Noise Analysis for the Temescal Commercial Project Riverside County, California

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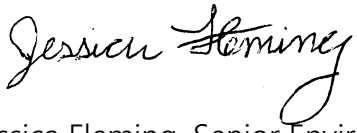

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Acronyms and Abbreviations

ADT	average daily traffic
Caltrans	California Department of Transportation
CNEL	community noise equivalent level
County	County of Riverside
dB	Decibel
dB(A)	A-weighted decibel
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
I-15	Interstate 15
in/sec	inch per second
L_{DN}	day-night noise level
L_{eq}	one-hour equivalent noise level
LLG	Linscott, Law & Greenspan, Engineers
L_{pw}	sound power level
Municipal Code	Riverside County Municipal Code
PPV	peak particle velocity
project	Temescal Commercial Project

Executive Summary

The Temescal Commercial Project (project) is located at 23835 Temescal Canyon Road in unincorporated Riverside County, California. The project site is located west of Interstate 15 (I-15) freeway, and is bounded by Temescal Canyon Road to the east and Lawson Road to the west. The project site is abutted by vacant land to the north, west, and south, and a commercial center with gas station to the west. Single-family residential uses are located to the southwest, west, and northwest. The 29.23-acre project site is currently partially undeveloped and partially developed with Mission Clay Products. The project proposes the construction of a 188,000-square-foot building on one parcel and three sheet-graded parcels fronting Temescal Canyon Road for future retail/restaurant ground lease building pads.

This report evaluates potential noise and vibration impacts associated with construction and operation of the project. As part of this assessment, noise levels due to vehicle traffic were calculated and evaluated against County of Riverside (County) noise and land use compatibility guidelines. In addition to compatibility, this report evaluates the potential for noise to impact adjacent receivers from on-site sources and construction activity. A summary of the findings is provided below.

Construction Noise

The County regulates noise in accordance with Chapter 9.52, Noise Regulations of the Riverside County Municipal Code (Municipal Code) Section 9.52.020[I] states that sound emanating from private construction projects located within a quarter mile from an inhabited dwelling is exempt from the provisions of Chapter 9.52, if construction occurs between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September, and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. The Municipal Code does not establish a quantitative construction noise level limit. For the purposes of this analysis, the Federal Transit Administration (FTA) recommended threshold of 80 A-weighted decibel one-hour equivalent noise level [dB(A) L_{eq}] at noise sensitive residential land uses was used.

As calculated in this analysis, construction noise levels are not anticipated to exceed the FTA's recommended threshold of 80 dB(A) L_{eq}. Noise levels at the adjacent existing residential uses would be less than 60 dB(A) L_{eq}. Construction activities would only occur during the times allowable by the Municipal Code (6:00 a.m. and 6:00 p.m. during the months of June through September, and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May). Although the existing nearby residences would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary and would only occur during the daytime hours. Therefore, temporary increases in noise levels during construction would be less than significant.

Vehicle Traffic Noise

On-site Noise Compatibility

The project site is exposed to vehicle traffic noise from I-15 and Temescal Canyon Road. The County's General Plan Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources. Industrial and manufacturing uses are "clearly compatible" with noise levels up to 75 community noise equivalent level (CNEL), "normally compatible" with noise levels from 70 to 80 CNEL, and "clearly incompatible" with noise levels above 75 CNEL. There are no land use compatibility standards for fast food restaurants since these are not noise sensitive land uses. As calculated in this analysis, on-site vehicle traffic noise levels would be 70 CNEL or less and would be considered "clearly compatible". Therefore, on-site vehicle traffic noise levels would be less than significant.

Off-site Vehicle Traffic Noise

The project would increase traffic volumes on local roadways. However, the project would not substantially alter the vehicle classifications mix on local or regional roadways, nor would the project alter the speed on an existing roadway or create a new roadway. Thus, the primary factor affecting off-site noise levels would be increased traffic volumes. A substantial noise increase is defined as an increase of 3 dB above existing conditions. As calculated in this analysis, the increase in vehicle traffic noise levels due to the addition of project traffic would be less than 1 dB. Therefore, operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site noise sensitive land uses, and impacts would be less than significant.

On-site Generated Noise

The primary noise sources on-site would be heating, ventilation, and air conditioning (HVAC) and ventilation equipment, trucks, and drive-through speakers. Noise levels due to these sources were modeled to determine if they have the potential to produce noise in excess of County limits. As calculated in this analysis, operational noise levels are not anticipated to exceed the applicable limits as specified in Section 9.52.030 of the County's Municipal Code. Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant.

Vibration

Construction equipment could include equipment such as loaded trucks, excavators, dozers, and loaders. Vibration levels from these pieces of equipment would generate vibration levels with a peak particle velocity (PPV) ranging from 0.035 to 0.089 inch per second (in/sec) PPV at 25 feet. The nearest sensitive receptors are the residential uses located as close as 25 feet from the western and southern boundaries of the off-site material storage area. Therefore, vibration levels are not anticipated to exceed 0.2 inch per second (in/sec) PPV and construction vibration impacts would be less than significant. Once operational, the project would not include the use of any stationary

equipment that would generate substantial vibration levels. All trucks generated by the project would travel along County roadways that are regularly maintained to prevent discontinuous pavement (e.g., potholes). As such, and based on guidance from the California Department of Transportation, the project's operational traffic-related vibration impacts would be less than significant.

1.0 Introduction

1.1 Project Description

The Temescal Commercial Project (project) is located at 23835 Temescal Canyon Road in unincorporated Riverside County, California. The project site is located west of Interstate 15 (I-15) freeway, and is bounded by Temescal Canyon Road to the east and Lawson Road to the west. The project site is abutted by vacant land to the north, west, and south, and a commercial center with gas station to the west. Single-family residential uses are located to the southwest, west, and northwest. The 29.23-acre project site is currently partially undeveloped and partially developed with Mission Clay Products. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.

The project proposes the subdivision of the three existing parcels (283-180-020, 283-180-021, and 283-180-002) to create four new lots to accommodate light industrial/office and commercial uses on-site. Four entitlement actions are being processed concurrently in support of the proposed development. The Applicant has submitted a Tentative Tract Map, General Plan Amendment application, a Zone Change application, and a Plot Plan, accordingly.

The project proposes the construction of a 188,000-square-foot building on one parcel and three sheet-graded parcels fronting on Temescal Canyon Road for future retail/restaurant ground lease building pads. The new proposed building would include a clay-related commercial business and museum. The operations of the business would be enclosed inside of the new building with limited exterior yard use in screened and secured areas. The future retail/restaurant uses would include a 2,500-square-foot coffee shop with drive-through, a 2,900-square-foot fast casual restaurant, and a 5,000-square-foot fast food restaurant with drive-through. Figure 3 shows the proposed site plan.

Tentative Tract Map

The Applicant has applied for a Tentative Tract Map to create new legal lots of the three subject parcels as well as two adjacent parcels adjoining the proposed project. A total of six numbered lots and two lettered lots are created through this mapping action. The Tentative Tract Map seeks to create a parcel to support the continued operation of Laguna Clay in Temescal Canyon, while also creating commercial parcels capable of supporting commercial development consistent with that envisioned in the Riverside County General Plan and Temescal Canyon Area Plan.

FIGURE 1
Regional Location

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Image Source: NearMap (flown September 2023)

Project Boundary

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FIGURE 2

Project Location on Aerial Photograph

Map Source: Kimley Horn

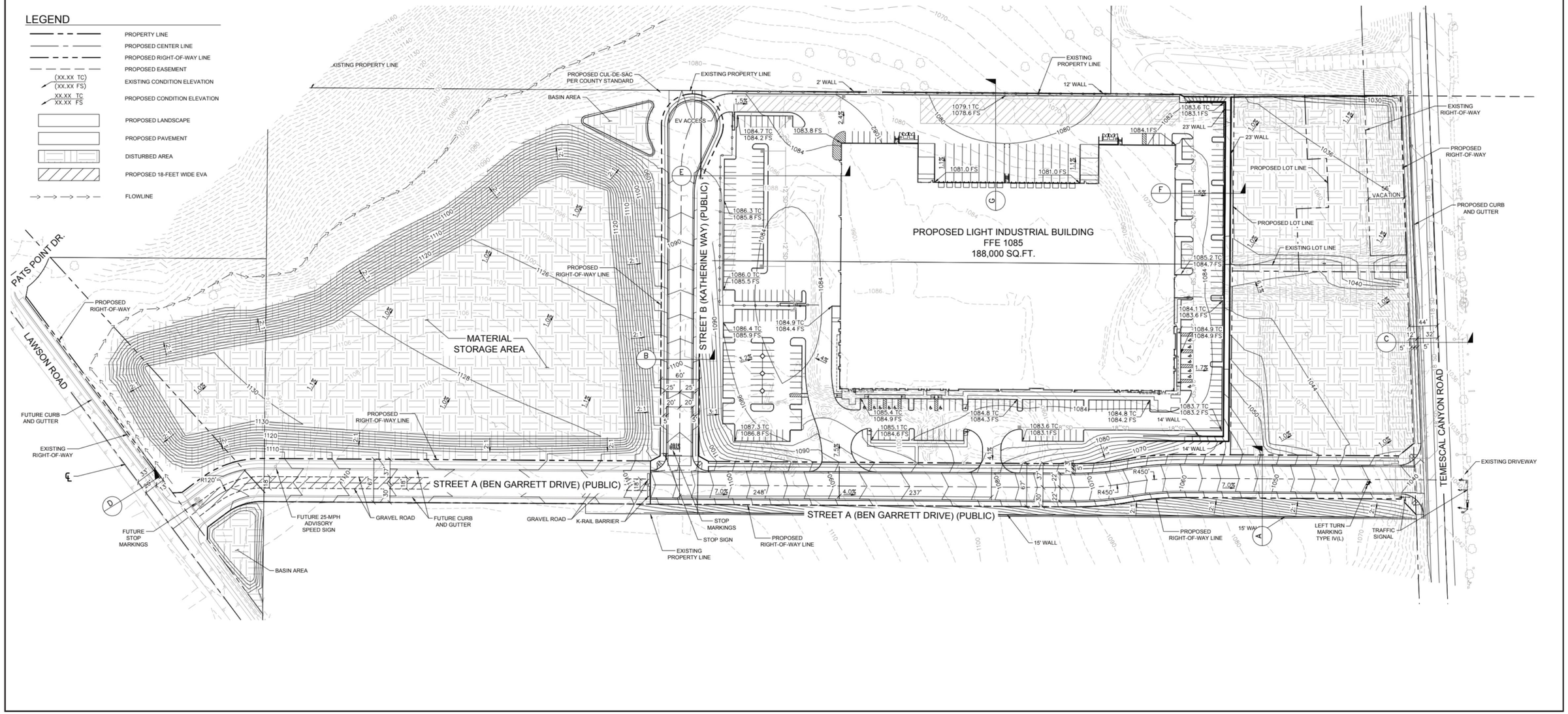

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FIGURE 3
Site Plan

General Plan Amendment

The Applicant has submitted a General Plan Amendment to redesignate one of the proposed lots (Lot 4) from Commercial Tourist to Light Industrial. The redesignation of the proposed lot, in conjunction with the Zone Change application, would make the existing Laguna Clay facility a conforming use under the Riverside County General Plan. Importantly, this redesignation from Commercial Tourist to Light Industrial is not a foundational general plan amendment, as both designations are within the Community Development foundational land use. The remaining three parcels would retain the existing Commercial Tourist land use.

Zone Change

The applicant has submitted a Zone Change application to designate the proposed Lot 4 from Scenic Highway Commercial (C-P-S) to Manufacturing- Service Commercial (M-SC). The change of zone would allow the existing Laguna Clay operation to be designated a conforming use. The three remaining parcels would remain zoned C-P-S.

Plot Plan

The Applicant has submitted a Plot Plan for a 188,000-square-foot concrete tilt up building (including Tenant Improvements) to create a new facility for Laguna Clay's operations. The proposed grading to support the new facility largely maintains the current raised elevation above Temescal Canyon Road and steps up approximately 45 feet from the retail parcel elevation to the proposed Light Industrial pad elevation.

Roadways

To serve the new development, there are two new proposed streets to be constructed. Proposed Street A (Ben Garrett Drive) would provide access from Temescal Canyon Road extending west to the intersection with new proposed Street B (Katherine Way) that extends north terminating at an offset cul-de-sac.

