construction Vehicle Trips (Maximum Hourly)**

Construction Phase	Worker Trips^a	Vendor Trips	Haul Trips	Total Trips	Percent of Peak A.M. Hour Trips on Artesia Blvd.^e
Demolition	15	0	41 ^b	56	2.0
Site Preparation	18	0	0	18	0.6
Grading	15	0	582 ^c	596	20.9
Trenching	3	0	0	3	0.1
Building Construction	307	185 ^d	0	496	17.2
Paving	20	0	0	20	0.7
Architectural Coating	61	0	0	61	2.2

^a Assumes all worker trips occur in the peak hour of construction activity.
^b The Project would generate 643 haul trips over a 43-day period with seven-hour work days. Because haul trucks emit more noise than passenger vehicles, a 19.1 passenger car equivalency (PCE) was used to convert noise from haul truck trips to a passenger car equivalent.
^c The Project would generate noise equivalent to approximately 13,000 haul trips over a 61-day period with seven-hour work days. Assumes a 19.1 PCE.
^d This phase would generate noise equivalent to approximately 67.7 vendor truck trips daily over a seven-hour work day. Assumes a blend of vehicle types and a 9.55 PCE.
^e Percent of existing traffic volumes on Artesia Boulevard at Western Avenue.
Source: DKA Planning, 2023

Operation

On-Site Operational Noise

During long-term operation, the Project would produce noise from on-site sources such as mechanical equipment or from activity in outdoor spaces.

Mechanical Equipment

The Project would operate heating, ventilation, and air conditioning (HVAC) mechanical equipment on the roof five stories above grade that would generate incremental long-term noise impacts. For example, the Project could use heat pumps in the multi-family residences (e.g., Carrier 25HBC5) that centralize heating and cooling functions, with each unit distributed across

the roof as needed to serve each residence.¹⁸ Heat pumps would generate noise during both heating and cooling sessions while air conditioners operate during cooling cycles. Equipment would include a number of sound sources, including compressors, condenser fans, supply fans, return fans, and exhaust fans. Noise from heat pumps and air conditioners is a function of the model, airflow, and pressure flow generated by fans and compressors. Most modern heat pumps are relatively quiet, with sound ratings of up to 60 decibels, equivalent to normal human conversation.¹⁹

However, noise impacts from rooftop mechanical equipment on nearby sensitive receptors would be negligible as there would be no line-of-sight from these rooftop units to the sensitive receptors. Because the residences adjacent to the Project Site are three stories in height, there would be no sound path from the HVAC equipment to residences that would be up to 20 feet lower than the roof of the Project. In addition, the ambient noise levels at the closest receptors to the east across Artesia Square (i.e., 66 dBA CNEL) would all but ensure attenuation of any audible noise from rooftop sources. With all these factors, the sound pressure for receptors no closer than 20 feet would negligibly elevate ambient noise levels, far less than the 5 dBA CNEL threshold of significance for operational impacts.

Pad-mounted oil transformers that power high voltage to standard household voltage used to power electronics, appliances, and lighting would be located on the ground level in an unobstructed location. These transformers are housed in a steel cabinet and generally do not involve pumps, though fans may be needed on some units. Switchgear responsible for distributing power through the development could be located externally, though no mechanical processes that generate noise would be necessary.

Otherwise, all other mechanical equipment would be fully enclosed within the structure. This can include mechanical, electrical, and plumbing rooms, a utility fan room, as well as elevator equipment (including hydraulic pump, switches, and controllers) in the subterranean basement. Two vaults that house pool and spa equipment and pumps would be located inside the enclosed parking garage, thereby shielding off-site sensitive receptors including residences to the east across Artesia Square from any noise impacts.

As all of these activities would generally occur within the envelope of the development, operational noise would be shielded from off-site noise-sensitive receptors, and this impact would be less than significant.

Auto-Related Activities

The majority of vehicle-related noise impacts at the Project Site would come from vehicles entering and exiting the residential development from a surface-level driveway on Artesia Boulevard. During the peak P.M. hour, up to 38 net vehicles would generate noise in and out of

¹⁸ Given the Project Site's location in Climate Zone 9, Title 24 would also allow a more conventional gas heating system that uses an internal furnace paired with an external air conditioner that would be ground-mounted.

¹⁹ Clean British Columbia. Heat Pumps and Noise. <https://vancouver.ca/files/cov/heat-pump-noise-guide.pdf>.

the garage, with up to 60 net vehicles using the garage in the peak A.M. hour.²⁰ These vehicles would use two garage entrances and exits along the west side of the development, completely shielded by the development from residences to the east along Artesia Square.

Residences across Artesia Boulevard would have a direct line-of-sight to the driveway, approximately 170 feet away. As shown in Table 10, the average vehicle use of the garage during daytime hours (average of 32 vehicles per hour between 8:00 A.M. and 7:00 P.M.) and nighttime hours (an average of 13 vehicles hourly from 7:00 P.M. to 8:00 A.M.) would elevate ambient noise levels by less than 0.1 dBA CNEL, well below the 5 dBA threshold of significance for operational sources of noise.

**Table 10
Parking Garage-Related Impacts at Off-Site Sensitive Receptors**

Receptor	Maximum Noise Level (dBA CNEL)	Existing Ambient Noise Level (dBA CNEL)	New Ambient Noise Level (dBA CNEL)	Increase (dBA CNEL)	Significant?
Residences – Artesia Bl. (north side)	31.5	63.7	63.7	<0.1	No
Source: FTA Noise Impact Assessment Spreadsheet.					

Parking garage-related noise impacts for other receptors would also be negligible given their more remote locations and/or the lack of a line-of-sight from the garage. Parking garage noise would include tire friction as vehicles navigate to and from parking spaces, doors slamming, car alarms, and minor engine acceleration. Most of these sources are instantaneous (e.g., car alarm chirp, door slam) while others may last a few seconds. These activities would occur in the enclosed ground-level or subterranean garage levels. These activities currently occur in the surface-level parking spaces, including those along the eastern portion of the Project Site flanking the Artesia Square residences to the east. Moreover, noise from the existing auto repair (e.g., hydraulic equipment, power tools) and auto body work (e.g., hammering) inside open work bays, especially the nine service bays along the eastern property line, would be eliminated, substantially reducing daytime noise levels. As such, the Project’s parking garage activities would not have a significant impact on the surrounding noise environment and would reduce noise from current parking-related and auto repair and auto body activities, and this impact would be less than significant.

Outdoor Uses

While most operations would be conducted inside the development, outdoor activities could generate noise that could impact local sensitive receptors. This would include human conversation, recreation, trash collection, and landscape maintenance, each of which are discussed below:

²⁰ Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Local Transportation Assessment; October 13, 2023.

- Human conversation. While noise associated with everyday residential activities would largely occur internally within the development, there could be activities such as human conversation, socializing, and passive recreation in outdoor spaces, which could include:
 - Second floor interior courtyard. This would be a shared use space on the podium level for socializing or passive recreation (e.g., reading, dining), with intermittent use largely during day or evening hours. No powered speakers are proposed that would amplify either speech or music. This area would be fully surrounded on all four sides by the six-story development, thereby shielding off-site sensitive receptors including residences to the east across Artesia Square from any noise impacts.
 - Private balconies on all floors. These would be private spaces for residents to be used for socializing or passive recreation (e.g., reading), with intermittent use largely during day or evening hours. No powered speakers are proposed that would amplify either speech or music.
 - Roof deck on the northwest corner of the sixth floor facing Artesia Boulevard. This 580 square-foot area would be a shared use space for socializing or passive recreation, with intermittent use largely during day or evening hours. The deck would be shielded from the closest sensitive receptors to the east across Artesia Square and would be over 200 feet away from the nearest residences with a line-of-sight across Artesia Boulevard. Based on the California Building Code's minimum occupancy of 15 square feet per occupant for less-concentrated assembly areas, approximately 39 people could occupy the roof deck. If one-half of these occupants are speaking at any given time, 20 occupants would collectively generate a sound pressure of about 37.3 dBA L_{eq} at the nearest sensitive receptors with a line-of-sight, 200 feet north of the roof deck across Artesia Boulevard, assuming the sound of one voice speaking generates a sound pressure of 60 dBA at one meter. Given the 68.0 dBA L_{eq} noise levels along Artesia Boulevard, noise from the roof deck would elevate ambient noise levels less than 0.1 dBA L_{eq} at the receptors across Artesia Boulevard. Noise impacts at the sensitive receptors on Artesia Square about 300 feet to the east of the roof deck would be even lower, especially given the presence of the development's sixth floor, which would shield noise from the recessed roof deck. No powered speakers are proposed that would amplify either speech or music.

The primary use of these spaces would be for human conversation, which would produce negligible noise impacts, based on the Lombard effect. This phenomenon recognizes that voice noise levels in face-to-face conversations generally increase proportionally to background ambient noise levels. Specifically, vocal intensity increases about 0.38 dB for every 1.0 dB increase in noise levels above 55 dB.²¹ For example, the sound of a human voice at 60 dB would produce a noise level of 39 dB at ten feet, which would not elevate ambient noise levels at any of the analyzed sensitive receptors by more than 0.2 dBA L_{eq} . Moreover, noise levels from human speech would attenuate rapidly with greater distance, resulting in a

²¹ Acoustical Society of America, Volume 134; Evidence that the Lombard effect is frequency-specific in humans, Stowe and Golob, July 2013.

33 dB noise level at twenty feet, and 27 dB at 40 feet. Further, the infrequent nature of outdoor use of these spaces and any acoustic noise (e.g., speech) makes it impossible to individually or collectively elevate 24-hour noise levels by 5 dBA CNEL or more at any nearby noise-sensitive receptors. This impact would therefore be less than significant.

- Recreation. Two open air swimming pools would be located in the central courtyard, surrounded by the central courtyard. Assuming a density of ten square meters (108 square feet) per person in the swimming pools, approximately 24 people would use the pools at one time.²² Noise from open-air swimming pools can vary based on a variety of factors, but can average about 75 dB per person, producing a sound power of about 83.3 dBA.²³ Noise at off-site sensitive receptors would be negligible, however, as the pool is fully surrounded on all four sides by the six-story development, thereby shielding off-site sensitive receptors from any noise. This includes the nearest receptors, the Artesia Square residences over 130 feet from the pools to the east across Artesia Square, from any noise impacts. The substantial distance to any sensitive receptors and the presence of over 40 feet of development on the Project Site shielding any line-of-sight to those receptors would substantially attenuate any noise exposure at off-site receptors. As shown in Table 11, 24-hour noise levels would be negligibly elevated by less than 0.1 dBA CNEL at all analyzed sensitive receptors. Therefore, this impact would be less than significant.

