Costa Verde Center Revitalization Project
Environmental Impact Report
SCH No. 2016071031; Project No. 477943

Appendix E

Acoustical Analysis Report

March 2020

HELIX
Environmental Planning

Costa Verde Center Revitalization Project

Acoustical Analysis Report

October 2019 | RCE-03

Prepared for:

Regency Centers
420 Stevens Avenue, Suite 320
Solana Beach, CA 92075

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

ADT	average daily trips
AICUZ	Air Installations Compatible Use Zones
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
ANSI	American National Standards Institute
APN	Assessor's Parcel Number
CAD	Computer Aided (engineering and architectural) Design
CadnaA	Computer Aided Noise Abatement
Caltrans	California Department of Transportation
City	City of San Diego
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
CVSP	Costa Verde Specific Plan
dB	decibel
dBA	A-weighted decibel
EIR	Environmental Impact Report
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
Hz	Hertz
kHz	kilohertz
L_{DN}	Day-Night Sound Level
L_{EQ}	one-hour average sound level
LLG	Linscott, Law & Greenspan Engineers
MCAS	Marine Corps Air Station
MMC	Mitigation Monitoring Coordination
mPa	micro-Pascals
mph	miles per hour
MTS	Metropolitan Transit System
NSLU	noise-sensitive land use
OFF	off-site receiver
PA	Public Address
PPV	peak particle velocity

ACRONYMS AND ABBREVIATIONS (cont.)

RCNM	Roadway Construction Noise Model
SANDAG	San Diego Association of Governments
SF	square feet/foot
SPL	sound pressure level
STC	Sound Transmission Class
TIA	Traffic Impact Analysis
TNM	Traffic Noise Model
Trolley	San Diego Trolley
USDOT	U.S. Department of Transportation
UTC	University Town Center

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EXECUTIVE SUMMARY

This report presents an assessment of potential construction and operational noise impacts associated with the proposed Costa Verde Center Revitalization Project (Project) located in the University City community of the City of San Diego (City). The project entails the reconfiguration and expansion of the existing Costa Verde Center to create a local, walkable hub that provides neighborhood services, retails shops, restaurants, office/research/development uses, community gathering spaces, and a hotel.

The Project would result in potentially significant construction noise impacts at the adjacent residentially-zoned property line to the west during demolition of the underground parking structure and ground level slabs, and during the demolition, grading, and building construction phases at the buildings along the Project site's western property line. Mitigation would be accomplished through the use of a temporary 12-foot high noise control barrier between the construction equipment and the residentially-zoned property line to reduce noise levels below the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour).

Vibration impacts from construction would not exceed thresholds for sensitive receptors.

Project-generated traffic would result in less than significant direct and cumulative impacts to off-site receptors. Operational noise from the Project's heating, ventilation, and air conditioning (HVAC) units, delivery truck and trash compactor operations, parking structure, and live music events would exceed City Noise Ordinance thresholds at off-site noise sensitive land uses (NSLUs). Mitigation would be accomplished using noise barriers around the event plaza and HVAC units. The Project's operational noise sources would not cause on-site NSLUs (the proposed hotel) to be exposed to noise levels that are incompatible with the City Noise Element standards.

Exterior noise levels from the combined noise from traffic, bus, the San Diego Trolley, and aircraft would not exceed the City Noise Element thresholds for the Project's hotel or commercial-retail uses.

Interior noise levels from the combination of traffic, bus, Trolley, and aircraft noise may exceed the City Noise Element interior noise thresholds of 45 Community Noise Equivalent Level (CNEL) for hotel uses and 50 CNEL for commercial-retail uses. As a condition of approval, an exterior-to-interior noise reduction analysis shall be conducted to determine if the interior noise levels would comply with the applicable City thresholds. If predicted noise levels are found to be in excess of the applicable limit, the report shall identify architectural materials or techniques that could be included to reduce noise levels to the applicable limit.

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1.0 INTRODUCTION

1.1 PROJECT LOCATION

The Costa Verde Center Revitalization Project (Project) is located at the northwest corner of the intersection of Genesee Avenue and Nobel Drive in the University City community of the City of San Diego (City) in western San Diego County (see Figure 1, *Regional Location,* and Figure 2*, Project Vicinity*). The Project site consists of a 13.23-acre property on Assessor's Parcel Numbers (APNs) 345-210-12, -13, and -14. The property is within the Costa Verde Specific Plan (CVSP) area, which designates the Project site for neighborhood and community commercial uses. The existing base zone for the Project site is RS-1-14.