1.2 Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease. Additionally, in technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while commonly confused, are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and

is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the sound exposure level. The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. Similar to the CNEL, the day-night noise level (L_{DN}) applies a 10 dB(A) penalty to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night. The sound exposure level is a noise level over a stated period of time or event and normalized to one second. Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013).

2.0 Applicable Standards

2.1 County of Riverside General Plan

The County of Riverside (County) has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of the County from excessive exposure to noise. The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. Table 1 summarizes the County's noise compatibility standards.

2.2 County of Riverside Municipal Code

2.2.1 Operational Noise

Section 9.52.030 of the County of Riverside Municipal Code (Municipal Code) defines a sensitive receptor as a land use that is sensitive to noise including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries, or public libraries. Section 9.52.040 establishes noise level standards based on land use designation. The project site is designated as Tourist Commercial in the General Plan and is zoned Scenic Highway Commercial (C-P-S). The project would require a General Plan Amendment and a Rezone for the manufacturing building lot (Lot 4) to change the land use to Light Industrial and change the zone to Manufacturing – Service Commercial (M-SC). The remaining lots would retain the existing land use and zoning designations. The properties to the northwest, west, and southwest are designated as Estate Density Residential, and the properties to the northeast, east, and southeast are designated as Tourist Commercial and Retail Commercial. The noise level limits for the land use designations are summarized in Table 2.

2.2.2 Construction Noise

The County regulates noise in accordance with Chapter 9.52, Noise Regulations of the Municipal Code Section 9.52.020[I] states that sound emanating from private construction projects located within a quarter mile from an inhabited dwelling is exempt from the provisions of Chapter 9.52, if construction occurs between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September, and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. The Municipal Code does not establish a quantitative construction noise level limit. For the purposes of this analysis, the Federal Transit Administration (FTA) recommended threshold of 80 dB(A) L_{eq} at noise sensitive residential land uses was used.

Table 1
Land Use Compatibility for Community Noise Exposure

Land Use Categories	Community Noise Exposure (L_{DN}) 55	60	65	70	75	80
Residential – Low Density, Single Family, Duplex, Mobile Homes						
Residential – Multiple Family						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Businesses, Commercial, and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

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 systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

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. Outdoor areas must be shielded.

Clearly Unacceptable:
New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

SOURCE: Table N-1 of the County's General Plan.

Table 2 County of Riverside Municipal Code Noise Level Limits		
General Plan Land Use Designation	Noise Level Limit [dB(A) L_{eq}]	
	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
Estate Density Residential	55	45
Tourist Commercial	65	55
Retail Commercial	65	55
Light Industrial	75	55
dB(A) L_{eq}= A-weighted decibels one-hour equivalent level SOURCE: County of Riverside Municipal Code Section 9.52.040.		

3.0 Existing Conditions

Existing noise levels at the project site were measured on November 1, 2023, using one Larson-Davis LxT Sound Expert Sound Level Meter, serial number 3896. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds

The meter was calibrated before and after the measurements. The meter was set 5 feet above the ground level for each measurement. Noise measurements were taken to obtain typical ambient noise levels at the project site and in the vicinity. The weather was warm and sunny. Four 15- to 20-minute measurements were taken, as described below. The measurement locations are shown on Figure 4, and detailed data is presented in Attachment 1.

Measurement 1 was located at the eastern project boundary, approximately 50 feet from the edge of Temescal Canyon Road. The main source of noise at this location was vehicle traffic on Temescal Canyon Road and I-15. During the 15-minute measurement period, vehicle traffic on Temescal Canyon Road was counted. The average measured noise level was 72.4 dB(A) L_{eq}.

Measurement 2 was located at the western project boundary, approximately 50 feet from the edge of Lawson Road. The main source of noise at this location was vehicle traffic on Lawson Road. Other sources of noise included aircraft flyovers and bird vocalizations. During the 15-minute measurement period, vehicle traffic on Lawson Road was counted. The average measured noise level was 58.0 dB(A) L_{eq}.

Measurement 3 was located at the southern project boundary near the adjacent residential uses. The main source of noise was distant vehicle traffic and activities at the on-site clay facility. The average measured noise level was 51.6 dB(A) L_{eq}.

Measurement 4 was located on the undeveloped parcel north of the project site. The main source of noise was vehicle traffic on I-15 and Temescal Canyon Road. The average measured noise level was 48.5 dB(A) L_{eq}.

Image Source: NearMap (flown September 2023)

Project Boundary

Noise Measurement Location

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FIGURE 4

Noise Measurement Locations

Noise measurements are summarized in Table 3, and vehicle traffic counts are summarized in Table 4.

Table 3
Noise Measurements

Measurement	Location	Time	Main Noise Sources	L_{eq}
1	Eastern project boundary, 50 feet from Temescal Canyon Road	10:10 a.m. – 10:25 a.m.	Vehicle traffic on Temescal Canyon Road and I-15	72.4
2	Western project boundary, 50 feet from Lawson Road	2:03 p.m. – 2:18 p.m.	Vehicle traffic on Lawson Road	58.0
3	Southern project boundary near adjacent residential uses	1:02 p.m. – 1:24 p.m.	Distant vehicle traffic and activities at on-site clay facility	51.6
4	Undeveloped parcel north of project site	11:41 a.m. – 12:02 p.m.	Vehicle traffic on Temescal Canyon Road and I-15	48.5
NOTE: Noise measurement data is contained in Attachment 1.				

Table 4
15-minute Traffic Counts

Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	Temescal Canyon Road	Northbound	88	0	23	0	0
		Southbound	71	3	25	1	0
2	Lawson Road	Southbound	10	1	0	0	0
		Northbound	16	0	0	1	0

4.0 Analysis Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPlan Essential, version 4.1 (Navcon Engineering 2018). SoundPLAN calculates noise propagation based on the International Organization for Standardization method (ISO 9613-2 – Acoustics, Attenuation of Sound during Propagation Outdoors). The model calculates noise levels at selected receiver locations using input parameter estimates such as total noise generated by each noise source; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. The model outputs can be developed as noise level contour maps or noise levels at specific receivers. In all cases, receivers were modeled at five feet above ground elevation, which represents the average height of the human ear.

4.1 Construction Noise Analysis

Project construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building construction, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the soils from excavation.

Construction equipment with a diesel engine typically generates maximum noise levels from 70 to 95 dB(A) L_{eq} at a distance of 50 feet (Federal Highway Administration [FHWA] 2006). Table 5 summarizes typical construction equipment noise levels.

Table 5
Typical Construction Equipment Noise Levels

Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
Insitu Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
SOURCE: FHWA 2006.		

Residential uses are located northwest and southwest of the project site adjacent to the off-site material storage area. Retail uses are located to the east. Undeveloped land is located to the north, west, and south. Construction noise levels were modeled at the adjacent receivers assuming the simultaneous use of an excavator, grader, and scraper, which would generate a combined sound power level of 117.4 dB(A) L_{pw}. This noise level was modeled as an area source covering the entire project site and the off-site material storage area.

4.2 Traffic Noise Analysis

The SoundPLAN program uses the FHWA Traffic Noise Model algorithms and reference levels to calculate traffic noise levels at selected receiver locations. The model uses various input parameters, such as projected hourly average traffic rates; vehicle mix, distribution, and speed; roadway lengths and gradients; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, roadways, and barriers were input into the model using three-dimensional coordinates.

Based on the traffic impact analysis prepared for the project, the industrial and restaurant uses would generate 3,932 daily trips (Linscott, Law & Greenspan, Engineers [LLG] 2024). The main source of noise at the project site is vehicle traffic on I-15 and Temescal Canyon Road. The existing traffic volume on I-15 was obtained from Caltrans traffic counts (Caltrans 2021a), and the future year 2045 traffic volume was calculated using a growth rate of two percent per year as recommended by the City's Traffic Engineering Department. Future traffic on Dexter Avenue was obtained from the traffic impact analysis prepared for the project (LLG 2024). The truck mix for I-15 was obtained from Caltrans truck counts (Caltrans 2021b), with one percent of the automobiles modeled as buses and one percent modeled as motorcycles. A standard traffic mix of 93 percent automobiles, 3 percent medium trucks, 2 percent heavy trucks, 1 percent buses, and 1 percent motorcycles was modeled for Dexter Avenue.

Table 6 summarizes the modeled future vehicle traffic parameters.

Table 6
Modeled Vehicle Traffic Parameters

Roadway	Buildout Year 2045 ADT	Vehicle Classification Mix (percent)					Speed (mph)
		Automobile	Medium Truck	Heavy Truck	Bus	Motorcycle	
I-15	225,181	90.6	3.2	4.2	1.0	1.0	65/55*
Temescal Canyon Road	22,735	93.0	3.0	2.0	1.0	1.0	46

ADT = average daily traffic; mph = miles per hour
*Trucks were modeled at a speed of 55 mph and all other vehicles were modeled at a speed of 65 mph.
SOURCE: LLG 2024; Caltrans 2021a and 2021b.

4.3 On-Site Generated Noise Analysis

On-site operational noise sources associated with the manufacturing building would include heating, ventilation, and air conditioning (HVAC) units and mechanical ventilation equipment, trucks accessing the project site, and loading docks located on the north side of the proposed building. Noise sources associated with the restaurant uses would include HVAC equipment and drive-through speakers. Noise levels due to these sources were modeled to determine if they have the potential to produce noise in excess of County limits (see Table 2). Modeled noise levels are summarized in Table 7 and are discussed in the following sections.

Table 7 Modeled Noise Levels for On-Site Operational Sources		
Noise Source	Modeled Noise Level [dB(A) L_{pw}]	
	Daytime	Nighttime
Manufacturing Building Ventilation (180,000 ground floor square feet)	98.8	95.8
Manufacurint Building Office 1 HVAC (8,000 square feet)	88.2	85.2
Manufacurint Building Office 2 HVAC (3,000 square feet)	82.0	79.0
Restaurant 1 HVAC (5,000 square feet)	90.6	87.6
Restaurant 2 HVAC (2,900 square feet)	88.2	85.2
Restaurant 3 HVAC (2,500 square feet)	85.0	82.0
Loading Dock	81.3	--
Truck Arrival/Departure	89.4	--
Drive-Through Speakers	75.9	71.9
dB(A) L_{pw}= A-weighted decibels sound power level		

4.3.1 HVAC/Ventilation Equipment

The HVAC equipment was modeled on the rooftops of the proposed buildings with mechanical equipment screening walls. It is not known at this time which manufacturer, brand, or model of unit or units will be selected for use in the project. Typically, a capacity of 1 ton per 340 square feet would be required for large office and retail buildings, and a capacity of 1 ton per 130 square feet would be required for restaurants. Additionally, industrial uses would generally require an air flow of 1 cubic foot per minute per square foot. These ratios were used to determine the total HVAC capacity required for each building. Based on the required capacity, a series of 10-ton and 15-ton rooftop HVAC units were modeled throughout the project site. Based on review of manufacturer specifications for sample units, representative noise levels for 10-ton and 15-ton units would be sound power levels of 82 dB(A) L_{pw} and 87 dB(A) L_{pw}, respectively. Noise specifications are contained in Attachment 2. All units were modeled at full capacity during the daytime hours and 50 percent capacity during the nighttime hours.

4.3.2 Loading Docks

The project would include 16 loading docks located on the north side of the proposed manufacturing building. Trucks would access the site via future Street A south of the project site to the proposed driveway located on the west side of the proposed building. Noise would be generated by trucks entering and leaving the project site and idling at the loading docks. In order to evaluate the truck noise impacts, the analysis utilized reference noise level measurements. The measurements include truck drive-by noise, truck loading/unloading, and truck engine noise. The unmitigated exterior noise levels for truck drive-by noise and truck engine noise were measured at 66.5 dB(A) L_{eq} at a distance

of 25 feet from the loading dock. This is equivalent to a sound power level of 92.1 dB(A) L_{pw}. As a conservative analysis, one truck per hour was modeled at each of the loading docks. During the loading/unloading of the truck, the engine can only idle for a maximum of five minutes in compliance with state regulations for air quality. This results in an hourly sound power level of 81.3 dB(A) L_{pw} per loading dock. Trucks maneuvering to and from the loading docks were modeled as a line source along future Street A and around the west side of the proposed building. Noise levels due to trucks were modeled during the daytime hours only.