**Table 11
Swimming Pool Noise Impacts at Off-Site Sensitive Receptors**

Receptor	Maximum Swimming Pool Noise Level (dBA CNEL)	Existing Ambient Noise Level (dBA CNEL)	Ambient + Project Swimming Pool Noise Level (dBA CNEL)	Increase (dBA CNEL)	Potentially Significant?
1. Residences – Begonia Way	23.4	63.7	63.7	0.0	No
2. Residences – Artesia Bl. (north side)	25.0	63.7	63.7	0.0	No
3. Residences – 17332 Artesia Bl.	25.2	66.0	66.0	0.0	No
4. Residences – 1602-1604 Artesia Sq.	27.8	66.0	66.0	0.0	No
5. Residences – 1608 Artesia Sq.	29.3	66.0	66.0	0.0	No
6. Mobile Home Park – 17700 Western Ave.	21.4	64.6	64.6	0.0	No

Source: DKA Planning, 2023.

²² VDI Association of German Engineers; VDI 37700--Emission Characteristics of Sound Sources-Sport and Leisure Facilities; September 2012. Reference noise level from open-air adult swimming pool, assumes density of ten square meters per person.

²³ Ibid.

- Trash collection. On-site trash and recyclable materials from the residential uses would be managed from three waste collection areas on the first floor of the parking garage. Dumpsters would be moved to the street manually or with container handler trucks that use hydraulic-powered lifts that use beeping alerts during operation. Trash trucks could access solid waste dumpsters from the fire access road around the perimeter of the development, where solid waste activities would include use of trash compactors and hydraulics associated with the refuse trucks themselves. Noise levels of approximately 71 dBA L_{eq} and 66 dBA L_{eq} could be generated by collection trucks and trash compactors, respectively, at 50 feet of distance.²⁴ These noise impacts would be comparable to that generated from current trash collection activities for the existing auto-related uses and likely lower, as collection activities would largely be within the parking garage. As such, there would be no substantial noise from trash collection for the Project, and this impact would be less than significant.
- Landscape maintenance. Noise from gas-powered leaf blowers, lawnmowers, and other landscape equipment can generate substantial bursts of noise during regular maintenance. For example, two gas powered leaf blowers with two-stroke engines and a hose vacuum can generate an average of 85.5 dBA L_{eq} and cause nuisance or potential noise impacts for nearby receptors.²⁵ The landscape plan focuses on a modest palette of accent trees and raised planters that will minimize the need for powered landscaping equipment, as some of this can be managed by hand. Because CNEL levels represent the energy average of sound levels during a 24-hour period, the modest sound power from a few minutes of maintenance activities during daytime hours would negligibly affect CNEL sound levels. These noise levels would be comparable to that generated from current landscape maintenance activities for the existing uses. As such, this impact would be less than significant.

As discussed above, the Project would not result in an exposure of persons to or a generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The Project would not increase surrounding noise levels by more than 5 dBA CNEL, the minimum threshold of significance based on the noise/land use category of sensitive receptors near the Project Site. As a result, the Project's on-site operational noise impacts would be considered less than significant,

Off-Site Operational Noise

The majority of the Project's operational noise impacts would be off-site from vehicles traveling to and from the Project Site. The Project could add up to 545 net vehicle trips to the local roadway network on a peak weekday at the start of operations in 2026. During the peak P.M. hour, up to 38 net vehicle trips would be added to Artesia Boulevard and the local street network, with about

²⁴ RK Engineering Group, Inc. Wal-Mart/Sam's Club reference noise level, 2003.

²⁵ Erica Walker et al, Harvard School of Public Health; Characteristics of Lawn and Garden Equipment Sound; 2017. This equipment generated a range of 74.0-88.5 dBA Leq at 50 feet.

60 net vehicle trips in the peak A.M. hour.²⁶ This would represent approximately 2.1 percent of the 2,854 vehicles currently using Artesia Boulevard at Western Avenue in the A.M. peak hour.²⁷

Because it takes a doubling of traffic volumes (i.e., 100 percent) to increase ambient noise levels by 3 dBA L_{eq} , the Project’s traffic would neither increase ambient noise levels 3 dBA or more into “normally unacceptable” or “clearly unacceptable” noise/land use compatibility categories, nor increase ambient noise levels 5 dBA or more. Twenty-four hour CNEL impacts would similarly be minimal, far below criterion for significant operational noise impacts, which begin at 3 dBA. As such, this impact would be considered less than significant.

Consistency with City General Plan Noise Element

While the City’s Noise Element focuses on a number of measures for Citywide implementation by municipal government, there are some objectives, policies, and programs that are applicable to development projects. Table 12 summarizes the Project’s consistency with the objectives, policies, and programs that are applicable to the Project.

**Table 12
Project Consistency with City of Gardena General Plan Noise Element**

Objective/Policy/Program	Project Consistency
Policy N 1.1. Minimize noise conflicts between land uses and the circulation network, and mitigate sound levels where necessary or feasible to ensure the peace and quiet of the community.	Consistent. The Project would reduce noise conflicts by replacing the existing auto repair and auto body facility with a residential development, thereby reducing the potential for nuisance for existing residences near the Project Site. This would improve the compatibility of land uses along this corridor, as the adjacent uses are similar in nature and increasingly residential.
Policy N 1.8: Encourage walking, biking, carpooling, use of public transit and other alternative modes of transportation to minimize vehicular use and associated traffic noise.	Consistent. The Project Site is well served by three local bus lines that provide transit service within walking distance. The proximity of existing transit service to the Project Site would allow for greater use of transit when compared to a project not located in close proximity to transit. In addition, the Project would include bicycle parking pursuant to GMC Section 18.18A.040(I)(4), which would encourage biking as a form of transportation.
Policy N 2.1: Promote noise regulations that establish acceptable noise standards for various land uses throughout Gardena.	Consistent. The Project Site is considered “conditionally acceptable” by State land use compatibility guidelines given the ambient noise levels along Artesia Boulevard.
Policy N 2.2: Require noise/land use compatibility standards to guide future planning and development.	Consistent. The Project Site is considered “conditionally acceptable” by State land use

²⁶ Linscott Law & Greenspan, TPG 1610 Artesia Project – Transportation Assessment Scoping Memorandum, July 21, 2023.

²⁷ Ibid.

**Table 12
Project Consistency with City of Gardena General Plan Noise Element**

Objective/Policy/Program	Project Consistency
	compatibility guidelines given the ambient noise levels along Artesia Boulevard.
Policy N 2.4: Require mitigation of all significant noise impacts as a condition of project approval.	Consistent. The Project would not require mitigation of noise impacts, as no significant noise impacts are anticipated during Project construction or operation.
Policy N 2.5: Require proposed projects to be reviewed for compatibility with nearby noise-sensitive land uses with the intent of reducing noise impacts.	Consistent. The Project would reduce noise conflicts by replacing the existing auto repair and auto body facility with a residential development, thereby reducing the potential for nuisance for existing residences near the Project Site.
Policy N 2.6: Require new residential developments located in proximity to existing commercial/ industrial operations to control residential interior noise levels as a condition of approval and minimize exposure of residents in the site design.	Consistent. The Project's design would reduce noise exposure in open recreation areas by surrounding the interior courtyard and pool areas with the six-story development, substantially reducing exposure of residents to traffic noise along Artesia Boulevard.
Policy N 2.9: Encourage the creative use of site and building design techniques as a means to minimize noise impacts.	Consistent. The Project's design would reduce noise exposure in open recreation areas by surrounding the interior courtyard and pool areas with the six-story development, substantially reducing exposure of residents to traffic noise along Artesia Boulevard.
Policy N 2.10: Promote replacement of significant noise sources with non-noise-generating land uses when plans for future use of areas are developed.	Consistent. The Project would reduce a significant source of operational noise by replacing the existing auto repair and auto body facility with a residential development, thereby reducing the potential for nuisance for existing residences near the Project Site.
Policy N 3.2: Require compliance with noise regulations. Review and update Gardena's policies and regulations affecting noise.	Consistent. The Project would be required to comply with the City's noise ordinance.
Policy N 3.3: Require compliance with construction hours to minimize the impacts of construction noise on adjacent land.	Consistent. The Project's construction activities would comply with the City's requirements under GMC Section 8.36.080.
Source: DKA Planning, 2023.	

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

No Impact.

The Project Site is located approximately 3.2 miles west of the Compton/Woodley Airport, five miles north of the Torrance Municipal Airport, and 6.1 miles southeast of Los Angeles International

Airport. Because the Project would not be located within the vicinity of a private airstrip or within two miles of a public airport, the Project would not expose local workers or residents in the area to excessive noise levels, and no impact would occur.

Cumulative Impacts

There were 22 potential related projects identified by the City of Gardena near the Project Site (Table 13), illustrated in Figure 2. However, only two of these (Projects 11, 14) are within 1,000 feet of the Project Site. Noise from construction of development projects is localized and can generally affect noise-sensitive uses within 500 feet. Therefore, this analysis considers related projects within 1,000 feet of the Project Site, to account for a potential sensitive receptor that is located 500 feet from the Project Site and 500 feet from a related project.