1.2 PROJECT DESCRIPTION

The Project entails the reconfiguration and expansion of the existing Costa Verde Center (Figure 3, *Existing Site Plan*) to create a local, walkable hub that provides neighborhood services, retail shops, restaurants, office/research/development uses, a hotel, and community gathering spaces. The project proposes to retain the current amount (approximately 178,000 square feet [SF]) of commercial/retail uses, add approximately 400,000 SF of commercial/office uses, and re-designate an approximately one-acre portion of the project site to Visitor Commercial to reintroduce a hotel use to the CVSP area (Figure 4, *Conceptual Site Plan*). A 200-room hotel would serve residents, visitors, and the community's research, business, and educational hub. The hotel would be up to 10 stories in height and would encompass approximately 125,000 SF. The maximum building heights would be 45 feet for commercial/ retail structures, 120 feet for commercial/office uses, and 135 feet for the hotel.

The northern portion of the center sits approximately 14 feet higher in elevation (approximately 360 feet above mean sea level [AMSL]) than the southern portion of the site (approximately 350 feet AMSL, to approximately 335 feet AMSL). A uniform podium level of approximately 360 feet AMSL would be established across the entire site to provide a more cohesive experience and facilitate mobility throughout the site. The majority of parking would be provided beneath this podium level. At the southern portion of the site, some commercial/retail structures would be located at an elevation similar to the existing ground elevation, but lower than the podium level, due to the difference in elevation across the site.

The northern portion of the center would consist of a pedestrian-oriented promenade. The promenade would extend from a gateway entry at Genesee Avenue and Esplanade Court to a circular style cul-de-sac and a central thoroughfare. It would be lined with retail, restaurant, and office buildings, as well as a central lawn and gathering area, outdoor seating and dining areas, decorative planters, site furniture, landscaping, and accent paving (Figure 5, *Landscape Plan*). Elevators and stairs would provide connections to the Westfield UTC Trolley Station.

The southern portion of the center would be oriented around a surface parking lot. This area is intended for essential neighborhood services, such as a grocery store, pharmacy, and banks. Landscaping and sidewalks would be provided.

2.0 ENVIRONMENTAL SETTING

2.1 NOISE AND SOUND LEVEL DESCRIPTORS AND TERMINOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day-Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver contribute to the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

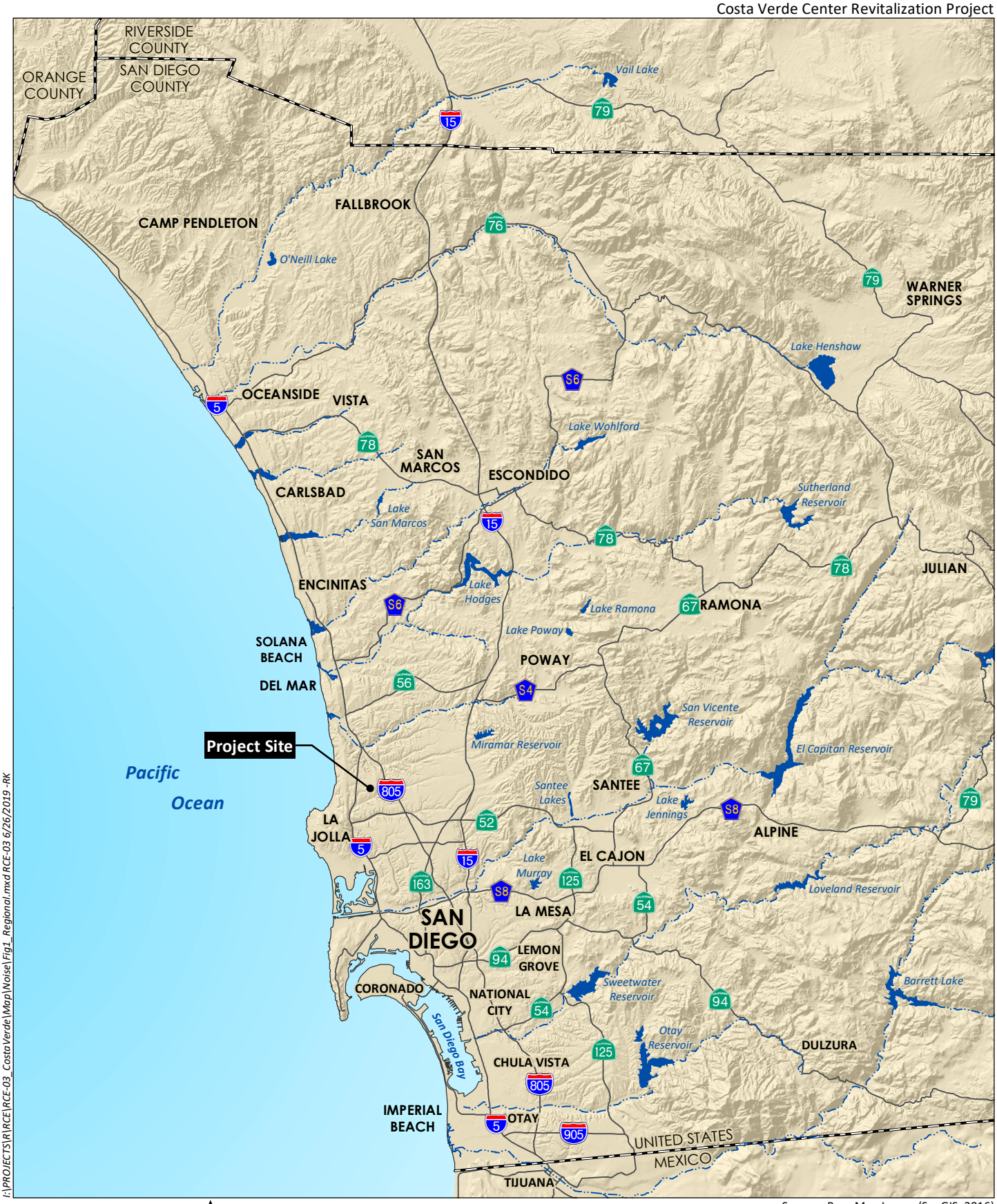
Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. A logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA units. The threshold of hearing for the human ear is about 0 dBA, which corresponds to 20 micro-Pascals (mPa).