4.3.3 Drive-Through Speakers

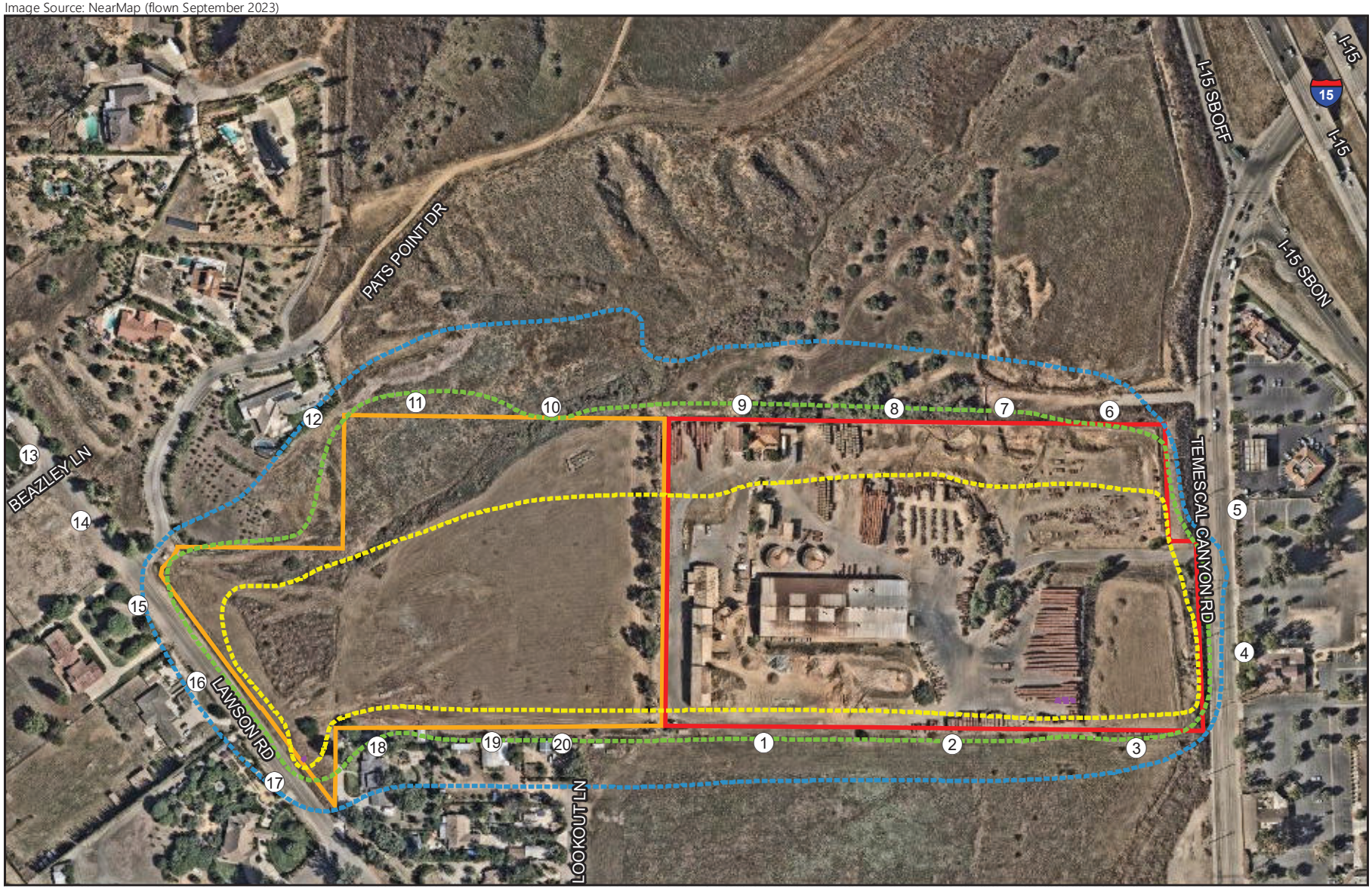
The future restaurant uses on the eastern portion of the project site would include drive-through windows. Noise associated with drive-through speakers was modeled based on measurements and observations taken at a McDonald's restaurant (Michael Brandman Associates 2013). Based on these measurements, drive-through speakers generate a noise level of 61.2 dB(A) L_{eq} at 10 feet, and are operational 50 percent of the daytime hours and 20 percent during the nighttime hours. This is equivalent to sound power levels of 75.9 and 71.9 dB(A) L_{pw} during the daytime and nighttime hours, respectively.

5.0 Future Acoustical Environment and Impacts

5.1 Construction Noise

Residential uses are located northwest and southwest of the project site adjacent to the off-site material storage area. Retail uses are located to the east. Undeveloped land is located to the north, west, and south. Construction noise levels were modeled using the parameters discussed in Section 4.1. The results are summarized in Table 8. Modeled receiver locations and construction noise contours are shown in Figure 5. SoundPLAN data is presented in Attachment 3.

Image Source: NearMap (flown September 2023)



Project Boundary
Off-Site Material Storage Area
Receivers

Construction Noise
60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 300

RECON

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FIGURE 5
Construction Noise Contours

Table 8 Construction Noise Levels at Off-site Receivers		
Receiver	Land Use	Construction Noise Level [dB(A) L_{eq}]
1	Undeveloped/Estate Density Residential	63
2	Undeveloped/Tourist Commercial	63
3	Undeveloped/Tourist Commercial	62
4	Retail Commercial	58
5	Retail Commercial	57
6	Undeveloped/Tourist Commercial	63
7	Undeveloped/Tourist Commercial	64
8	Undeveloped/Estate Density Residential	65
9	Undeveloped/Estate Density Residential	65
10	Undeveloped/Estate Density Residential	63
11	Undeveloped/Estate Density Residential	66
12	Estate Density Residential	61
13	Estate Density Residential	50
14	Estate Density Residential	54
15	Estate Density Residential	59
16	Estate Density Residential	61
17	Estate Density Residential	61
18	Estate Density Residential	63
19	Estate Density Residential	63
20	Estate Density Residential	63
dB(A) L_{eq} = A-weighted decibels equivalent noise level		

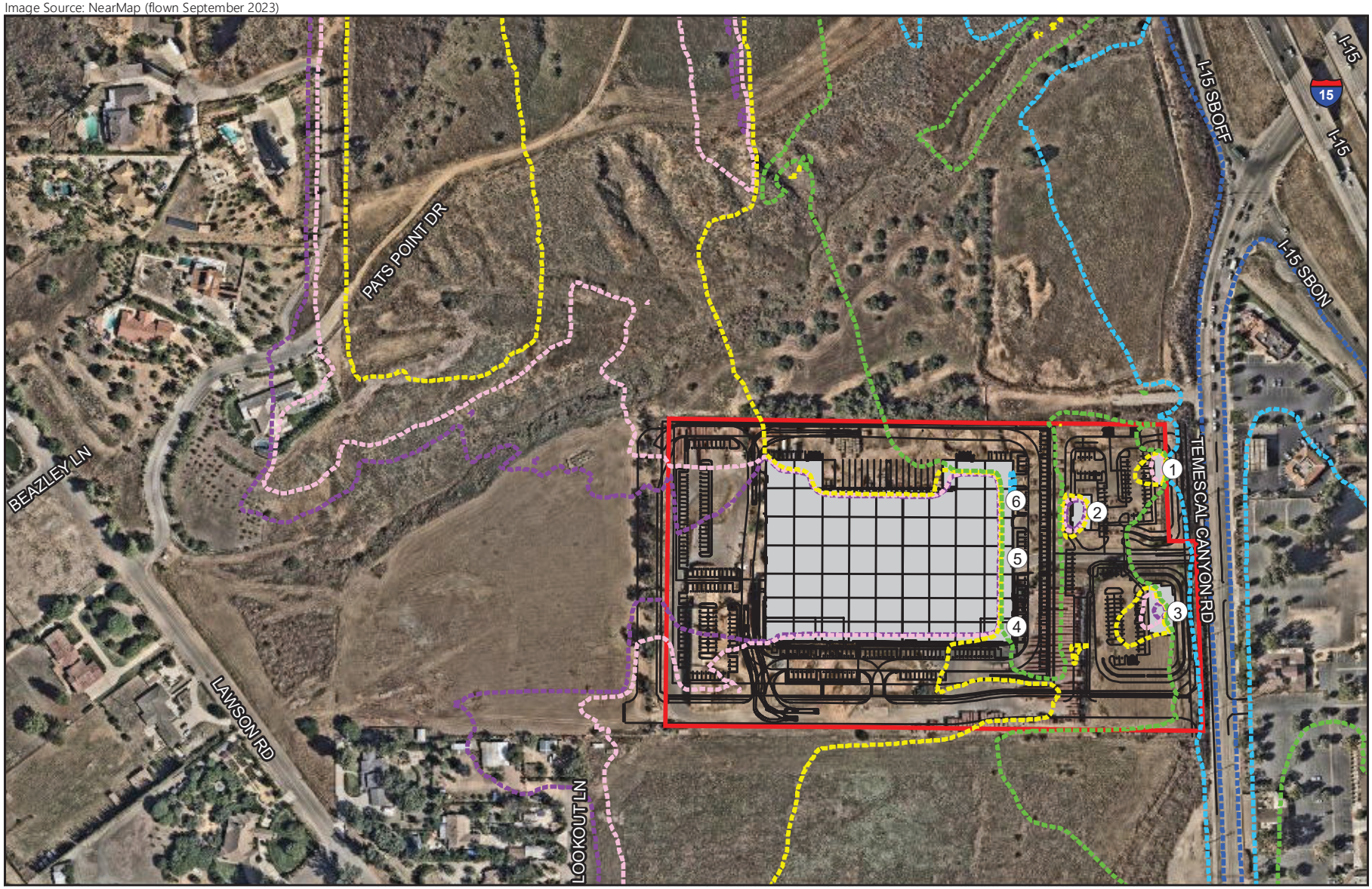
As shown in Table 8, construction noise levels are not anticipated to exceed the FTA's recommended threshold of 80 dB(A) L_{eq}. Noise levels at the adjacent existing residential uses would be less than 60 dB(A) L_{eq}. Construction activities would only occur during the times allowable by the Municipal Code (6:00 a.m. and 6:00 p.m. during the months of June through September, and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May). Although the existing nearby residences would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary and would only occur during the daytime hours. Therefore, temporary increases in noise levels during construction would be less than significant.

5.2 Vehicle Traffic Noise

5.2.1 On-site Noise Compatibility

The project site is exposed to vehicle traffic noise from I-15 and Temescal Canyon Road. Vehicle traffic noise level contours across the project site were calculated using SoundPLAN. Contours take into account shielding provided by proposed buildings. These noise contours and modeled receiver locations are shown in Figure 6. SoundPLAN data is provided in Attachment 4. The results are summarized in Table 9.

Image Source: NearMap (flown September 2023)



Project Boundary
On-Site Receivers
Site Plan
Buildings

Vehicle Traffic Noise
50 CNEL
55 CNEL
60 CNEL
65 CNEL
70 CNEL
75 CNEL

0 Feet 300

RECON

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FIGURE 6
Vehicle Traffic Noise Contours

Table 9 On-Site Traffic Noise Levels		
Receiver	Location	Vehicle Traffic Noise Level (CNEL)
1	Coffee Shop	70
2	Fast Casual Restaurant	65
3	Fast Food Restaurant	69
4	Industrial/Manufacturing Building	68
5	Industrial/Manufacturing Building	69
6	Industrial/Manufacturing Building	70
CNEL = community noise equivalent level		

As shown in Table 1, industrial and manufacturing uses are "clearly compatible" with noise levels up to 75 CNEL, "normally compatible" with noise levels from 70 to 80 CNEL, and "clearly incompatible" with noise levels above 75 CNEL. There are no land use compatibility standards for fast food restaurants since these are not noise sensitive land uses. As shown in Figure 6 and Table 9, exterior noise levels at the proposed buildings would be 70 CNEL or less and would be considered "clearly compatible". Therefore, on-site vehicle traffic noise levels would be less than significant.

5.2.2 Off-site Vehicle Traffic Noise

The project would increase traffic volumes on local roadways. However, the project would not substantially alter the vehicle classifications mix on local or regional roadways, nor would the project alter the speed on an existing roadway or create a new roadway. Thus, the primary factor affecting off-site noise levels would be increased traffic volumes. While changes in noise levels would occur along any roadway where project-related traffic occurs, for noise assessment purposes, noise level increases are assumed to be greatest nearest the project site, as this location would represent the greatest concentration of project-related traffic. A substantial noise increase is defined as an increase of 3 dB above existing conditions.