Table 13
Related Projects Within City of Gardena

#	Address	Distance from Project Site	Use	Size	Status
1	15106 S Western Ave	Over 1,000 ft.	Commercial	3,720 sf	Awaiting construction
2	1333 West 168th St.	Over 1,000 ft.	Residences	3 du	Awaiting construction
3	1348 West 168th St.	Over 1,000 ft.	Residences	9 du	Awaiting construction
4	13919 Normandie Ave.	Over 1,000 ft.	Residences	20 du	Under construction
5	12850 Crenshaw Bl.	Over 1,000 ft.	Residences	265 du	Under construction
6	1938 West 146th St.	Over 1,000 ft.	Residences	6 du	Awaiting construction
7	13126 S Western Ave.	Over 1,000 ft.	Residences	128 du	Awaiting construction
8	2545 Marine Ave.	Over 1,000 ft.	Residences	22 du	Under construction
9	2800 Rosecrans Ave.	Over 1,000 ft.	Residences	24 du	Pending entitlements
10	1600 W 135th St.	Over 1,000 ft.	Warehouse	190,860 sf	Awaiting construction
11	1450 W Artesia Bl.	970 feet east	Warehouse	268,000 sf	Pending entitlements
12	14206 Van Ness Ave.	Over 1,000 ft.	Self-Storage Medical Offices	177,573 sf 8,000 sf	Pending entitlements
13	14600 Western Ave.	Over 1,000 ft.	Residences Commercial	196 du 3,000 sf	Pending entitlements
14	1515 West 178th St.	140 feet south	Townhomes	114 du	Construction completed in early 2023
15	1341 West Gardena Bl.	Over 1,000 ft.	Residences Retail/Office	14 du 3,385 sf	Under construction
16	1621 West 147th St.	Over 1,000 ft.	Residences	6 du	Under construction
17	1335 West 141st St.	Over 1,000 ft.	Residences	50 du	Under construction
18	2129 West Rosecrans Ave.	Over 1,000 ft.	Residences	113 du	Under construction
19	13615 South Vermont Ave.	Over 1,000 ft.	Residences	84 du	Under construction
20	2500-2508 Rosecrans Ave.	Over 1,000 ft.	Residences	53 du	Under construction
21	15717 & 15725 Normandie Ave.	Over 1,000 ft.	Residences	30 du	Under construction
22	16911 S. Normandie Ave.	Over 1,000 ft.	Apartments Townhomes	328 du 75 du	Pending entitlements

Notes:
du = dwelling unit, sf = square feet.
Sources: City of Gardena.

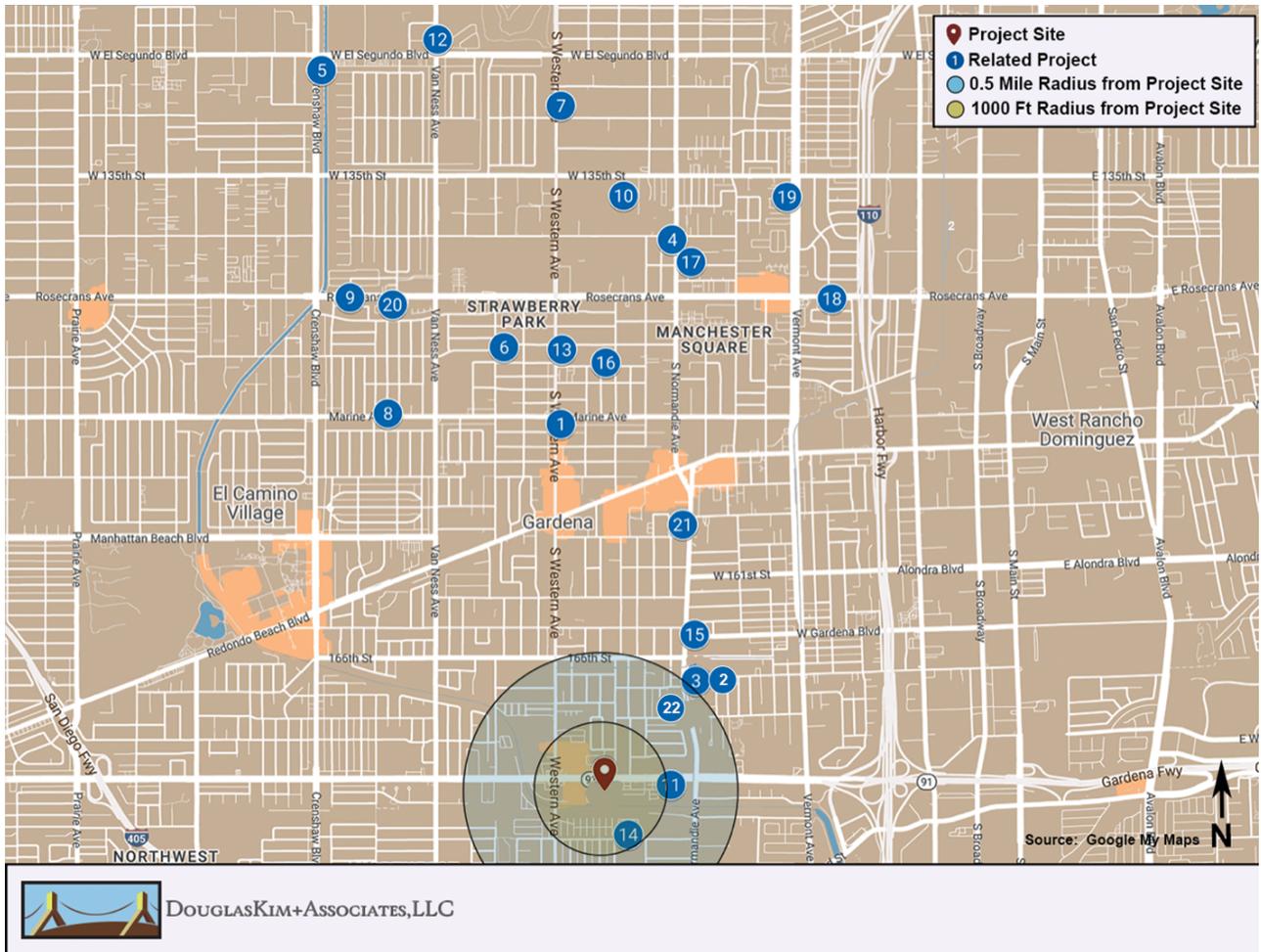


Figure 2
Related Projects in City of Gardena

In addition, there were two related projects identified in the City of Torrance (Table 14) that are pending entitlements and are near the Project Site. However, both locations are more than 1,000 feet away from the Project Site and would not contribute to cumulative noise impacts at sensitive receptors near the Project Site.

Table 14
Related Projects Within City of Torrance

#	Address	Distance from Project Site	Use	Size	Status
1	18045 Western Ave.	2,000 feet south	Residences Retail	32 6,000 sf	Pending entitlements
2	18419 Western Ave.	3,000 feet south	Residences	15	Pending entitlements

Source: City of Torrance.

Construction

On-Site Construction Activities

During construction of the Project, there could be other construction activity in the area that contributes to cumulative noise impacts at sensitive receptors. Construction-related noise levels from any related project would be intermittent and temporary. As with the Project, any related projects would comply with local restrictions, including restrictions on construction hours and noise from powered equipment. Noise associated with cumulative construction activities would be reduced to the degree reasonably and technically feasible through proposed mitigation measures for each individual related project and compliance with the City's noise ordinance.

As discussed previously, noise from construction of development projects is localized and can generally affect noise-sensitive uses within 500 feet. As noted in Table 14, one of the two related projects within 1,000 feet of the Project Site has completed construction (Project 14 at 1515 West 178th Street). As a result, one project is assumed to potentially undergo concurrent construction with the Project (Project 11 at 1450 West Artesia Boulevard). This location is approximately 970 feet to the east of the Project Site, where any construction at that location could elevate noise levels near that related project. As for any overlapping construction activities with the Proposed Project, any sensitive receptors near the Project Site would be 800-970 feet away from Related Project 11 and vice-versa. As discussed above, noise from construction would generally affect sensitive uses within 500 feet of construction activity. Therefore, since the sensitive receptors would be 800-970 feet away from Related Project 11, the residences and sensitive receptors between these two potential construction sites would not be substantially impacted by both concurrently. This distance and the intervening buildings between would substantially attenuate any cumulative construction noise impacts at residences potentially located within 500 feet of both the Project and Related Project 11. As such, cumulative noise impacts for any sensitive receptors between the Project and Related Project 11 is not expected, and this impact would be less than significant.

Off-Site Construction Activities

Other concurrent construction activities from related projects can contribute to cumulative off-site impacts if haul trucks, vendor trucks, or worker trips for any related project(s) were to utilize the same roadways. Distributing trips to and from each related project construction site substantially reduces the potential that cumulative development could more than double traffic volumes on existing streets, which would be necessary to increase ambient noise levels by 3 dBA. The Project would contribute noise equivalent to approximately 596 peak hourly PCE vehicle trips during the grading phase.²⁸ This would represent approximately 20.9 percent of traffic volumes on Artesia Boulevard, which carries about 2,854 vehicles at Western Avenue in the morning peak hour of traffic.²⁹ Any related projects would have to add noise equivalent to 2,258 peak hour vehicle trips to double volumes on this major arterial.

²⁸ This is a conservative, worst-case scenario, as it assumes all workers travel to the worksite at the same time and that vendor and haul trips are made in the same hour, using the same route as haul trucks that travel to and from the Project Site.

²⁹ Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Transportation Assessment Scope of Work; July 21, 2023.

The only related project within 1,000 feet of the Project Site (Project 11 at 1450 West Artesia Boulevard) involves 268,000 square feet of warehouse uses that could generate construction vehicle activity comparable to the Project. However, it does not have the scale to add noise equivalent to 2,258 peak hour PCE trips to Artesia Boulevard. As such, cumulative noise due to construction truck traffic from the Project and related projects do not have the potential to double traffic volumes on any roadway necessary to elevate traffic noise levels by 3 dBA, let alone the 10 dBA threshold of significance for impacts. As such, cumulative noise impacts from off-site construction activities would be less than significant.

Operation

The Artesia Boulevard corridor, including the Project Site, has been developed with residential and commercial land uses that have previously generated, and will continue to generate, noise from a number of operational noise sources, including mechanical equipment (e.g., HVAC systems), outdoor activity areas, and vehicle travel. The one related project in the vicinity of the Project Site (Project 11 at 1450 West Artesia Boulevard) is a warehouse facility that would also generate stationary-source and mobile-source noise due to ongoing day-to-day operations. These types of uses generally do not involve use of noisy heavy-duty equipment such as compressors, diesel-fueled equipment, or other sources typically associated with excessive noise generation.