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.

2.2 NOISE AND VIBRATION SENSITIVE LAND USES

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, schools, transient lodging (hotels), hospitals, educational facilities, and libraries. Industrial and commercial land uses are generally not considered sensitive to noise. NSLUs in the project area include multi-family residential areas, including condominium towers and a senior housing community adjacent to the west, a pocket park located adjacent to the west of



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

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0 300 Feet

Source: Aerial (SanGIS 2017)

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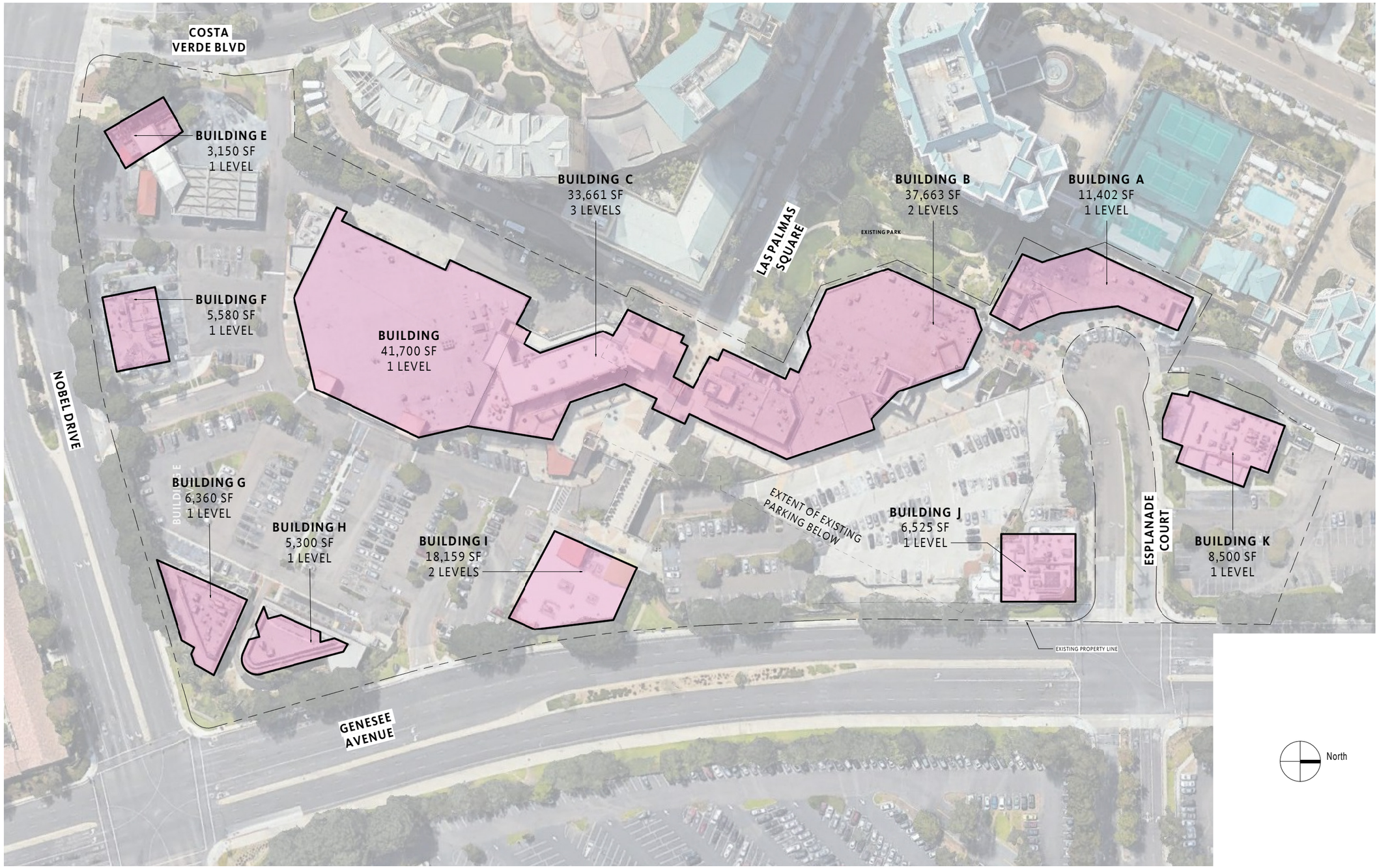
Project Vicinity