Roadway segment volumes without and with the project were calculated as part of the traffic impact analysis prepared for the project. The segment of Temescal Canyon Road between the I-15 ramps and Campbell Ranch Road has an existing traffic volume of 20,252 average daily traffic (ADT) and a future year 2045 traffic volume of 22,735 ADT with the project and cumulative projects (LLG 2024). This increase in traffic volumes would result in a noise level increase of 0.5 dB over the existing condition. Calculations are provided in Attachment 5. This would not be an audible change in noise levels. Therefore, operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site noise sensitive land uses, and impacts would be less than significant.

5.3 On-site Generated Noise

The primary noise sources on-site would be HVAC and ventilation equipment, trucks, and drive-through speakers. Using the on-site noise source parameters discussed in Section 4.3, noise levels were modeled at a series of 23 receivers located at the adjacent uses. Modeled receivers and daytime

and nighttime operational noise contours are shown in Figures 7a and 7b, respectively. Modeled data is included in Attachment 6. Future projected noise levels are summarized in Table 10.

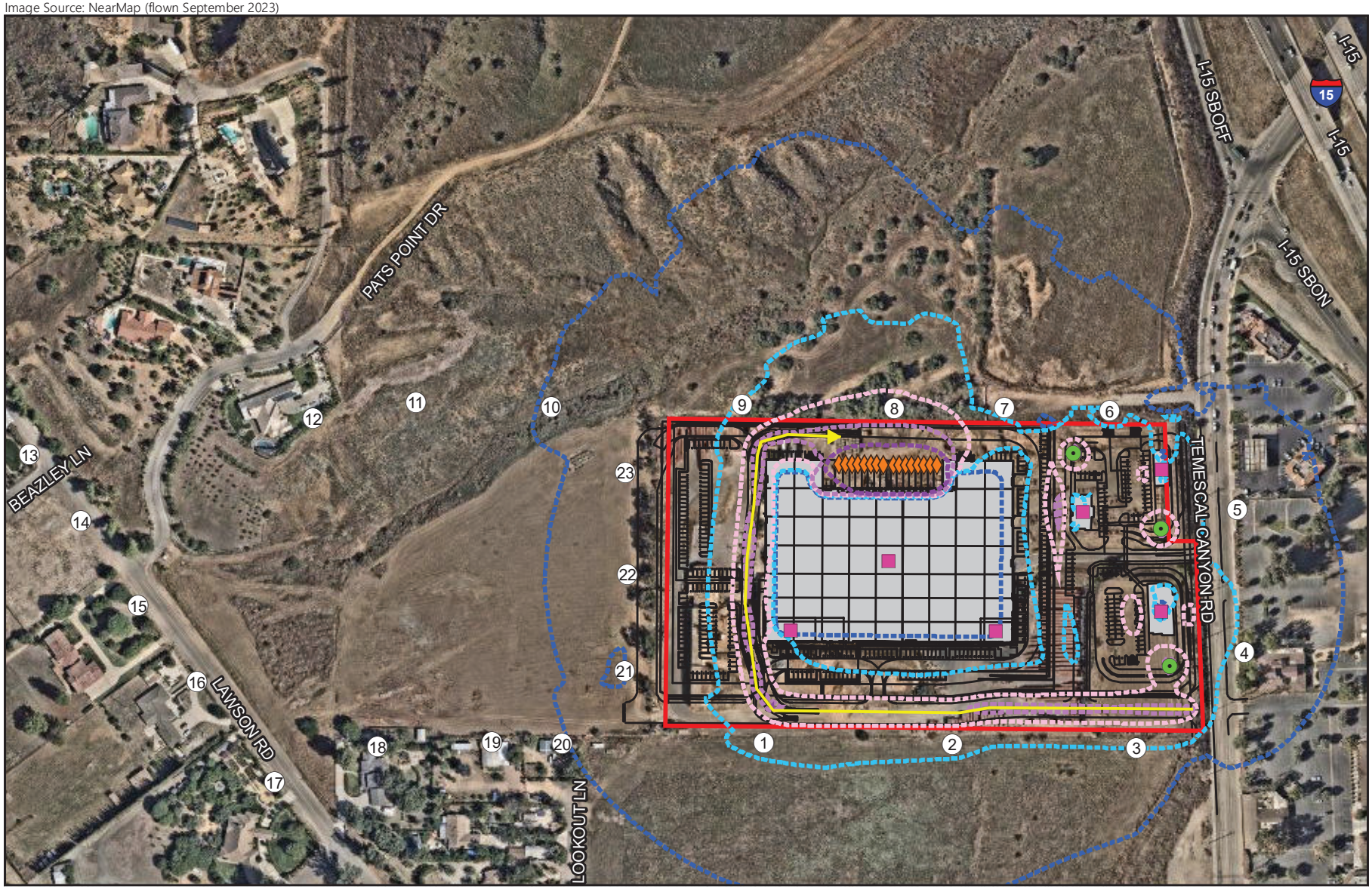
Table 10
Operational Noise Levels at Adjacent Property Lines
[dB(A) L_{eq}]

Receiver	Land Use	Applicable Limit Daytime/Nighttime[1]	Operational Noise Level Daytime/Nighttime
1	Undeveloped/Estate Density Residential	55/45	47/41
2	Undeveloped/Tourist Commercial	55/45	47/38
3	Undeveloped/Tourist Commercial	55/45	45/40
4	Retail Commercial	65/55	44/41
5	Retail Commercial	65/55	43/40
6	Undeveloped/Tourist Commercial	65/55	45/41
7	Undeveloped/Tourist Commercial	65/55	43/33
8	Undeveloped/Estate Density Residential	55/45	52/39
9	Undeveloped/Estate Density Residential	55/45	45/33
10	Undeveloped/Estate Density Residential	55/45	40/35
11	Undeveloped/Estate Density Residential	55/45	38/34
12	Estate Density Residential	55/45	37/33
13	Estate Density Residential	55/45	29/26
14	Estate Density Residential	55/45	32/28
15	Estate Density Residential	55/45	33/39
16	Estate Density Residential	55/45	34/30
17	Estate Density Residential	55/45	34/31
18	Estate Density Residential	55/45	36/32
19	Estate Density Residential	55/45	38/35
20	Estate Density Residential	55/45	40/36
21	Undeveloped/Estate Density Residential	55/45	39/35
22	Undeveloped/Estate Density Residential	55/45	42/38
23	Undeveloped/Estate Density Residential	55/45	41/37

dB(A) L_{eq} = A-weighted decibels equivalent noise level
[1]Refer to Section 2.2.1.

As shown in Table 10, operational noise levels would not exceed the applicable limits as specified in Section 9.52.030 of the County's Municipal Code. Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant.

Image Source: NearMap (flown September 2023)



Project Boundary
Receivers
Site Plan
Buildings

Noise Sources
HVAC
Drive Through Speaker
Loading Dock
Trucks

Daytime Operational Noise
40 dB(A) L_{eq}
45 dB(A) L_{eq}
50 dB(A) L_{eq}
55 dB(A) L_{eq}
60 dB(A) L_{eq}

0 Feet 300

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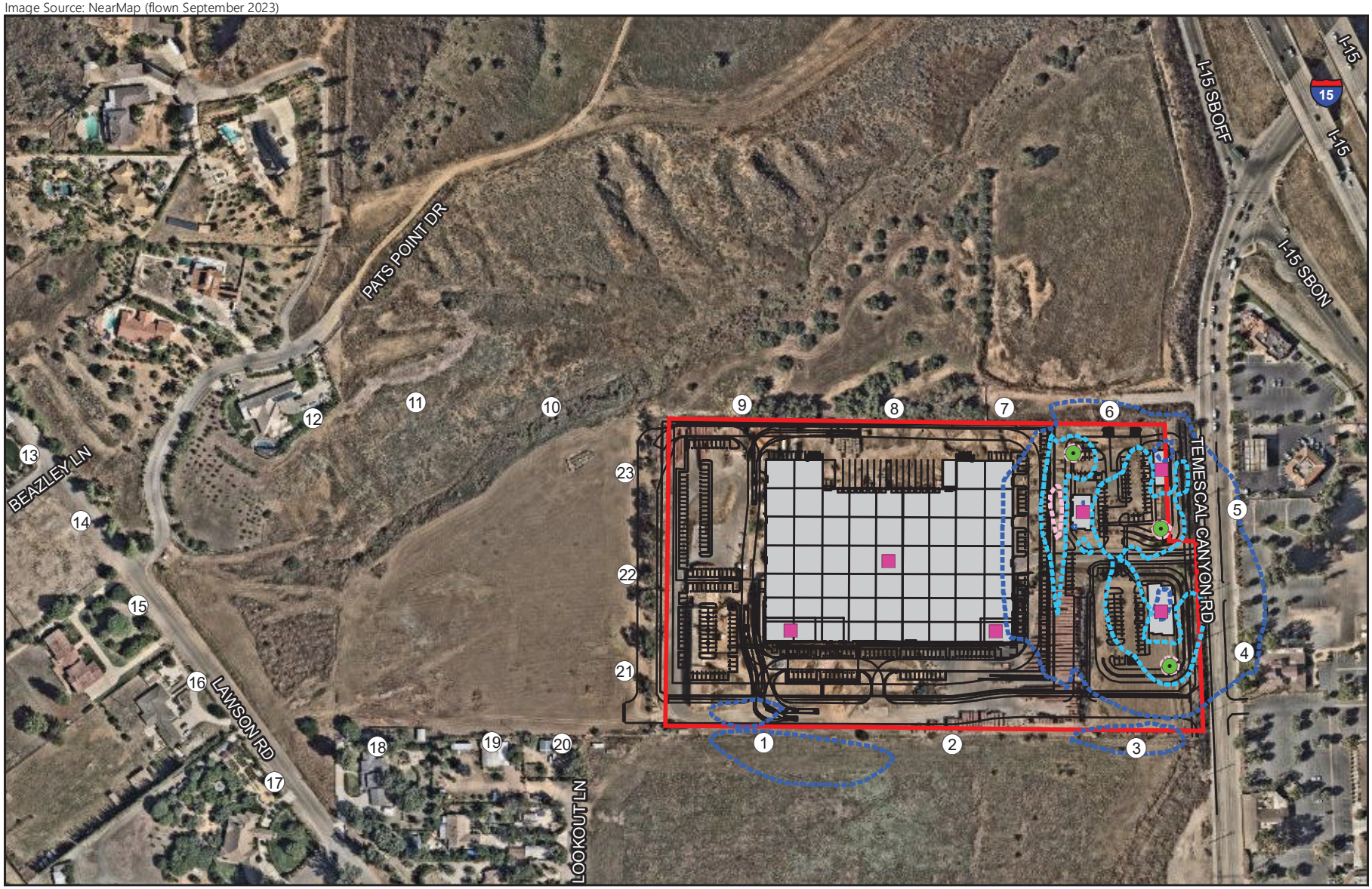
FIGURE 7a
Daytime Operational Noise Contours

Image Source: NearMap (flown September 2023)



Project Boundary
Receivers
Site Plan
Buildings

Noise Sources
HVAC
Drive Through Speaker

Nighttime Operational Noise
40 dB(A) L_{eq}
45 dB(A) L_{eq}
50 dB(A) L_{eq}
55 dB(A) L_{eq}
60 dB(A) L_{eq}

0 Feet 300

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FIGURE 7b
Nighttime Operational Noise Contours

5.4 Vibration

Construction would have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and damage to nearby structures at the highest levels. Vibration perception would occur at structures, as people do not perceive vibrations without vibrating structures.

Human reaction to vibration is dependent on the environment the receiver is in as well as individual sensitivity. For example, vibration outdoors is rarely noticeable and generally not considered annoying. Typically, humans must be inside a structure for vibrations to become noticeable and/or annoying. Based on several federal studies, the threshold of perception is 0.035 inch per second (in/sec) peak particle velocity (PPV), with 0.24 in/sec PPV being a distinctly perceptible (Caltrans 2020). Vibration standards have been developed by the FTA and are used in this analysis to assess potential vibration building damage associated with construction activities. FTA guidelines show that a vibration level of up to 0.5 inch per second in/sec PPV is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For non-engineered timber and masonry buildings, the construction building vibration damage criterion is 0.2 in/sec in PPV.

Construction equipment could include equipment such as loaded trucks, excavators, dozers, and loaders. Vibration levels from these pieces of equipment would generate vibration levels with a PPV ranging from 0.035 to 0.089 in/sec PPV at 25 feet. The nearest sensitive receptors are the residential uses located as close as 25 feet from the western and southern boundaries of the off-site material storage area. Therefore, vibration levels are not anticipated to exceed 0.2 in/sec PPV and construction vibration impacts would be less than significant.