On-Site Stationary Noise Sources

Noise from on-site mechanical equipment (e.g., HVAC units) and any other human activities from the related projects would not be typically associated with excessive noise generation that could result in increases of 5 dBA or more in ambient noise levels at sensitive receptors when combined with operational noise from the Project. The presence of intervening multi-story buildings along Artesia Boulevard and the neighborhoods that flank it will generally shield noise impacts from one or more projects that may generate operational noise. Therefore, cumulative stationary source noise impacts associated with operation of the Project and related projects would be less than significant.

Off-Site Mobile Noise Sources

During the peak P.M. hour, the Project would add up to 38 net vehicles on Artesia Boulevard and local roadways with up to 60 net vehicles in the peak A.M. hour.³⁰ Related projects would have to generate 2,796 additional vehicle trips onto Artesia Boulevard in the peak A.M. hour to elevate noise by 3 dBA. Instead, the one related project to the east (Project 11 at 1450 West Artesia Boulevard) is a warehouse facility that could not generate such vehicle traffic. As this would not increase traffic volumes by 100 percent, cumulative noise impacts due to off-site traffic would not increase ambient noise levels by 3 dBA, let alone by the 5 dBA threshold of significance. Additionally, the Project would not result in an exposure of persons to or a generation of noise

³⁰ Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Transportation Assessment Scope of Work; July 21, 2023.

levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Therefore, cumulative noise impacts due to off-site traffic would not increase ambient noise levels by 3 dBA to or within their respective “Normally Unacceptable” or “Clearly Unacceptable” noise categories, or by 5 dBA or greater overall. Additionally, the Project would not result in an exposure of persons to or a generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and cumulative impacts would be less than significant.

TECHNICAL APPENDIX



DOUGLASKIM+ASSOCIATES,LLC

AMBIENT NOISE MEASUREMENTS



- Project Site
- ⓐ Noise Measurement Locations
- ⓑ Analyzed Sensitive Receptors
- 1 Residences - Begonia Way
- 2 Residences - Artesia Bl (north side)
- 3 Residences - 17332 Artesia Blvd
- 4 Residences - 1602-1604 Artesia Sq
- 5 Residences - 1608 Artesia Sq
- 6 Mobile Home Park - 17700 Western Ave

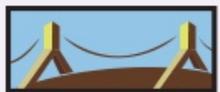


Figure 1
Noise Measurement Locations

Session Report

5/2/2023

Information Panel

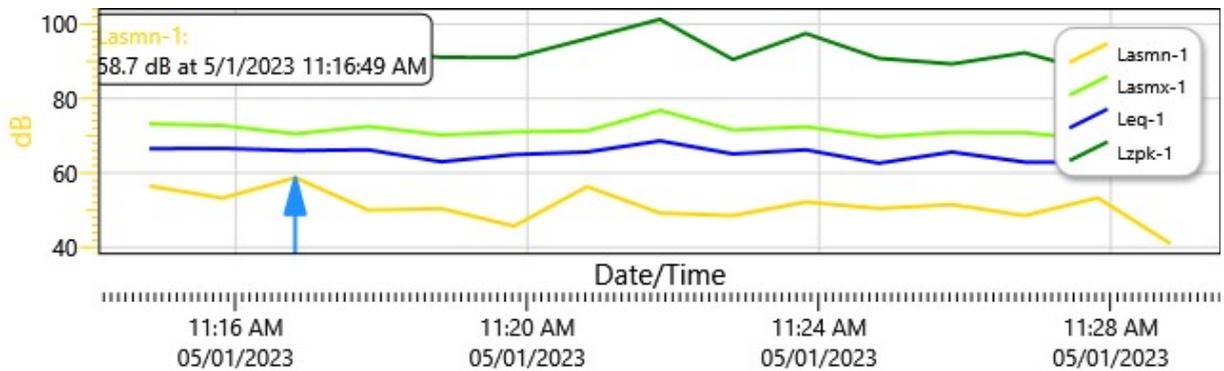
Name	Gardena Village Residences
Comments	
Start Time	5/1/2023 11:13:49 AM
Stop Time	5/1/2023 11:28:51 AM
Run Time	00:15:02
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	65.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

Gardena Village Residences: Logged Data Chart



Logged Data Table

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
-----------	--------	---------	---------	-------

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
5/1/2023 11:14:49 AM	95.1	56.5	73.2	66.5
11:15:49 AM	97.4	53.2	72.7	66.6
11:16:49 AM	90.5	58.7	70.5	66
11:17:49 AM	92.7	50	72.5	66.2
11:18:49 AM	91.1	50.4	70.2	63
11:19:49 AM	91	45.7	71	64.9
11:20:49 AM	96.1	56.3	71.3	65.6
11:21:49 AM	101.3	49.2	76.8	68.6
11:22:49 AM	90.5	48.5	71.5	65.1
11:23:49 AM	97.5	52.2	72.4	66.2
11:24:49 AM	90.8	50.4	69.7	62.6
11:25:49 AM	89.3	51.5	70.9	65.6
11:26:49 AM	92.3	48.5	70.8	62.9
11:27:49 AM	86.9	53.3	68.9	62.8
11:28:49 AM	97.5	41	75	68.6

Session Report

5/2/2023

Information Panel

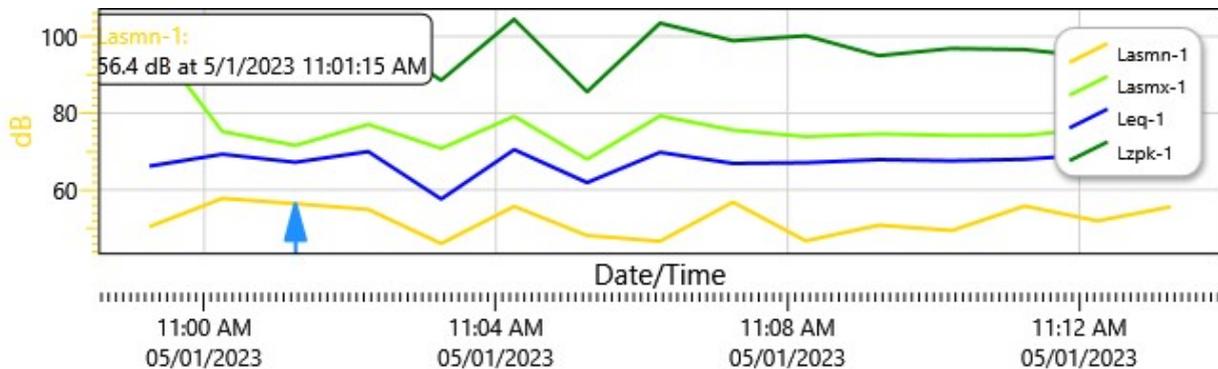
Name	1602 Artesia Boulevard
Comments	
Start Time	5/1/2023 10:58:15 AM
Stop Time	5/1/2023 11:13:19 AM
Run Time	00:15:04
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	68 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

1602 Artesia Boulevard: Logged Data Chart



Logged Data Table

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
-----------	--------	---------	---------	-------

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
5/1/2023 10:59:15 AM	94.9	50.4	100.1	66.2
11:00:15 AM	94.3	57.8	75.2	69.3
11:01:15 AM	91.9	56.4	71.6	67.2
11:02:15 AM	101.1	54.9	77.1	70
11:03:15 AM	88.6	46	70.8	57.6
11:04:15 AM	104.5	55.7	79.2	70.5
11:05:15 AM	85.6	48.1	68	61.9
11:06:15 AM	103.5	46.6	79.3	69.8
11:07:15 AM	98.9	56.8	75.6	66.9
11:08:15 AM	100.2	46.7	73.9	67.1
11:09:15 AM	95	50.8	74.6	67.9
11:10:15 AM	96.9	49.4	74.2	67.6
11:11:15 AM	96.6	55.8	74.2	68
11:12:15 AM	94.6	51.9	76.1	69.3
11:13:15 AM	97.8	55.6	77.1	69.5

Session Report

5/2/2023

Information Panel

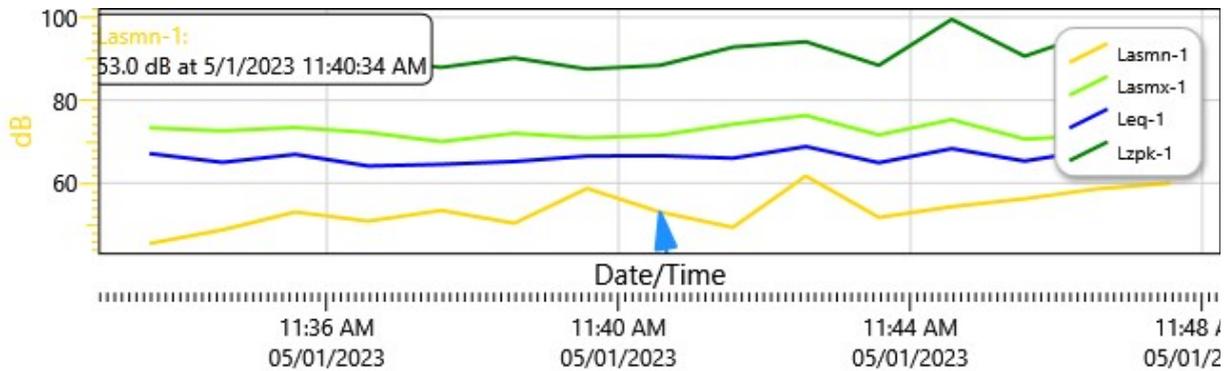
Name	17700 Western Avenue
Comments	
Start Time	5/1/2023 11:32:34 AM
Stop Time	5/1/2023 11:47:37 AM
Run Time	00:15:03
Serial Number	SE40213991
Device Name	SE40213991
Model Type	Sound Examiner
Device Firmware Rev	R.11C
Company Name	
Description	
Location	
User Name	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.6 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF

Logged Data Chart

17700 Western Avenue: Logged Data Chart



Logged Data Table

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
-----------	--------	---------	---------	-------

Date/Time	Lzpk-1	Lasmn-1	Lasmx-1	Leq-1
5/1/2023 11:33:34 AM	92.1	45.4	73.3	67.1
11:34:34 AM	89.8	48.7	72.6	65
11:35:34 AM	89.3	53	73.4	66.9
11:36:34 AM	89.7	50.8	72.2	64.1
11:37:34 AM	87.9	53.4	70	64.5
11:38:34 AM	90.2	50.3	72	65.2
11:39:34 AM	87.5	58.7	70.9	66.5
11:40:34 AM	88.4	53	71.5	66.6
11:41:34 AM	92.8	49.3	74.2	66
11:42:34 AM	94.1	61.7	76.3	68.8
11:43:34 AM	88.4	51.7	71.6	64.9
11:44:34 AM	99.5	54.3	75.3	68.3
11:45:34 AM	90.6	56.2	70.6	65.3
11:46:34 AM	96.6	58.6	71.6	68.1
11:47:34 AM	93.3	60	73.4	68.9



DOUGLASKIM+ASSOCIATES,LLC

CONSTRUCTION NOISE IMPACTS
UNMITIGATED

Total 73.3 71.8 N/A N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	55	5
Dozer	No	40		81.7	225	5
Concrete Saw	No	20		89.6	225	5
Excavator	No	40		80.7	55	5
Excavator	No	40		80.7	225	5
Excavator	No	40		80.7	375	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	75.8	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.9	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	58.2	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.8	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	25	5
Dozer	No	40		81.7	325	5
Concrete Saw	No	20		89.6	225	5
Excavator	No	40		80.7	25	5
Excavator	No	40		80.7	225	5
Excavator	No	40		80.7	325	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	82.7	78.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	60.4	56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	81.7	77.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	82.7	81.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Mobile Homt Residential		66.6	66.6	66.6

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	300	0
Dozer	No	40		81.7	450	0
Concrete Saw	No	20		89.6	450	0
Excavator	No	40		80.7	300	0
Excavator	No	40		80.7	450	0
Excavator	No	40		80.7	800	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.6	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	61.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	56.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Demolition) W/o Mitigation



DOUGLAS KIM + ASSOCIATES, LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	72.5	73.3	7.6	No
Residences - Artesia Bl (north side)	65.7	72.2	73.1	7.4	No
Residences - 17332 Artesia Bl	68.0	71.8	73.3	5.3	No
Residences - 1602-1602 Artesia Sq	68.0	75.1	75.9	7.9	No
Residences - 1608 Artesia Sq	68.0	81.4	81.6	13.6	Yes
Mobile Home Park - 17700 Western Ave	66.6	68.2	70.5	3.9	No

Note: Sound Power Level (Lw) assumes full sphere propagation

Dozer	61.2	57.3	N/A											
Backhoe	69.6	65.6	N/A											
Backhoe	61.3	57.3	N/A											
Backhoe	57.1	53.2	N/A											
Dozer	63.1	59.1	N/A											
Backhoe	64.5	60.5	N/A											
Total	69.6	69.2	N/A											

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Dozer	No	40		81.7	55	5
Dozer	No	40		81.7	225	5
Backhoe	No	40		77.6	55	5
Backhoe	No	40		77.6	225	5
Backhoe	No	40		77.6	375	5
Dozer	No	40		81.7	325	5
Backhoe	No	40		77.6	155	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)							
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	75.8	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.7	67.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	55.1	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	65.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	67.7	63.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.8	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Dozer	No	40		81.7	25	10
Dozer	No	40		81.7	325	10
Backhoe	No	40		77.6	25	10
Backhoe	No	40		77.6	225	10
Backhoe	No	40		77.6	325	10
Dozer	No	40		81.7	225	10
Backhoe	No	40		77.6	125	10

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)							
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	55.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	73.6	69.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	54.5	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	51.3	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.7	76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Home Residential		66.6	66.6	66.6

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Dozer	No	40		81.7	300	0
Dozer	No	40		81.7	450	0
Backhoe	No	40		77.6	300	0
Backhoe	No	40		77.6	450	0
Backhoe	No	40		77.6	800	0
Dozer	No	40		81.7	600	0
Backhoe	No	40		77.6	550	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day		Evening		Night		Day		Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.6	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	58.5	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	60.1	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56.7	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.1	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Site Preparation) W/o Mitig



DOUGLASKIM+ASSOCIATES,LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	72.2	73.1	7.4	No
Residences - Artesia Bl (north side)	65.7	70.5	71.7	6.0	No
Residences - 17332 Artesia Bl	68.0	69.2	71.7	3.7	No
Residences - 1602-1602 Artesia Sq	68.0	74.2	75.1	7.1	No
Residences - 1608 Artesia Sq	68.0	76.0	76.6	8.6	No
Mobile Home Park - 17700 Western Ave	66.6	66.0	69.3	2.7	No

Note: Sound Power Level (Lw) assumes full sphere propagation

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/8/24
 Case Description: 1610 Artesia Boulevard
 Phase: Grading

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Begor Residential		65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	500	0
Backhoe	No	40		77.6	270	0
Backhoe	No	40		77.6	370	0
Backhoe	No	40		77.6	470	0
Excavator	No	40		80.7	300	0
Grader	No	40	85		300	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	61.7		57.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62.9		58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	60.2		56.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	58.1		54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	65.1		61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	69.4		65.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.4		68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Artesi Residential		65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	350	0
Backhoe	No	40		77.6	160	0
Backhoe	No	40		77.6	360	0
Backhoe	No	40		77.6	560	0
Excavator	No	40		80.7	260	0
Grader	No	40	85		260	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	64.8		60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	67.5		63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	60.4		56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56.6		52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	66.4		62.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	70.7		66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.7		70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - 17332 Residential		68	68	68

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	525	0
Backhoe	No	40		77.6	125	0
Backhoe	No	40		77.6	325	0
Backhoe	No	40		77.6	525	0
Excavator	No	40		80.7	325	0
Grader	No	40	85		325	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	61.2		57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	69.6		65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	61.3		57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	57.1		53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	64.5		60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	68.7		64.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6		69.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - 1602-	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40	40	81.7	225	5
Backhoe	No	40	40	77.6	55	5
Backhoe	No	40	40	77.6	225	5
Backhoe	No	40	40	77.6	375	5
Excavator	No	40	40	80.7	225	5
Grader	No	40	85	225	225	5

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day		Evening		Night		Day		Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	63.6	59.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.7	67.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	55.1	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	67.6	63.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	71.9	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.9	72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - 1608	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40	40	81.7	325	5
Backhoe	No	40	40	77.6	25	5
Backhoe	No	40	40	77.6	225	5
Backhoe	No	40	40	77.6	325	5
Excavator	No	40	40	80.7	225	5
Grader	No	40	85	225	225	5

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day		Evening		Night		Day		Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	55.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	73.6	69.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	54.5	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	51.3	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	67.6	63.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	71.9	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Mobile Home Park	Residential	66.6	66.6	66.6

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40	40	81.7	450	0
Backhoe	No	40	40	77.6	300	0
Backhoe	No	40	40	77.6	450	0
Backhoe	No	40	40	77.6	800	0
Excavator	No	40	40	80.7	450	0
Grader	No	40	85	450	450	0

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day		Evening		Night		Day		Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	62.6	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	58.5	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	61.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	65.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	65.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Grading) W/o Mitigation



DOUGLASKIM+ASSOCIATES,LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	68.4	70.3	4.6	No
Residences - Artesia Bl (north side)	65.7	70.2	71.5	5.8	No
Residences - 17332 Artesia Bl	68.0	69.6	71.9	3.9	No
Residences - 1602-1602 Artesia Sq	68.0	72.0	73.5	5.5	No
Residences - 1608 Artesia Sq	68.0	72.6	73.9	5.9	No
Mobile Home Park - 17700 Western Ave	66.6	65.9	69.3	2.7	No

Note: Sound Power Level (Lw) assumes full sphere propagation

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/8/24
 Case Description: 1610 Artesia Boulevard
 Phase: Trenching

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Begonia	Residential	65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		450	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	65.9		62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9		62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Artesia E	Residential	65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		260	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	70.7		67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.7		67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - 17332 Ar	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		225	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	71.9		68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.9		68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - 1602-16I	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		125	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	72		69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	72		69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - 1608 Art	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		125	5

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	72		69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	72		69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Mobile Home Park	Residential	66.6	66.6	66.6

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
All Other Equipment > 5 HP	No	50	85		450	0

Equipment	Results			Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5 HP	65.9	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Trenching) W/o Mitigation



DOUGLASKIM+ASSOCIATES,LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	62.9	67.5	1.8	No
Residences - Artesia Bl (north side)	65.7	67.7	69.8	4.1	No
Residences - 17332 Artesia Bl	68.0	68.9	71.5	3.5	No
Residences - 1602-1602 Artesia Sq	68.0	69.0	71.5	3.5	No
Residences - 1608 Artesia Sq	68.0	69.0	71.5	3.5	No
Mobile Home Park - 17700 Western Ave	66.6	62.9	68.1	1.5	No

Note: Sound Power Level (Lw) assumes full sphere propagation

Generator	61.5	58.5	N/A											
Welder / Torch	54.9	50.9	N/A											
Total	64.9	65.2	N/A											

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Building Construction) W/c



DOUGLASKIM+ASSOCIATES,LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	67.5	69.7	4.0	No
Residences - Artesia Bl (north side)	65.7	69.9	71.3	5.6	No
Residences - 17332 Artesia Bl	68.0	71.3	73.0	5.0	No
Residences - 1602-1602 Artesia Sq	68.0	72.0	73.5	5.5	No
Residences - 1608 Artesia Sq	68.0	72.7	74.0	6.0	No
Mobile Home Park - 17700 Western Ave	66.6	65.2	69.0	2.4	No

Note: Sound Power Level (Lw) assumes full sphere propagation

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/8/24
 Case Description: 1610 Artesia Boulevard
 Phase: Paving and Coatings

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - Bego	Residential	65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)			
Compressor (air)	No	40			77.7	120	0
Compressor (air)	No	40			77.7	420	0

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	70.1		66.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	59.2		55.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.1		66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - Artes	Residential	65.7	65.7	65.7

Description	Impact Device	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)			
Compressor (air)	No	40			77.7	200	0
Compressor (air)	No	40			77.7	400	0

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	65.6		61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	59.6		55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.6		62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - 1733	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)			
Compressor (air)	No	40			77.7	225	0
Compressor (air)	No	40			77.7	425	0