Once operational, the project would not include the use of any stationary equipment that would generate substantial vibration levels. Based on the Traffic Impact Analysis, the project would generate up to 3,932 daily trips including 432 truck trips. Caltrans has issued a publication entitled, "Transportation Construction Vibration Guidance Manual," dated April 2020 (Caltrans 2020). As noted by Caltrans:

> Because vehicles traveling on highway are supported on flexible suspension systems and pneumatic tires, these vehicles are not an efficient source of ground vibration. They can, however, impart vibration into the ground when they roll over pavement that is not smooth. Continuous traffic traveling on a smooth highway creates a fairly continuous but relatively low level of vibration. Where discontinuities exist in the pavement, heavy truck passages can be the primary source of localized, intermittent vibration peaks. These peaks typically last no more than a few seconds and often for only a fraction of a second. Because vibration drops off rapidly with distance, there is rarely a cumulative increase in ground vibration from the presence of multiple trucks.

All trucks generated by the project would travel along County roadways that are regularly maintained to prevent discontinuous pavement (e.g., potholes). As such, and based on guidance from Caltrans, the project's operational traffic-related vibration impacts would be less than significant.

Therefore, the project would not expose persons to or generate excessive groundborne vibration or groundborne noise, and impacts would be less than significant.

6.0 References Cited

California Department of Transportation (Caltrans)
2013 Technical Noise Supplement. November.

2020 Transportation and Construction Vibration Guidance Manual. April 2020.

2021a Traffic Census Program. Year 2021 Traffic Volumes: Annual Average Daily Traffic (AADT). Accessed at https://dot.ca.gov/programs/traffic-operations/census.

2021b Traffic Census Program. Year 2021 Truck Traffic: Annual Average Daily Truck Traffic. Accessed at https://dot.ca.gov/programs/traffic-operations/census.

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2006 Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054, SOT-VNTSC-FHWA-05-01. Final Report. January 2006.

Linscott, Law & Greenspan, Engineers (LLG)
2024 Transportation Impact Analysis. January.

Michael Brandman Associates
2013 Final Environmental Impact Report – Foxglove Shopping Center Project. SCH No. 2011051031. City of Madera. February 1, 2013.

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2018 SoundPLAN Essential version 4.1.

ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

8622 Temescal Commercial
Noise Measurement Data

Summary

File Name on Meter	LxT_Data.286.s
File Name on PC	LxT_0003896-20231101 101051-LxT_Data.286.ldbin
Serial Number	0003896
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-11-01 10:10:51
Stop	2023-11-01 10:26:20
Duration	00:15:28.9
Run Time	00:15:02.8
Pause	00:00:26.1
Pre-Calibration	2023-11-01 09:49:08
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	144.3 dB		
	A	C	Z
Under Range Peak	100.3	97.3	102.3 dB
Under Range Limit	37.5	37.1	44.2 dB
Noise Floor	28.3	28.0	35.0 dB

Results

LAeq	72.4	
LAE	101.9	
EA	1.727 mPa²h	
EA8	55.079 mPa²h	
EA40	275.395 mPa²h	
LApeak (max)	2023-11-01 10:19:00	97.8 dB
LASmax	2023-11-01 10:25:25	82.3 dB
LASmin	2023-11-01 10:13:31	55.5 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	3	891.0 s
LAS > 70.0 dB (Exceedance Counts / Duration)	46	594.2 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	77.5 dB	
LAeq	72.4 dB	
LCeq - LAeq	5.1 dB	
LAleq	73.7 dB	
LAeq	72.4 dB	
LAleq - LAeq	1.3 dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	72.4		77.5			
LS(max)	82.3	2023/11/01 10:25:25				
LS(min)	55.5	2023/11/01 10:13:31				
LPeak(max)	97.8	2023/11/01 10:19:00				

Overload Count	0	
Overload Duration	0.0 s	

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	0.01 %
Projected Dose	-99.94	0.27 %
TWA (Projected)	-99.9	47.4 dB
TWA (t)	-99.9	22.5 dB
Lep (t)	57.3	57.3 dB

Statistics

LA5.00	77.4 dB
LA10.00	75.7 dB
LA33.30	72.4 dB
LA50.00	70.5 dB
LA66.60	68.6 dB
LA90.00	62.9 dB

8622 Temescal Commercial
Noise Measurement Data

Summary	
File Name on Meter	LxT_Data.289.s
File Name on PC	LxT_0003896-20231101 140332-LxT_Data.289.ldbin
Serial Number	0003896
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement	
Description	
Start	2023-11-01 14:03:32
Stop	2023-11-01 14:18:56
Duration	00:15:24.5
Run Time	00:15:02.4
Pause	00:00:22.1
Pre-Calibration	2023-11-01 09:49:05
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.3 dB

	A	C	Z
Under Range Peak	**100.3**	97.3	102.3 dB
Under Range Limit	**37.5**	37.1	44.2 dB
Noise Floor	28.3	28.0	35.0 dB

Results		
LAeq	58.0	
LAE	87.5	
EA	62.938 µPa²h	
EA8	2.009 mPa²h	
EA40	10.043 mPa²h	
LApeak (max)	2023-11-01 14:06:45	88.9 dB
LASmax	2023-11-01 14:06:47	75.7 dB
LASmin	2023-11-01 14:13:07	36.7 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	21	118.5 s
LAS > 70.0 dB (Exceedance Counts / Duration)	3	17.7 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	68.3 dB	
LAeq	58.0 dB	
LCeq - LAeq	10.4 dB	
LAleq	60.5 dB	
LAeq	58.0 dB	
LAleq - LAeq	2.5 dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	58.0		68.3			
LS(max)	75.7	2023/11/01 14:06:47				
LS(min)	36.7	2023/11/01 14:13:07				
LPeak(max)	88.9	2023/11/01 14:06:45				

Overload Count	0
Overload Duration	0.0 s

Dose Settings		
Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results		
Dose	-99.94	-99.94 %
Projected Dose	-99.94	-99.94 %
TWA (Projected)	-99.9	-99.9 dB
TWA (t)	-99.9	-99.9 dB
Lep (t)	42.9	42.9 dB

Statistics	
LA5.00	63.0 dB
LA10.00	60.4 dB
LA33.30	49.0 dB
LA50.00	44.4 dB
LA66.60	42.1 dB
LA90.00	39.4 dB

Summary

File Name on Meter	LxT_Data.288.s
File Name on PC	LxT_0003896-20231101 130202-LxT_Data.288.ldbin
Serial Number	0003896
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-11-01 13:02:02
Stop	2023-11-01 13:26:39
Duration	00:24:36.4
Run Time	00:23:07.7
Pause	00:01:28.7
Pre-Calibration	2023-11-01 09:49:05
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	144.3 dB		
	A	C	Z
Under Range Peak	100.3	97.3	102.3 dB
Under Range Limit	37.5	37.1	44.2 dB
Noise Floor	28.3	28.0	35.0 dB

Results

LAeq	51.6	
LAE	83.0	
EA	22.096 µPa²h	
EA8	458.579 µPa²h	
EA40	2.293 mPa²h	
LApeak (max)	2023-11-01 13:03:39	78.3 dB
LASmax	2023-11-01 13:12:12	60.1 dB
LASmin	2023-11-01 13:07:48	44.2 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	1	1.6 s
LAS > 70.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	68.3 dB	
LAeq	51.6 dB	
LCeq - LAeq	16.7 dB	
LAleq	53.9 dB	
LAeq	51.6 dB	
LAleq - LAeq	2.3 dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	51.6		68.3			
LS(max)	60.1	2023/11/01 13:12:12				
LS(min)	44.2	2023/11/01 13:07:48				
LPeak(max)	78.3	2023/11/01 13:03:39				

Overload Count	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94 %
Projected Dose	-99.94	-99.94 %
TWA (Projected)	-99.9	-99.9 dB
TWA (t)	-99.9	-99.9 dB
Lep (t)	38.4	38.4 dB

Statistics

LA5.00	55.9 dB
LA10.00	55.0 dB
LA33.30	51.6 dB
LA50.00	49.9 dB
LA66.60	48.7 dB
LA90.00	46.7 dB

8622 Temescal Commercial
Noise Measurement Data

Summary

File Name on Meter	LxT_Data.287.s
File Name on PC	LxT_0003896-20231101 114145-LxT_Data.287.ldbin
Serial Number	0003896
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-11-01 11:41:45
Stop	2023-11-01 12:03:23
Duration	00:21:38.0
Run Time	00:20:45.4
Pause	00:00:52.6
Pre-Calibration	2023-11-01 09:49:05
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	144.3 dB		
	A	C	Z
Under Range Peak	100.3	97.3	102.3 dB
Under Range Limit	37.5	37.1	44.2 dB
Noise Floor	28.3	28.0	35.0 dB

Results

LAeq	48.5		
LAE	79.5		
EA	9.883	μPa^2h	
EA8	228.546	μPa^2h	
EA40	1.143	mPa^2h	
LApeak (max)	2023-11-01 12:02:29	90.9	dB
LASmax	2023-11-01 12:02:30	63.0	dB
LASmin	2023-11-01 11:59:34	45.0	dB
SEA	-99.9	dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	1	1.3	s
LAS > 70.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
LCeq	64.9	dB	
LAeq	48.5	dB	
LCeq - LAeq	16.4	dB	
LAleq	50.5	dB	
LAeq	48.5	dB	
LAleq - LAeq	2.0	dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	48.5		64.9			
LS(max)	63.0	2023/11/01 12:02:30				
LS(min)	45.0	2023/11/01 11:59:34				
LPeak(max)	90.9	2023/11/01 12:02:29				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	34.9	34.9	dB

Statistics

LA5.00	50.9	dB
LA10.00	49.8	dB
LA33.30	48.5	dB
LA50.00	48.0	dB
LA66.60	47.3	dB
LA90.00	46.2	dB

ATTACHMENT 2

HVAC Specifications

Carrier

Turn to the experts

Product Data

WeatherMaker®
Single Packaged Rooftop
Gas Heat/Electric Cooling

6 to 15 Nominal Tons

WeatherMaker®

48TC 07, 08, 09, 12, 14, 16
with Puron® (R-410A) Refrigerant

HEATING RATING TABLE - NATURAL GAS AND PROPANE

48TC UNITS	GAS HEAT	AL/SS HEAT EXCHANGER		TEMP RISE (DEG F)	THERMAL EFFICIENCY (%)
		INPUT / OUTPUT STAGE 1 (MBH)	INPUT / OUTPUT STAGE 2 (MBH)		
07	LOW	—	72 / 59	15 – 55	82%
	MED	—	115 / 93	25 – 65	81%
	HIGH	120 / 96	150 / 120	35 – 80	80%
08	LOW	—	125 / 103	20 – 50	82%
	MED	120 / 98	180 / 148	35 – 65	82%
	HIGH	180 / 147	224 / 184	45 – 75	82%
09	LOW	—	125 / 103	20 – 50	82%
	MED	120 / 98	180 / 148	30 – 65	82%
	HIGH	180 / 147	224 / 184	40 – 75	82%
12	LOW	120 / 98	180 / 148	25 – 65	82%
	MED	180 / 147	224 / 184	30 – 65	82%
	HIGH	200 / 160	250 / 205	35 – 70	80%
14	LOW	120 / 98	180 / 148	20 – 65	82%
	MED	180 / 147	224 / 184	25 – 65	82%
	HIGH	200 / 160	250 / 205	25 – 70	80%
16	LOW	144 / 118	180 / 146	15 – 55	81%
	MED	192 / 156	240 / 195	20 – 60	81%
	HIGH	280 / 224	350 / 280	35 – 65	80%

NOTES:

1. Heat ratings are for natural gas heat exchangers operated at or below 2000 ft (610 m). For information on propane or altitudes above 2000 ft (610 m), see the Application Data section of this book. Accessory Propane/High Altitude kits are also available.
2. The input rating for altitudes above 2000 ft (610 m) must be derated by 4% for each 1000 ft (305 m) above sea level.

SOUND PERFORMANCE

48TC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60 Hz								
		A–Weighted	63	125	250	500	1000	2000	4000	8000
A07	1	78	88.8	81.8	76.9	74.4	73.3	69.8	66.3	62.7
M08	2	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
D08	2	82	85.8	84.3	80.5	78.7	76.4	72.7	68.3	65.1
M09	2	83	91.2	86.4	81.9	81.0	78.3	73.9	71.4	67.3
D09	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
M12	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
D12	2	82	89.0	83.1	80.5	78.5	75.5	71.6	69.6	69.3
D14	2	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9
D16	2	87	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9

LEGEND

dB — Decibel

NOTES:

1. Outdoor sound data is measured in accordance with AHRI standard 270.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of “average” human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI standard 270.