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	64.6		60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	59.1		55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.6		61.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residences - 1602	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)			
Compressor (air)	No	40			77.7	100	5
Compressor (air)	No	40			77.7	300	5

Equipment	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	66.6		62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.1		53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.6		63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Residences - 1608	Residential	68	68	68

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Compressor (air)	No	40		77.7	100	5
Compressor (air)	No	40		77.7	300	5

Equipment	Calculated (dBA)		Noise Limits (dBA)					Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	66.6	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.1	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.6	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

Description	Land Use	Daytime	Evening	Night
Mobile Home Park	Residential	66.6	66.6	66.6

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Compressor (air)	No	40		77.7	450	0
Compressor (air)	No	40		77.7	450	0

Equipment	Calculated (dBA)		Noise Limits (dBA)					Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	58.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	58.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	58.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Coatings) W/o Mitigation



DOUGLASKIM+ASSOCIATES,LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	66.4	69.1	3.4	No
Residences - Artesia Bl (north side)	65.7	62.6	67.4	1.7	No
Residences - 17332 Artesia Bl	68.0	61.7	68.9	0.9	No
Residences - 1602-1602 Artesia Sq	68.0	63.1	69.2	1.2	No
Residences - 1608 Artesia Sq	68.0	63.1	69.2	1.2	No
Mobile Home Park - 17700 Western Ave	66.6	57.6	67.1	0.5	No

Note: Sound Power Level (Lw) assumes full sphere propagation

OFF-SITE CONSTRUCTION-RELATED TRAVEL VOLUMES



Construction Phase	Worker Trips	Vendor Trips	Haul Trips	Total	% of Traffic Volumes
Demolition	15	0	40.8	56	2.0%
Site Preparation	17.5	0		18	0.6%
Grading	15	0	581.5	596	20.9%
Trenching	2.5	0		3	0.1%
Building Construction	307	184.7		492	17.2%
Paving	20	0.0		20	0.7%
Architectural Coatings	61.4	0		61.4	2.2%

Haul trips represent heavy-duty truck trips with a 19.1 Passenger Car Equivalent applied; Vendor trips are a blend of vehicle types with a 9.5!

2,854 Traffic Volumes on Artesia Boulevard at Western Avenue in the peak A.M. hour



DOUGLASKIM+ASSOCIATES,LLC

CONSTRUCTION NOISE IMPACTS
MITIGATED

Total 73.3 71.8 N/A N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

		Equipment					
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)	
Dozer	No	40		81.7	55	5	
Dozer	No	40		81.7	225	5	
Concrete Saw	No	20		89.6	225	5	
Excavator	No	40		80.7	55	5	
Excavator	No	40		80.7	225	5	
Excavator	No	40		80.7	375	5	

Results

		Calculated (dBA)				Noise Limits (dBA)				Noise Limit Exceedance (dBA)				
Equipment	*Lmax	Leq	Day		Evening		Night		Day	Leq	Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq			Lmax	Leq	Lmax	Leq
Dozer	75.8	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.9	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	58.2	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.8	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residences - Residential		68	68	68

		Equipment					
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)	
Dozer	No	40		81.7	25	10	
Dozer	No	40		81.7	325	10	
Concrete Saw	No	20		89.6	225	10	
Excavator	No	40		80.7	25	10	
Excavator	No	40		80.7	225	10	
Excavator	No	40		80.7	325	10	

Results

		Calculated (dBA)				Noise Limits (dBA)				Noise Limit Exceedance (dBA)				
Equipment	*Lmax	Leq	Day		Evening		Night		Day	Leq	Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq			Lmax	Leq		
Dozer	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Dozer	55.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Concrete Saw	66.5	59.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	76.7	72.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	57.6	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	54.5	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total	77.7	76.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #6 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Homt Residential		66.6	66.6	66.6

		Equipment					
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)	
Dozer	No	40		81.7	300	0	
Dozer	No	40		81.7	450	0	
Concrete Saw	No	20		89.6	450	0	
Excavator	No	40		80.7	300	0	
Excavator	No	40		80.7	450	0	
Excavator	No	40		80.7	800	0	

Results

		Calculated (dBA)				Noise Limits (dBA)				Noise Limit Exceedance (dBA)				
Equipment	*Lmax	Leq	Day		Evening		Night		Day	Leq	Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq			Lmax	Leq		
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Dozer	62.6	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Concrete Saw	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	61.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Excavator	56.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total	70.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Construction Noise Impacts (Demolition) With Mitigation



DOUGLAS KIM + ASSOCIATES, LLC

Receptor	Existing Leq	Noise	New Leq	Difference Leq	Significant?
Residences - Begonia Wy	65.7	72.5	73.3	7.6	No
Residences - Artesia Bl (north side)	65.7	72.2	73.1	7.4	No
Residences - 17332 Artesia Bl	68.0	71.8	73.3	5.3	No
Residences - 1602-1602 Artesia Sq	68.0	75.1	75.9	7.9	No
Residences - 1608 Artesia Sq	68.0	76.4	77.0	9.0	No
Mobile Home Park - 17700 Western Ave	66.6	68.2	70.5	3.9	No

Note: Sound Power Level (Lw) assumes full sphere propagation



DOUGLASKIM+ASSOCIATES,LLC

OPERATIONS NOISE CALCULATIONS

Noise emissions of industry sources

Source name	Size m/m ²	Reference	Level		Frequency spectrum [dB(A)] 500 Hz	Corrections		
				dB(A)		Cwall dB	CI dB	CT dB
Swimming Pool	87.53 m ²	Lw/m ²	Day	75.4	75.4	-	-	-
			Evening	75.4	75.4	-	-	-
			Night	-	-	-	-	-
	108.89 m ²	Lw/m ²	Day	77.6	77.6	-	-	-
			Evening	77.6	77.6	-	-	-
			Night	-	-	-	-	-

Receiver list

No.	Receiver name	Coordinates		Buildin side	Floor	Height abv. gro m	Limit			Level			Conflict		
		X	Y				Day	Evenin	Lden	Day	Evenin	Lden	Day	Evenin	Lden
		in meter					dB(A)			dB(A)			dB		
1	Mobile Home Park - 1770	113793053	3748574.	North	GF	12.37	-	-	-	21.3	21.3	21.4	-	-	-
2	Residences - 1602-1604	113793363	3748807.	North	GF	9.69	-	-	-	27.7	27.7	27.8	-	-	-
3	Residences - 1608 Artes	113793263	3748702.	North	GF	10.08	-	-	-	29.2	29.2	29.3	-	-	-
4	Residences - 17332 Arte	113793433	3748847.	South	GF	11.18	-	-	-	25.1	25.1	25.2	-	-	-
5	Residences - Artesia Bl	113792603	3748864.	South	GF	12.88	-	-	-	24.9	24.9	25.0	-	-	-
6	Residences - Begonia W	113792353	3748893.	South	GF	13.16	-	-	-	23.2	23.2	23.4	-	-	-

Contribution levels of the receivers

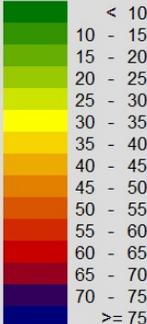
Source name	Traffic lane	Day	Level Evening dB(A)	Lden
Mobile Home Park - 17700 Western Ave. GF		21.3	21.3	21.4
Swimming Pool	-	19.5	19.5	19.6
Swimming Pool	-	16.6	16.6	16.7
Residences - 1602-1604 Artesia Sq. GF		27.7	27.7	27.8
Swimming Pool	-	26.0	26.0	26.1
Swimming Pool	-	22.7	22.7	22.8
Residences - 1608 Artesia Sq. GF		29.2	29.2	29.3
Swimming Pool	-	27.7	27.7	27.8
Swimming Pool	-	23.8	23.8	23.9
Residences - 17332 Artesia Bl. GF		25.1	25.1	25.2
Swimming Pool	-	23.4	23.4	23.5
Swimming Pool	-	20.2	20.2	20.3
Residences - Artesia Bl (north side) GF		24.9	24.9	25.0
Swimming Pool	-	22.9	22.9	23.0
Swimming Pool	-	20.6	20.6	20.7
Residences - Begonia Wy GF		23.2	23.2	23.4
Swimming Pool	-	21.5	21.5	21.7
Swimming Pool	-	18.4	18.4	18.5

1610 Artesia Boulevard

Signs and symbols

-  Building
-  Swimming Pool

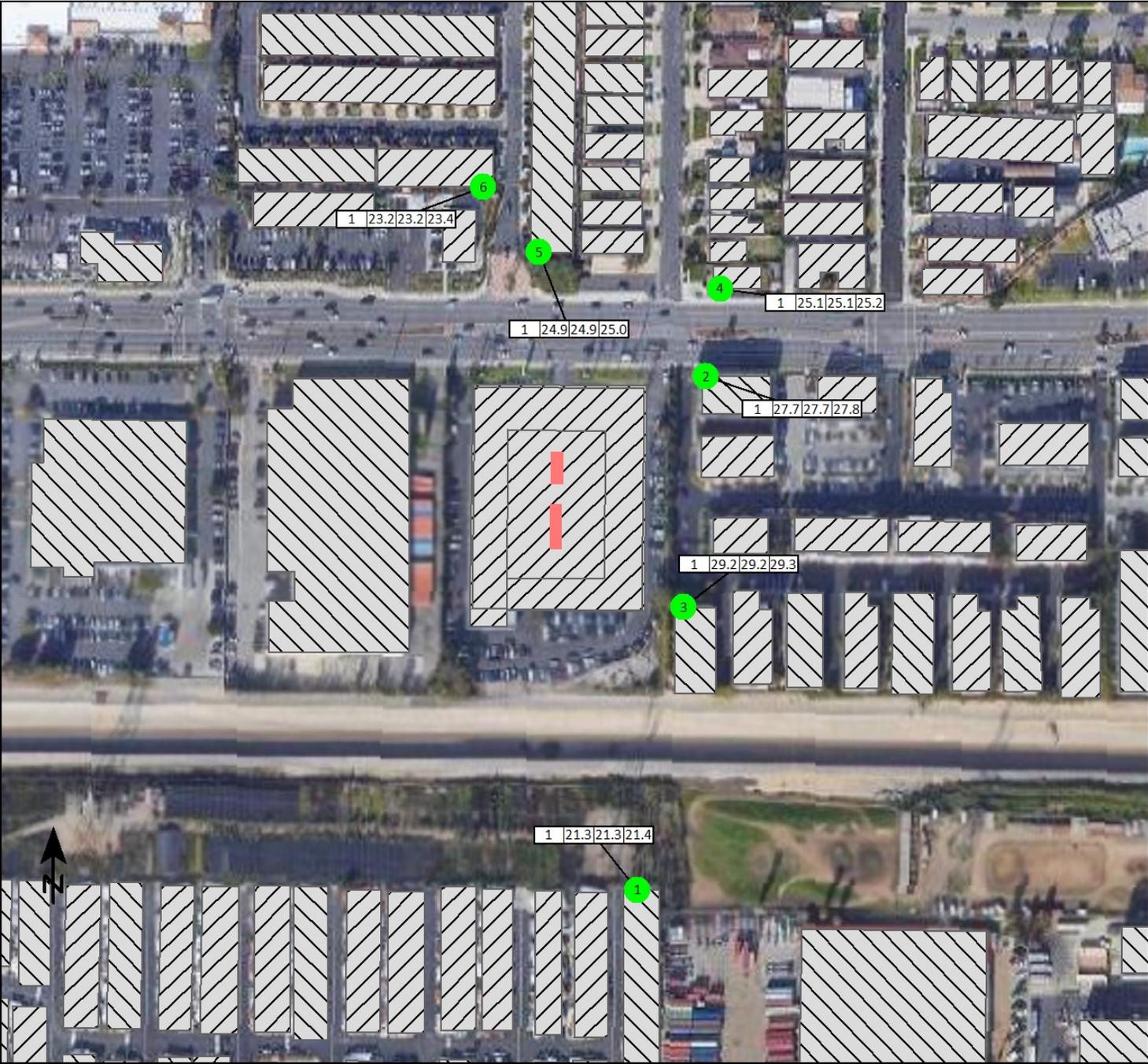
Levels in dB(A)



1 : 192



1610 Artesia Boulevard



Signs and symbols

- Building
- Analyzed Sensitive Receptor
- Swimming Pool

1 : 192

0 37.5 75 150 225 300 feet

Operation Noise Impacts



DOUGLAS KIM + ASSOCIATES

Receptor	Existing CNEL	Noise	New CNEL	Difference CNEL	Significant?
Residences - Begonia Wy	63.7	23.4	63.7	0.0	No
Residences - Artesia Bl (north side)	63.7	25.0	63.7	0.0	No
Residences - 17332 Artesia Bl	66.0	25.2	66.0	0.0	No
Residences - 1602-1602 Artesia Sq	66.0	27.8	66.0	0.0	No
Residences - 1608 Artesia Sq	66.0	29.3	66.0	0.0	No

Project: 1610 Artesia Boulevard

Receiver Parameters	
Receiver:	Residences - Artesia Boulevard (north side)
Land Use Category:	2 - Residential
Existing Noise (Measured or Generic Value):	64 dBA

Number of Noise Sources: 1

Noise Source Parameters	
Source 1	
Source Type:	Stationary Source
Specific Source:	Parking Garage
Daytime hrs	Avg. Number of Autos/hr: 32
Nighttime hrs	Avg. Number of Autos/hr: 33
Distance	Distance from Source to Receiver (ft): 370
Adjustments	Number of Intervening Rows of Buildings: 0
	Noise Barrier? No
	Joint Track/Crossover? No
	Embedded Track? No
	Aerial Structure? No

Noise Barrier?	
No	

Noise Barrier?	
No	

Noise Barrier?	
No	

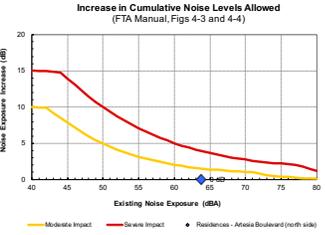
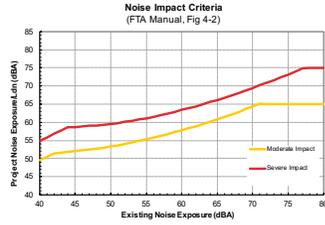
Noise Barrier?	
No	

Noise Barrier?	
No	

Project Results Summary	
Existing Ldn:	64 dBA
Total Project Ldn:	64 dBA
Total Noise Exposure:	64 dBA
Increase:	0 dB
Impact?	None

Distance to Impact Contours	
Dist to Mod. Impact Contour:	(Source 1): 13 ft
Dist to Sev. Impact Contour:	(Source 1): 9 ft

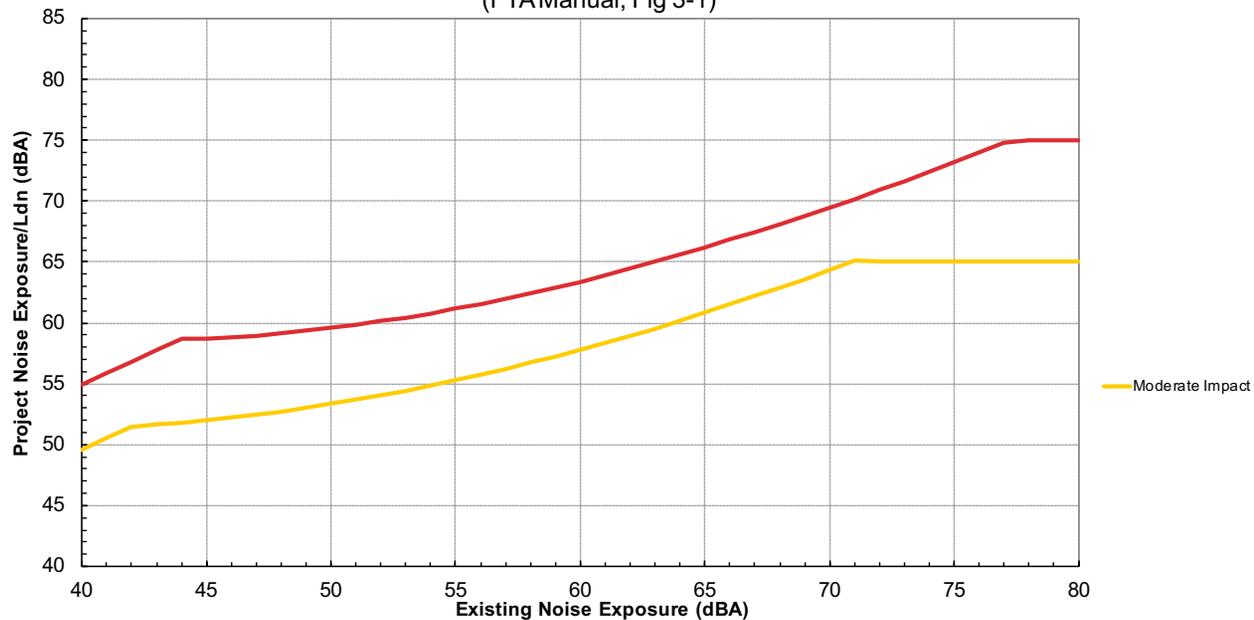
Source 1 Results	
Leq(day):	28.2 dBA
Leq(night):	24.3 dBA
Ldn:	31.5 dBA



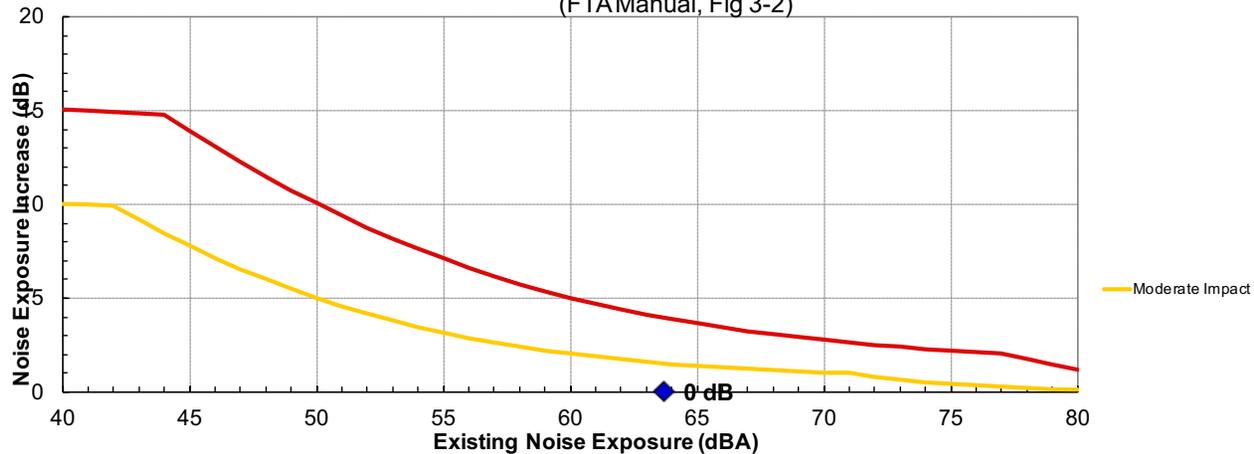
Project: 1610 Artesia Boulevard
Receiver: Residences - Artesia Boulevard (north side)

Source	Distance	Project Ldn	Existing Ldn	Noise Criteria		Impact?
				Mod. Impact	Sev. Impact	
1 Parking Garage	170 ft	31.5 dBA	64 dBA	60 dBA	65 dBA	None
2 --	50 ft		64 dBA	60 dBA	65 dBA	
3 --	50 ft		64 dBA	60 dBA	65 dBA	
4 --	70 ft		64 dBA	60 dBA	65 dBA	
5 --	ft		64 dBA	60 dBA	65 dBA	
6 --	ft		64 dBA	60 dBA	65 dBA	
Combined Sources		31 dBA	64 dBA	60 dBA	65 dBA	None