ATTACHMENT 3

SoundPLAN Data – Construction Noise

8622 Temescal Commercial

SoundPLAN Data - Construction

Source name	Reference	Noise Level	Corrections		
			Cwall	CI	CT
		dB(A)	dB(A)	dB(A)	dB(A)
Construction	Lw/unit	117.4	-	-	-

8622 Temescal Commercial

SoundPLAN Data - Construction

No.	Coordinates X	Y	Height	Noise Level
	(meters)		(meters)	dB(A)
1	454530.52	3737092.10	339.75	63.1
2	454649.28	3737092.10	334.15	63.0
3	454765.19	3737090.68	328.86	62.2
4	454832.75	3737151.12	318.19	58.1
5	454827.77	3737241.44	315.63	56.7
6	454746.70	3737303.30	321.69	62.5
7	454680.57	3737304.73	324.88	64.4
8	454610.87	3737304.02	327.76	64.9
9	454514.87	3737305.44	330.11	64.9
10	454394.69	3737303.30	324.59	63.3
11	454309.36	3737305.44	348.16	65.9
12	454244.65	3737294.77	358.11	61.2
13	454066.15	3737270.59	339.35	50.4
14	454098.86	3737228.64	339.51	54.4
15	454135.13	3737176.01	338.11	59.3
16	454172.82	3737128.37	338.00	61.1
17	454221.89	3737065.08	337.96	60.5
18	454286.60	3737087.83	339.93	63.1
19	454359.14	3737091.39	341.91	63.2
20	454403.23	3737090.68	340.90	63.4

ATTACHMENT 4

SoundPLAN Data – Traffic Noise

Station km	ADT Veh/24h	Traffic values Vehicles type	Vehicle nar day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
I-15 Northbound		Traffic direction:	In entry direction								
0+000	112593	Total	- 7225	3753	1626	-	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Automobiles	- 6546	3400	1473	105	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Medium trucks	- 231	120	52	89	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Heavy trucks	- 303	158	68	89	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Buses	- 72	38	16	105	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Motorcycles	- 72	38	16	105	none	-	-	Average (of DGAC and PCC)	-1.615384615
0+000	112593	Auxiliary vehicle	- -	-	-	-	none	-	-	Average (of DGAC and PCC)	-1.615384615
1+306	-	-	- -	-	-						
I-15 Southbound		Traffic direction:	In entry direction								
0+000	112593	Total	- 7225	3753	1626	-	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Automobiles	- 6546	3400	1473	105	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Medium trucks	- 231	120	52	89	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Heavy trucks	- 303	158	68	89	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Buses	- 72	38	16	105	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Motorcycles	- 72	38	16	105	none	-	-	Average (of DGAC and PCC)	-1.6875
0+000	112593	Auxiliary vehicle	- -	-	-	-	none	-	-	Average (of DGAC and PCC)	-1.6875
1+329	-	-	- -	-	-						
Temescal Canyon Road		Traffic direction:	In entry direction								
0+000	22734	Total	- 1459	758	328	-	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Automobiles	- 1357	705	305	64	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Medium trucks	- 44	23	10	64	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Heavy trucks	- 29	15	7	64	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Buses	- 15	8	3	64	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Motorcycles	- 15	8	3	64	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+000	22734	Auxiliary vehicle	- -	-	-	-	none	-	-	Average (of DGAC and PCC)	-0.457142857
0+780	-	-	- -	-	-						

8622 Temescal Commercial

SoundPLAN Data - Vehicle Traffic

No.	Coordinates X	Y	Height	Day	Noise Level Evening	Night	CNEL
	(meters)		(meters)		dB(A)		
1	454786.79	3737266.73	318.17	68.1	65.2	61.6	70.0
2	454739.37	3737239.28	319.37	63.1	60.2	56.6	65.0
3	454790.85	3737176.57	319.70	66.7	63.8	60.2	68.6
4	454689.45	3737166.90	329.12	66.5	63.7	60.0	68.4
5	454689.45	3737209.95	328.89	67.4	64.5	60.9	69.3
6	454688.20	3737246.14	328.70	68.0	65.1	61.5	69.9

8622 Temescal Commercial

SoundPLAN Data - Vehicle Traffic

Source name						Noise Level Day	Evening	Night	CNEL
						dB(A)			
1	1.Fl	68.1	65.2	61.6	70.0				
I-15 Northbound						62.3	59.4	55.8	64.2
I-15 Southbound						65.2	62.3	58.7	67.1
Temescal Canyon Road						61.6	58.8	55.1	63.5
2	1.Fl	63.1	60.2	56.6	65.0				
I-15 Northbound						58.3	55.5	51.9	60.2
I-15 Southbound						60.8	58.0	54.3	62.7
Temescal Canyon Road						51.4	48.6	44.9	53.3
3	1.Fl	66.7	63.8	60.2	68.6				
I-15 Northbound						60.3	57.4	53.8	62.2
I-15 Southbound						62.2	59.4	55.7	64.1
Temescal Canyon Road						62.8	60.0	56.3	64.7
4	1.Fl	66.5	63.7	60.0	68.4				
I-15 Northbound						62.7	59.9	56.2	64.6
I-15 Southbound						64.0	61.2	57.5	65.9
Temescal Canyon Road						49.4	46.6	43.0	51.3
5	1.Fl	67.4	64.5	60.9	69.3				
I-15 Northbound						63.7	60.8	57.2	65.6
I-15 Southbound						64.8	62.0	58.3	66.7
Temescal Canyon Road						50.0	47.1	43.5	51.9
6	1.Fl	68.0	65.1	61.5	69.9				
I-15 Northbound						64.2	61.4	57.7	66.1
I-15 Southbound						65.5	62.7	59.0	67.4
Temescal Canyon Road						49.7	46.9	43.3	51.6

Contributions

ATTACHMENT 5

FHWA RD-77-108 – Traffic Noise Increase Calculations

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Temescal Commercial
Project Number : 8622
Modeled Condition : Without and With Project

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment	Roadway Name	Condition	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Temescal Canyon Road	Year 2023	20,252	40	50	97.00	2.00	1.00	77.00	10.00	13.00	
2	Temescal Canyon Road	Year 2023 + Project	21,466	40	50	97.00	2.00	1.00	77.00	10.00	13.00	
3	Temescal Canyon Road	Year 2045	21,470	40	50	97.00	2.00	1.00	77.00	10.00	13.00	
4	Temescal Canyon Road	Year 2024 + Project	22,735	40	50	97.00	2.00	1.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Temescal Commercial
Project Number : 8622
Modeled Condition : Without and With Project
Assessment Metric: Hard

Segment	#REF!	Roadway Name	Noise Levels, dBA Hard Auto	MT	HT	Total	Distance to Traffic Noise Level Contours, Feet 75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Temescal Canyon Road	Year 2023	69.2	61.3	63.1	70.7	19	59	186	587	1,858	5,874
2	Temescal Canyon Road	Year 2023 + Project	69.4	61.5	63.3	70.9	19	62	195	615	1,945	6,151
3	Temescal Canyon Road	Year 2045	69.4	61.5	63.3	70.9	19	62	195	615	1,945	6,151
4	Temescal Canyon Road	Year 2024 + Project	69.7	61.8	63.6	71.2	21	66	208	659	2,084	6,591

ATTACHMENT 6

SoundPLAN Data – Operation

8622 Temescal Commercial

SoundPLAN Data - Operation

Source name	Reference	Noise Level		Corrections		
		Day	Night	Cwall	CI	CT
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
HVAC - Restaurant 3	Lw/unit	85.0	82.0	-	-	-
HVAC - Restaurant 2	Lw/unit	88.2	85.2	-	-	-
HVAC - Restaurant 1	Lw/unit	90.6	87.6	-	-	-
HVAC - Office 1	Lw/unit	82.0	79.0	-	-	-
HVAC - Office 2	Lw/unit	88.2	85.2	-	-	-
HVAC - Industrial	Lw/unit	98.8	95.8	-	-	-
Speaker - Restaurant 1	Lw/unit	75.9	71.9	-	-	-
Speaker - Restaurant 3	Lw/unit	75.9	71.9	-	-	-
Speaker - Restaurant 2	Lw/unit	75.9	71.9	-	-	-
Loading Dock 1	Lw/unit	81.3	-	-	-	-
Loading Dock 2	Lw/unit	81.3	-	-	-	-
Loading Dock 3	Lw/unit	81.3	-	-	-	-
Loading Dock 4	Lw/unit	81.3	-	-	-	-
Loading Dock 5	Lw/unit	81.3	-	-	-	-
Loading Dock 6	Lw/unit	81.3	-	-	-	-
Loading Dock 7	Lw/unit	81.3	-	-	-	-
Loading Dock 8	Lw/unit	81.3	-	-	-	-
Loading Dock 9	Lw/unit	81.3	-	-	-	-
Loading Dock 10	Lw/unit	81.3	-	-	-	-
Loading Dock 11	Lw/unit	81.3	-	-	-	-
Loading Dock 12	Lw/unit	81.3	-	-	-	-
Loading Dock 13	Lw/unit	81.3	-	-	-	-
Loading Dock 14	Lw/unit	81.3	-	-	-	-
Loading Dock 15	Lw/unit	81.3	-	-	-	-
Loading Dock 16	Lw/unit	81.3	-	-	-	-
Trucks	Lw/unit	89.4	-	-	-	-

8622 Temescal Commercial

SoundPLAN Data - Operation

	Coordinates			Noise Level	
No.	X	Y	Height	Day	Night
	(meters)		(meters)	dB(A)	dB(A)
1	454530.52	3737092.10	339.24	46.9	41.0
2	454649.28	3737092.10	332.60	46.6	38.1
3	454765.19	3737090.68	328.86	44.9	40.4
4	454832.75	3737151.12	318.19	44.2	40.7
5	454827.77	3737241.44	315.63	43.1	40.0
6	454746.70	3737303.30	321.78	44.9	41.2
7	454680.57	3737304.73	324.88	43.1	32.6
8	454610.87	3737304.02	329.97	52.0	38.6
9	454514.87	3737305.44	331.90	45.4	33.3
10	454394.69	3737303.30	334.84	40.3	35.4
11	454309.36	3737305.44	348.16	38.2	33.5
12	454244.65	3737294.77	358.11	37.2	32.8
13	454066.15	3737270.59	339.35	28.9	25.5
14	454098.86	3737228.64	339.51	31.7	28.2
15	454135.13	3737176.01	338.11	32.9	29.2
16	454172.82	3737128.37	338.00	33.5	29.9
17	454221.89	3737065.08	337.96	33.9	30.5
18	454286.60	3737087.83	339.93	35.9	32.4
19	454359.14	3737091.39	341.90	38.3	34.5
20	454403.23	3737090.68	340.93	39.9	36.2
21	454442.34	3737136.90	336.55	38.7	34.8
22	454443.76	3737198.06	335.58	41.9	37.8
23	454441.63	3737262.06	334.59	41.0	36.6