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use																
Source: ITE Trip Generation Manual, 11th Edition																
Land Use Code	221			221			221			221			221			
Land Use	Multifamily Housing (Mid-Rise)															
Subcategory	Not Close to Rail Transit			Close to Rail Transit												
Setting	General Urban/Suburban			General Urban/Suburban			General Urban/Suburban			Dense Multi-Use Urban			Dense Multi-Use Urban			
Time Period	Weekday			Saturday			Sunday			Weekday			Weekday			
# Data Sites	6			1			1			1			1			
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips			
Time	Total	Entering	Exiting													
12:00 - 1:00 AM	0.8%	1.2%	0.4%	1.8%	2.8%	0.8%	3.5%	5.5%	1.2%	0.6%	1.0%	0.2%	1.1%	1.6%	0.6%	
1:00 - 2:00 AM	0.4%	0.6%	0.3%	0.3%	0.4%	0.2%	2.0%	2.9%	0.9%	0.2%	0.0%	0.5%	0.4%	0.4%	0.3%	
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.5%	0.9%	0.2%	3.3%	4.7%	1.8%	0.2%	0.2%	0.2%	0.6%	1.0%	0.1%	
3:00 - 4:00 AM	0.2%	0.2%	0.1%	0.2%	0.2%	0.1%	0.6%	0.5%	0.6%	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%	
4:00 - 5:00 AM	0.3%	0.1%	0.5%	0.3%	0.4%	0.2%	0.6%	1.0%	0.0%	0.6%	0.0%	1.2%	0.1%	0.3%	0.0%	
5:00 - 6:00 AM	1.2%	0.4%	2.0%	0.2%	0.2%	0.4%	0.4%	0.5%	0.3%	2.2%	0.7%	3.6%	0.6%	0.1%	1.0%	
6:00 - 7:00 AM	4.4%	1.0%	7.8%	1.2%	0.4%	1.9%	0.6%	0.0%	1.2%	4.2%	1.5%	7.0%	2.7%	1.3%	4.2%	
7:00 - 8:00 AM	8.6%	2.5%	14.7%	3.5%	3.0%	4.0%	1.3%	0.8%	1.8%	9.8%	1.9%	17.6%	7.3%	1.0%	13.6%	
8:00 - 9:00 AM	7.8%	3.0%	12.5%	3.8%	2.8%	4.8%	2.2%	0.8%	3.9%	9.5%	1.9%	17.1%	7.5%	4.4%	10.5%	
9:00 - 10:00 AM	4.5%	2.2%	6.9%	5.8%	3.5%	8.1%	2.9%	1.8%	4.2%	5.2%	3.4%	7.0%	4.5%	2.3%	6.8%	
10:00 - 11:00 AM	3.7%	2.7%	4.6%	6.4%	5.0%	7.7%	5.4%	3.9%	7.2%	3.9%	2.9%	4.8%	5.6%	4.2%	6.9%	
11:00 - 12:00 PM	3.7%	3.4%	4.0%	6.4%	6.1%	6.7%	6.8%	3.7%	10.4%	3.5%	3.6%	3.4%	4.5%	2.5%	6.5%	
12:00 - 1:00 PM	4.6%	4.3%	4.8%	6.6%	4.5%	8.5%	6.8%	6.0%	7.8%	4.5%	4.1%	4.8%	5.2%	5.1%	5.3%	
1:00 - 2:00 PM	4.4%	4.4%	4.4%	6.2%	6.9%	5.4%	7.3%	6.0%	8.7%	4.1%	4.6%	3.6%	5.5%	5.4%	5.6%	
2:00 - 3:00 PM	3.9%	4.1%	3.7%	7.3%	7.1%	7.5%	6.7%	6.3%	7.2%	3.3%	2.9%	3.6%	3.9%	3.9%	3.9%	
3:00 - 4:00 PM	4.9%	5.9%	3.8%	6.7%	8.2%	5.2%	7.8%	5.8%	10.1%	4.1%	4.1%	4.1%	5.6%	6.3%	4.9%	
4:00 - 5:00 PM	7.2%	9.2%	5.1%	6.2%	6.3%	6.0%	5.6%	5.8%	5.4%	5.0%	6.3%	3.6%	6.8%	8.6%	5.1%	
5:00 - 6:00 PM	9.4%	13.1%	5.8%	7.7%	7.7%	7.7%	7.7%	7.9%	7.5%	9.1%	13.1%	5.1%	7.7%	11.0%	4.4%	
6:00 - 7:00 PM	9.0%	12.1%	6.0%	6.8%	6.3%	7.3%	7.8%	9.2%	6.3%	9.4%	15.0%	3.9%	6.7%	8.3%	5.1%	
7:00 - 8:00 PM	7.4%	9.4%	5.4%	5.4%	6.9%	4.0%	6.6%	9.2%	3.6%	8.3%	13.1%	3.6%	6.5%	8.7%	4.4%	
8:00 - 9:00 PM	5.4%	7.7%	3.1%	4.3%	4.5%	4.2%	4.7%	5.0%	4.5%	5.1%	7.3%	2.9%	5.1%	5.9%	4.2%	
9:00 - 10:00 PM	4.0%	6.5%	1.5%	4.0%	4.3%	3.7%	4.3%	5.8%	2.7%	4.0%	7.0%	1.0%	5.8%	8.6%	3.0%	
10:00 - 11:00 PM	2.6%	3.7%	1.6%	3.9%	4.8%	3.1%	3.9%	5.2%	2.4%	2.4%	3.9%	1.0%	3.5%	5.2%	1.7%	
11:00 - 12:00 AM	1.4%	2.1%	0.8%	3.0%	4.3%	1.7%	1.3%	1.8%	0.6%	0.8%	1.5%	0.2%	2.6%	3.5%	1.7%	

Time	Total	Entering	Day	Evening
12:00 - 1:00 AM	4	6		
1:00 - 2:00 AM	2	2		
2:00 - 3:00 AM	1	3		
3:00 - 4:00 AM	1	2		
4:00 - 5:00 AM	2	1		
5:00 - 6:00 AM	7	3		
6:00 - 7:00 AM	24	15		
7:00 - 8:00 AM	47	40		
8:00 - 9:00 AM	42	41		
9:00 - 10:00 AM	25	25		
10:00 - 11:00 AM	20	30		
11:00 - 12:00 PM	20	25		
12:00 - 1:00 PM	25	28		
1:00 - 2:00 PM	24	30		
2:00 - 3:00 PM	21	21		
3:00 - 4:00 PM	26	31		
4:00 - 5:00 PM	39	37		
5:00 - 6:00 PM	51	42		
6:00 - 7:00 PM	49	36		
7:00 - 8:00 PM	40	36		
8:00 - 9:00 PM	29	28		
9:00 - 10:00 PM	22	31		
10:00 - 11:00 PM	14	19		
11:00 - 12:00 AM	8	14		



DOUGLASKIM+ASSOCIATES,LLC

CUMULATIVE PROJECTS

CITY OF GARDENA CUMULATIVE PROJECTS LIST						
	Type	Location (Project Name)	Project Description	Status	Non-Residential (SF)	Residential (DU)
1	Commercial	15106 S Western Ave	3,720-sf commercial building with drive-thru	Approved but not yet Constructed	3,720	
2	Residential	1333 West 168th Street	3 DU, Condominiums	Approved but not yet Constructed		3
3	Residential	1348 West 168th Street (Normandie Courtyard Project)	9 DU, Small Lot Subdivision, 3-story	Approved but not yet Constructed		9
4	Residential	13919 Normandie Avenue	20 DU, Single-Room Occupancy	Under Construction		20
5	Residential	12850 Crenshaw Boulevard (Transit-Oriented Develop. SP Project)	265 DU, Apartments Bldg.	Under Construction		265
6	Residential	1938 West 146th Street	6 DU, Townhomes	Approved but not yet Constructed		6
7	Residential	13126 S Western Ave	121 DU, Single-Room Occupancy, 7 veery low income units	Approved but not yet Constructed		121
8	Residential	2545 Marine Ave	22 DU, Townhomes, including 2 affordable units	Under Construction		22
9	Live-work	2800 Rosecrans Ave	20 DU, Townhomes, 4 Live-work Units	PENDING (Application Received)		20
10	Industrial	1600 W 135th St	190,860 SQ Warehouse Bldg.	Approved but not yet Constructed	190,860	
11	Industrial	1450 W Artesia Blvd	New 268,000 SF Self-Storage/Warehouse Bldg.	PENDING (Application Received)	268,000	
12	Industrial	14206 Van Ness Ave	Redevelopment of Self storage Facility, to develop a new 177,573 SF Bldg. and 8,000 SF office Bldg.	PENDING (Application Received)	185,573	
13	Mixed-Use	14600 Western Ave	196 DU, Apartment Bldg. with 3,000 sf commercial space	PENDING (Application Received)	3,000	196
14	Residential	1515 West 178th Street (Melia 178th Street Project)	114 DU Townhomes	Construction Completed in 2023		114
15	Mixed-Use	1341 West Gardena Boulevard	14 DU, Apartment Bldg. & 3,385 SF Retail/Office	Under Construction	3,385	14
16	Residential	1621 West 147th Street	6 DU, Townhome, Three-story	Under Construction		6
17	Residential	1335 West 141st Street	50 DU, Townhomes, Three-story	Under Construction		50
18	Mixed-Use	2129 West Rosecrans Avenue	113 DU, Townhomes, 3-Story, including 15 Live/Work	Under Construction		113
19	Residential	13615 South Vermont Avenue	84 DU, Townhomes, 82 market rate units (2 DU affordable)	Under Construction		84
20	Residential	2500-2508 Rosecrans Ave	53 DU, Townhomes, Including 3 Live/Work	Under Construction		53
21	Residential	15717 & 15725 Normandie Ave	30 residential townhomes, three for low-income households	Under Construction		30
22	Residential	1610 W Artesia Blvd	300 residential apartment bldg	Pre Application Received		300
	23		Total		654,538	1,426
CITY OF TORRANCE CUMULATIVE PROJECTS LIST						
	Type	Location (Project Name)	Project Description	Status	Non-Residential (SF)	Residential (DU)
23	Residential	18045 Western Avenue	32 apartments; 6,000 sf. Retail	Pending entitlements	6,000	32
24	Residential	18419 Western Avenue	15 apartments	Pending entitlements		15
	2		Total		6,000	15