8622 Temescal Commercial
SoundPLAN Data - Operation

Source name						Noise Level Day dB(A)	Noise Level Night dB(A)
1	1.Fl	46.9	41.0	0.0	0.0		
HVAC - Industrial						42.6	39.6
HVAC - Office 1						21.7	18.7
HVAC - Office 2						38.0	35.0
HVAC - Restaurant 1						28.9	25.9
HVAC - Restaurant 2						9.2	6.2
HVAC - Restaurant 3						8.8	5.8
Loading Dock 1						4.3	-
Loading Dock 2						4.2	-
Loading Dock 3						4.1	-
Loading Dock 4						4.0	-
Loading Dock 5						3.9	-
Loading Dock 6						3.8	-
Loading Dock 7						3.7	-
Loading Dock 8						3.6	-
Loading Dock 9						3.4	-
Loading Dock 10						3.3	-
Loading Dock 11						3.2	-
Loading Dock 12						3.1	-
Loading Dock 13						3.0	-
Loading Dock 14						2.9	-
Loading Dock 15						5.2	-
Loading Dock 16						5.1	-
Speaker - Restaurant 1						14.6	10.6
Speaker - Restaurant 2						-6.1	-10.1
Speaker - Restaurant 3						-1.3	-5.3
Trucks						43.6	-
2	1.Fl	46.6	38.1	0.0	0.0		
HVAC - Industrial						39.0	36.0
HVAC - Office 1						23.2	20.2
HVAC - Office 2						33.1	30.1
HVAC - Restaurant 1						33.8	30.8
HVAC - Restaurant 2						16.2	13.2
HVAC - Restaurant 3						25.0	22.0
Loading Dock 1						3.0	-
Loading Dock 2						3.0	-
Loading Dock 3						3.0	-
Loading Dock 4						3.0	-
Loading Dock 5						2.9	-
Loading Dock 6						2.9	-
Loading Dock 7						2.9	-
Loading Dock 8						2.9	-
Loading Dock 9						3.0	-
Loading Dock 10						3.0	-
Loading Dock 11						3.0	-
Loading Dock 12						3.1	-
Loading Dock 13						3.1	-
Loading Dock 14						3.1	-
Loading Dock 15						3.1	-
Loading Dock 16						3.2	-
Speaker - Restaurant 1						20.3	16.3
Speaker - Restaurant 2						-1.6	-5.6
Speaker - Restaurant 3						17.1	13.1
Trucks						45.1	-
3	1.Fl	44.9	40.4	0.0	0.0		
HVAC - Industrial						35.4	32.4
HVAC - Office 1						20.5	17.5
HVAC - Office 2						27.7	24.7
HVAC - Restaurant 1						41.5	38.5
HVAC - Restaurant 2						33.2	30.2
HVAC - Restaurant 3						28.2	25.2
Loading Dock 1						3.6	-
Loading Dock 2						3.5	-
Loading Dock 3						1.3	-
Loading Dock 4						1.3	-
Loading Dock 5						1.3	-
Loading Dock 6						1.3	-
Loading Dock 7						1.4	-
Loading Dock 8						1.4	-
Loading Dock 9						1.4	-
Loading Dock 10						1.5	-
Loading Dock 11						1.5	-
Loading Dock 12						1.5	-
Loading Dock 13						1.6	-
Loading Dock 14						1.6	-

Contributions

Loading Dock 15						1.2	-
Loading Dock 16						1.3	-
Speaker - Restaurant 1						30.6	26.6
Speaker - Restaurant 2						16.3	12.3
Speaker - Restaurant 3						20.0	16.0
Trucks						39.5	-
4	1.Fl	44.2	40.7	0.0	0.0		
HVAC - Industrial						31.6	28.6
HVAC - Office 1						16.9	13.9
HVAC - Office 2						19.4	16.4
HVAC - Restaurant 1						42.5	39.5
HVAC - Restaurant 2						32.7	29.7
HVAC - Restaurant 3						30.2	27.2
Loading Dock 1						3.4	-
Loading Dock 2						3.4	-
Loading Dock 3						3.4	-
Loading Dock 4						3.4	-
Loading Dock 5						3.3	-
Loading Dock 6						3.3	-
Loading Dock 7						3.3	-
Loading Dock 8						3.3	-
Loading Dock 9						1.5	-
Loading Dock 10						1.5	-
Loading Dock 11						1.1	-
Loading Dock 12						0.7	-
Loading Dock 13						0.4	-
Loading Dock 14						0.5	-
Loading Dock 15						0.6	-
Loading Dock 16						0.8	-
Speaker - Restaurant 1						30.8	26.8
Speaker - Restaurant 2						18.6	14.6
Speaker - Restaurant 3						24.0	20.0
Trucks						33.9	-
5	1.Fl	43.1	40.0	0.0	0.0		
HVAC - Industrial						30.6	27.6
HVAC - Office 1						16.2	13.2
HVAC - Office 2						18.1	15.1
HVAC - Restaurant 1						39.2	36.2
HVAC - Restaurant 2						35.8	32.8
HVAC - Restaurant 3						37.4	34.4
Loading Dock 1						5.1	-
Loading Dock 2						5.0	-
Loading Dock 3						5.0	-
Loading Dock 4						4.9	-
Loading Dock 5						4.9	-
Loading Dock 6						4.8	-
Loading Dock 7						4.7	-
Loading Dock 8						4.6	-
Loading Dock 9						4.4	-
Loading Dock 10						4.3	-
Loading Dock 11						1.4	-
Loading Dock 12						1.6	-
Loading Dock 13						1.8	-
Loading Dock 14						1.9	-
Loading Dock 15						2.1	-
Loading Dock 16						2.3	-
Speaker - Restaurant 1						22.4	18.4
Speaker - Restaurant 2						15.0	11.0
Speaker - Restaurant 3						29.3	25.3
Trucks						26.2	-
6	1.Fl	44.9	41.2	0.0	0.0		
HVAC - Industrial						30.2	27.2
HVAC - Office 1						17.8	14.8
HVAC - Office 2						16.5	13.5
HVAC - Restaurant 1						35.4	32.4
HVAC - Restaurant 2						39.1	36.1
HVAC - Restaurant 3						40.1	37.1
Loading Dock 1						24.8	-
Loading Dock 2						24.8	-
Loading Dock 3						23.3	-
Loading Dock 4						23.5	-
Loading Dock 5						23.6	-
Loading Dock 6						23.7	-
Loading Dock 7						23.9	-
Loading Dock 8						24.2	-
Loading Dock 9						24.0	-
Loading Dock 10						24.0	-
Loading Dock 11						24.0	-

Loading Dock 12						25.0	-
Loading Dock 13						25.2	-
Loading Dock 14						25.3	-
Loading Dock 15						7.4	-
Loading Dock 16						7.0	-
Speaker - Restaurant 1						13.5	9.5
Speaker - Restaurant 2						35.6	31.6
Speaker - Restaurant 3						26.2	22.2
Trucks						26.1	-
7	1.Fl	43.1	32.6	0.0	0.0		
HVAC - Industrial						31.1	28.1
HVAC - Office 1						11.5	8.5
HVAC - Office 2						16.9	13.9
HVAC - Restaurant 1						26.0	23.0
HVAC - Restaurant 2						26.3	23.3
HVAC - Restaurant 3						31.5	28.5
Loading Dock 1						28.4	-
Loading Dock 2						28.6	-
Loading Dock 3						28.8	-
Loading Dock 4						29.4	-
Loading Dock 5						29.7	-
Loading Dock 6						29.9	-
Loading Dock 7						30.1	-
Loading Dock 8						29.1	-
Loading Dock 9						29.6	-
Loading Dock 10						29.9	-
Loading Dock 11						30.2	-
Loading Dock 12						30.5	-
Loading Dock 13						30.8	-
Loading Dock 14						31.1	-
Loading Dock 15						31.6	-
Loading Dock 16						31.7	-
Speaker - Restaurant 1						8.7	4.7
Speaker - Restaurant 2						12.1	8.1
Speaker - Restaurant 3						11.7	7.7
Trucks						26.3	-
8	1.Fl	52.0	38.6	0.0	0.0		
HVAC - Industrial						41.3	38.3
HVAC - Office 1						18.7	15.7
HVAC - Office 2						26.0	23.0
HVAC - Restaurant 1						13.3	10.3
HVAC - Restaurant 2						12.4	9.4
HVAC - Restaurant 3						27.0	24.0
Loading Dock 1						37.3	-
Loading Dock 2						37.9	-
Loading Dock 3						38.4	-
Loading Dock 4						38.9	-
Loading Dock 5						39.3	-
Loading Dock 6						39.8	-
Loading Dock 7						40.1	-
Loading Dock 8						40.4	-
Loading Dock 9						40.5	-
Loading Dock 10						40.5	-
Loading Dock 11						40.3	-
Loading Dock 12						40.0	-
Loading Dock 13						39.6	-
Loading Dock 14						39.2	-
Loading Dock 15						38.7	-
Loading Dock 16						38.2	-
Speaker - Restaurant 1						-3.0	-7.0
Speaker - Restaurant 2						6.1	2.1
Speaker - Restaurant 3						2.4	-1.6
Trucks						34.4	-
9	1.Fl	45.4	33.3	0.0	0.0		
HVAC - Industrial						35.4	32.4
HVAC - Office 1						10.7	7.7
HVAC - Office 2						27.5	24.5
HVAC - Restaurant 1						12.5	9.5
HVAC - Restaurant 2						8.3	5.3
HVAC - Restaurant 3						22.8	19.8
Loading Dock 1						32.3	-
Loading Dock 2						31.7	-
Loading Dock 3						31.3	-
Loading Dock 4						30.9	-
Loading Dock 5						30.5	-
Loading Dock 6						30.1	-
Loading Dock 7						29.8	-
Loading Dock 8						29.4	-

Loading Dock 9						28.9	-
Loading Dock 10						28.6	-
Loading Dock 11						30.2	-
Loading Dock 12						29.9	-
Loading Dock 13						29.6	-
Loading Dock 14						29.3	-
Loading Dock 15						30.5	-
Loading Dock 16						30.3	-
Speaker - Restaurant 1						-3.7	-7.7
Speaker - Restaurant 2						0.6	-3.4
Speaker - Restaurant 3						-3.5	-7.5
Trucks						41.3	-
10	1.Fl	40.3	35.4	0.0	0.0		
HVAC - Industrial						37.7	34.7
HVAC - Office 1						18.4	15.4
HVAC - Office 2						28.7	25.7
HVAC - Restaurant 1						10.5	7.5
HVAC - Restaurant 2						5.0	2.0
HVAC - Restaurant 3						19.6	16.6
Loading Dock 1						17.5	-
Loading Dock 2						18.6	-
Loading Dock 3						22.8	-
Loading Dock 4						22.6	-
Loading Dock 5						22.4	-
Loading Dock 6						22.2	-
Loading Dock 7						22.1	-
Loading Dock 8						21.9	-
Loading Dock 9						21.6	-
Loading Dock 10						21.4	-
Loading Dock 11						21.4	-
Loading Dock 12						23.2	-
Loading Dock 13						23.1	-
Loading Dock 14						23.1	-
Loading Dock 15						23.1	-
Loading Dock 16						23.0	-
Speaker - Restaurant 1						-5.3	-9.3
Speaker - Restaurant 2						-3.2	-7.2
Speaker - Restaurant 3						-5.9	-9.9
Trucks						30.7	-
11	1.Fl	38.2	33.5	0.0	0.0		
HVAC - Industrial						35.8	32.8
HVAC - Office 1						17.0	14.0
HVAC - Office 2						26.7	23.7
HVAC - Restaurant 1						17.3	14.3
HVAC - Restaurant 2						9.3	6.3
HVAC - Restaurant 3						17.8	14.8
Loading Dock 1						13.3	-
Loading Dock 2						15.0	-
Loading Dock 3						15.7	-
Loading Dock 4						19.8	-
Loading Dock 5						19.7	-
Loading Dock 6						19.5	-
Loading Dock 7						19.4	-
Loading Dock 8						19.3	-
Loading Dock 9						19.1	-
Loading Dock 10						20.8	-
Loading Dock 11						20.8	-
Loading Dock 12						20.8	-
Loading Dock 13						20.7	-
Loading Dock 14						20.7	-
Loading Dock 15						20.7	-
Loading Dock 16						20.7	-
Speaker - Restaurant 1						1.4	-2.6
Speaker - Restaurant 2						-1.1	-5.1
Speaker - Restaurant 3						0.0	-4.0
Trucks						28.2	-
12	1.Fl	37.2	32.8	0.0	0.0		
HVAC - Industrial						35.2	32.2
HVAC - Office 1						16.4	13.4
HVAC - Office 2						25.9	22.9
HVAC - Restaurant 1						17.9	14.9
HVAC - Restaurant 2						8.8	5.8
HVAC - Restaurant 3						16.6	13.6
Loading Dock 1						10.0	-
Loading Dock 2						11.5	-
Loading Dock 3						12.6	-
Loading Dock 4						13.2	-
Loading Dock 5						13.8	-

Loading Dock 6						17.4	-
Loading Dock 7						17.5	-
Loading Dock 8						17.7	-
Loading Dock 9						19.3	-
Loading Dock 10						19.3	-
Loading Dock 11						19.2	-
Loading Dock 12						19.2	-
Loading Dock 13						19.2	-
Loading Dock 14						19.1	-
Loading Dock 15						19.1	-
Loading Dock 16						19.1	-
Speaker - Restaurant 1						1.8	-2.2
Speaker - Restaurant 2						-2.0	-6.0
Speaker - Restaurant 3						0.3	-3.7
Trucks						26.7	-
13	1.Fl	28.9	25.5	0.0	0.0		
HVAC - Industrial						27.7	24.7
HVAC - Office 1						11.5	8.5
HVAC - Office 2						20.2	17.2
HVAC - Restaurant 1						4.3	1.3
HVAC - Restaurant 2						-2.2	-5.2
HVAC - Restaurant 3						-3.1	-6.1
Loading Dock 1						-6.8	-
Loading Dock 2						-6.9	-
Loading Dock 3						-6.3	-
Loading Dock 4						-5.8	-
Loading Dock 5						-0.7	-
Loading Dock 6						-0.6	-
Loading Dock 7						-0.6	-
Loading Dock 8						-0.5	-
Loading Dock 9						-0.4	-
Loading Dock 10						-0.4	-
Loading Dock 11						-0.4	-
Loading Dock 12						-0.4	-
Loading Dock 13						-0.4	-
Loading Dock 14						-0.3	-
Loading Dock 15						-0.3	-
Loading Dock 16						-0.4	-
Speaker - Restaurant 1						-11.0	-15.0
Speaker - Restaurant 2						-14.1	-18.1
Speaker - Restaurant 3						-12.7	-16.7
Trucks						17.0	-
14	1.Fl	31.7	28.2	0.0	0.0		
HVAC - Industrial						30.6	27.6
HVAC - Office 1						12.8	9.8
HVAC - Office 2						21.5	18.5
HVAC - Restaurant 1						5.6	2.6
HVAC - Restaurant 2						-1.0	-4.0
HVAC - Restaurant 3						-1.1	-4.1
Loading Dock 1						-6.2	-
Loading Dock 2						-5.3	-
Loading Dock 3						-4.4	-
Loading Dock 4						-3.8	-
Loading Dock 5						-3.2	-
Loading Dock 6						4.1	-
Loading Dock 7						4.0	-
Loading Dock 8						4.0	-
Loading Dock 9						3.9	-
Loading Dock 10						3.8	-
Loading Dock 11						3.7	-
Loading Dock 12						3.7	-
Loading Dock 13						3.6	-
Loading Dock 14						3.6	-
Loading Dock 15						3.6	-
Loading Dock 16						3.5	-
Speaker - Restaurant 1						-9.4	-13.4
Speaker - Restaurant 2						-14.2	-18.2
Speaker - Restaurant 3						-11.3	-15.3
Trucks						21.6	-
15	1.Fl	32.9	29.2	0.0	0.0		
HVAC - Industrial						31.6	28.6
HVAC - Office 1						13.5	10.5
HVAC - Office 2						22.4	19.4
HVAC - Restaurant 1						9.0	6.0
HVAC - Restaurant 2						1.0	-2.0
HVAC - Restaurant 3						2.4	-0.6
Loading Dock 1						-4.9	-
Loading Dock 2						-3.5	-

Loading Dock 3						-2.4	-
Loading Dock 4						-1.5	-
Loading Dock 5						-0.7	-
Loading Dock 6						7.8	-
Loading Dock 7						7.8	-
Loading Dock 8						7.8	-
Loading Dock 9						8.0	-
Loading Dock 10						8.0	-
Loading Dock 11						8.1	-
Loading Dock 12						8.2	-
Loading Dock 13						8.3	-
Loading Dock 14						8.4	-
Loading Dock 15						8.5	-
Loading Dock 16						8.4	-
Speaker - Restaurant 1						3.2	-0.8
Speaker - Restaurant 2						-13.7	-17.7
Speaker - Restaurant 3						-8.4	-12.4
Trucks						23.5	-
16	1.Fl	33.5	29.9	0.0	0.0		
HVAC - Industrial						32.3	29.3
HVAC - Office 1						14.2	11.2
HVAC - Office 2						23.2	20.2
HVAC - Restaurant 1						9.2	6.2
HVAC - Restaurant 2						1.4	-1.6
HVAC - Restaurant 3						2.7	-0.3
Loading Dock 1						-4.3	-
Loading Dock 2						-2.9	-
Loading Dock 3						-1.8	-
Loading Dock 4						-1.0	-
Loading Dock 5						-0.2	-
Loading Dock 6						4.8	-
Loading Dock 7						5.0	-
Loading Dock 8						5.2	-
Loading Dock 9						5.6	-
Loading Dock 10						5.8	-
Loading Dock 11						5.7	-
Loading Dock 12						5.6	-
Loading Dock 13						5.5	-
Loading Dock 14						5.4	-
Loading Dock 15						5.3	-
Loading Dock 16						5.2	-
Speaker - Restaurant 1						3.0	-1.0
Speaker - Restaurant 2						-13.3	-17.3
Speaker - Restaurant 3						-8.1	-12.1
Trucks						24.2	-
17	1.Fl	33.9	30.5	0.0	0.0		
HVAC - Industrial						32.9	29.9
HVAC - Office 1						12.8	9.8
HVAC - Office 2						24.2	21.2
HVAC - Restaurant 1						7.7	4.7
HVAC - Restaurant 2						0.9	-2.1
HVAC - Restaurant 3						1.6	-1.4
Loading Dock 1						-3.6	-
Loading Dock 2						-2.2	-
Loading Dock 3						-1.1	-
Loading Dock 4						-0.2	-
Loading Dock 5						0.6	-
Loading Dock 6						0.9	-
Loading Dock 7						0.7	-
Loading Dock 8						0.6	-
Loading Dock 9						1.7	-
Loading Dock 10						1.7	-
Loading Dock 11						1.6	-
Loading Dock 12						1.5	-
Loading Dock 13						1.4	-
Loading Dock 14						1.3	-
Loading Dock 15						1.3	-
Loading Dock 16						1.2	-
Speaker - Restaurant 1						-0.2	-4.2
Speaker - Restaurant 2						-12.8	-16.8
Speaker - Restaurant 3						-9.4	-13.4
Trucks						22.7	-
18	1.Fl	35.9	32.4	0.0	0.0		
HVAC - Industrial						34.7	31.7
HVAC - Office 1						16.4	13.4
HVAC - Office 2						26.3	23.3
HVAC - Restaurant 1						11.7	8.7
HVAC - Restaurant 2						3.1	0.1

HVAC - Restaurant 3						4.0	1.0
Loading Dock 1						-2.0	-
Loading Dock 2						-0.6	-
Loading Dock 3						0.5	-
Loading Dock 4						1.3	-
Loading Dock 5						2.0	-
Loading Dock 6						1.9	-
Loading Dock 7						1.8	-
Loading Dock 8						1.7	-
Loading Dock 9						3.9	-
Loading Dock 10						3.8	-
Loading Dock 11						3.7	-
Loading Dock 12						3.6	-
Loading Dock 13						3.5	-
Loading Dock 14						3.4	-
Loading Dock 15						3.4	-
Loading Dock 16						3.3	-
Speaker - Restaurant 1						2.2	-1.8
Speaker - Restaurant 2						-11.5	-15.5
Speaker - Restaurant 3						-6.7	-10.7
Trucks						25.9	-
19	1.Fl	38.3	34.5	0.0	0.0		
HVAC - Industrial						36.7	33.7
HVAC - Office 1						18.1	15.1
HVAC - Office 2						29.1	26.1
HVAC - Restaurant 1						17.0	14.0
HVAC - Restaurant 2						9.8	6.8
HVAC - Restaurant 3						10.6	7.6
Loading Dock 1						4.9	-
Loading Dock 2						6.3	-
Loading Dock 3						7.3	-
Loading Dock 4						7.4	-
Loading Dock 5						7.3	-
Loading Dock 6						7.2	-
Loading Dock 7						7.1	-
Loading Dock 8						7.0	-
Loading Dock 9						6.9	-
Loading Dock 10						6.8	-
Loading Dock 11						9.1	-
Loading Dock 12						9.0	-
Loading Dock 13						8.9	-
Loading Dock 14						8.9	-
Loading Dock 15						8.8	-
Loading Dock 16						8.7	-
Speaker - Restaurant 1						7.5	3.5
Speaker - Restaurant 2						-10.1	-14.1
Speaker - Restaurant 3						0.0	-4.0
Trucks						29.8	-
20	1.Fl	39.9	36.2	0.0	0.0		
HVAC - Industrial						38.1	35.1
HVAC - Office 1						19.0	16.0
HVAC - Office 2						31.0	28.0
HVAC - Restaurant 1						25.3	22.3
HVAC - Restaurant 2						5.4	2.4
HVAC - Restaurant 3						5.7	2.7
Loading Dock 1						1.7	-
Loading Dock 2						3.1	-
Loading Dock 3						3.2	-
Loading Dock 4						3.0	-
Loading Dock 5						2.9	-
Loading Dock 6						2.8	-
Loading Dock 7						2.7	-
Loading Dock 8						2.5	-
Loading Dock 9						2.3	-
Loading Dock 10						2.2	-
Loading Dock 11						2.1	-
Loading Dock 12						4.3	-
Loading Dock 13						4.2	-
Loading Dock 14						4.1	-
Loading Dock 15						4.1	-
Loading Dock 16						4.0	-
Speaker - Restaurant 1						7.4	3.4
Speaker - Restaurant 2						-9.2	-13.2
Speaker - Restaurant 3						-4.5	-8.5
Trucks						31.5	-
21	1.Fl	38.7	34.8	0.0	0.0		
HVAC - Industrial						35.8	32.8
HVAC - Office 1						16.1	13.1

HVAC - Office 2						33.3	30.3
HVAC - Restaurant 1						10.1	7.1
HVAC - Restaurant 2						5.2	2.2
HVAC - Restaurant 3						3.5	0.5
Loading Dock 1						3.5	-
Loading Dock 2						4.7	-
Loading Dock 3						4.3	-
Loading Dock 4						4.2	-
Loading Dock 5						4.0	-
Loading Dock 6						3.9	-
Loading Dock 7						3.8	-
Loading Dock 8						3.6	-
Loading Dock 9						3.4	-
Loading Dock 10						3.3	-
Loading Dock 11						5.3	-
Loading Dock 12						5.2	-
Loading Dock 13						5.2	-
Loading Dock 14						5.1	-
Loading Dock 15						5.0	-
Loading Dock 16						4.9	-
Speaker - Restaurant 1						6.8	2.8
Speaker - Restaurant 2						-7.6	-11.6
Speaker - Restaurant 3						-6.5	-10.5
Trucks						31.6	-
22	1.Fl	41.9	37.8	0.0	0.0		
HVAC - Industrial						39.6	36.6
HVAC - Office 1						19.8	16.8
HVAC - Office 2						34.3	31.3
HVAC - Restaurant 1						11.2	8.2
HVAC - Restaurant 2						6.0	3.0
HVAC - Restaurant 3						4.9	1.9
Loading Dock 1						5.1	-
Loading Dock 2						5.9	-
Loading Dock 3						6.5	-
Loading Dock 4						6.9	-
Loading Dock 5						7.3	-
Loading Dock 6						9.6	-
Loading Dock 7						9.7	-
Loading Dock 8						9.6	-
Loading Dock 9						9.5	-
Loading Dock 10						9.4	-
Loading Dock 11						9.3	-
Loading Dock 12						9.2	-
Loading Dock 13						9.1	-
Loading Dock 14						9.0	-
Loading Dock 15						9.0	-
Loading Dock 16						8.9	-
Speaker - Restaurant 1						-4.6	-8.6
Speaker - Restaurant 2						-6.9	-10.9
Speaker - Restaurant 3						-5.3	-9.3
Trucks						35.1	-
23	1.Fl	41.0	36.6	0.0	0.0		
HVAC - Industrial						38.8	35.8
HVAC - Office 1						18.9	15.9
HVAC - Office 2						31.8	28.8
HVAC - Restaurant 1						10.9	7.9
HVAC - Restaurant 2						5.9	2.9
HVAC - Restaurant 3						4.7	1.7
Loading Dock 1						10.1	-
Loading Dock 2						10.5	-
Loading Dock 3						10.8	-
Loading Dock 4						10.9	-
Loading Dock 5						13.1	-
Loading Dock 6						13.1	-
Loading Dock 7						13.1	-
Loading Dock 8						13.1	-
Loading Dock 9						13.0	-
Loading Dock 10						13.0	-
Loading Dock 11						12.9	-
Loading Dock 12						12.9	-
Loading Dock 13						12.8	-
Loading Dock 14						12.8	-
Loading Dock 15						12.7	-
Loading Dock 16						12.6	-
Speaker - Restaurant 1						-4.9	-8.9
Speaker - Restaurant 2						-5.2	-9.2
Speaker - Restaurant 3						-5.6	-9.6
Trucks						34.9	-