Figure 2



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Source: Gensler 2016

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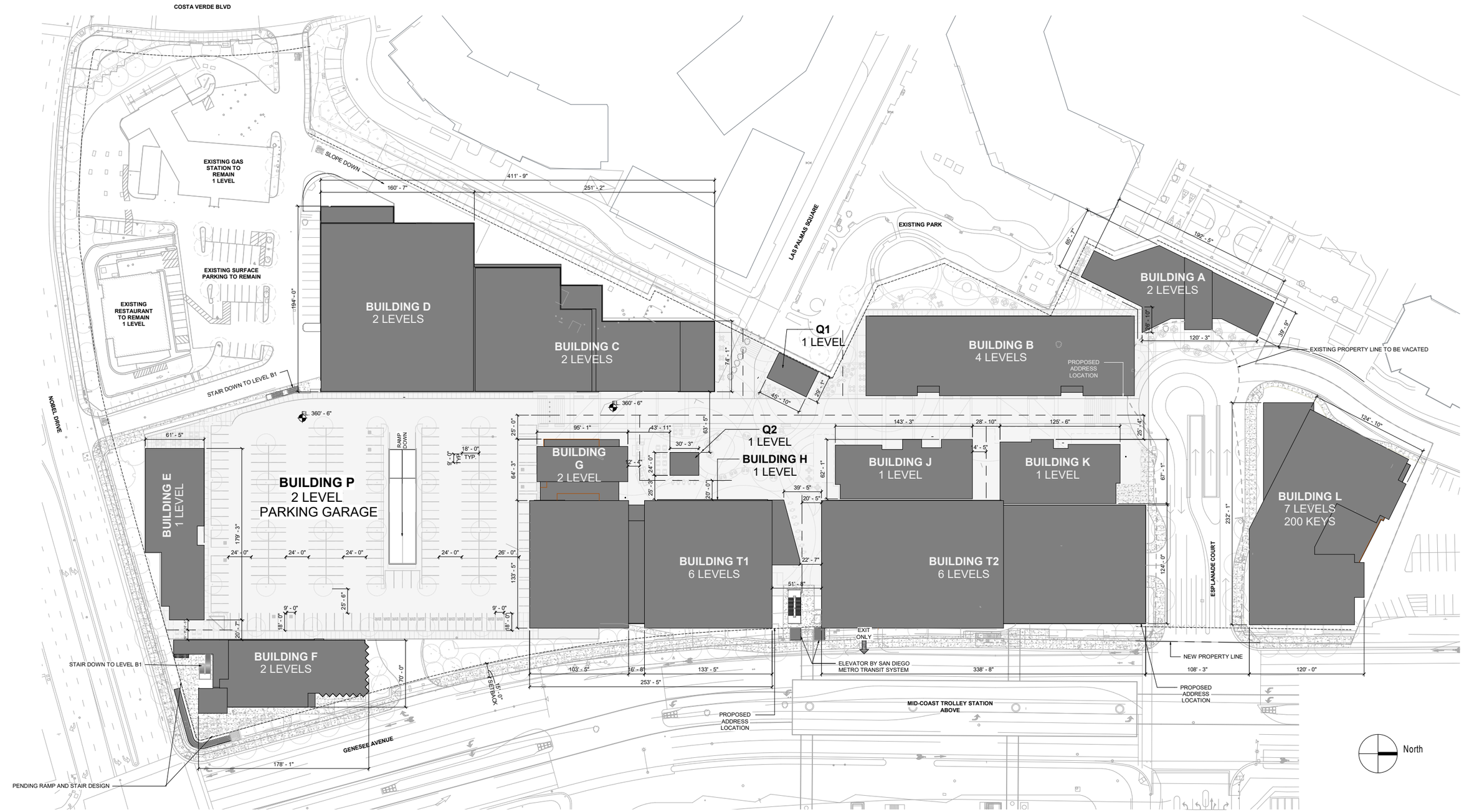
Existing Site Plan

Figure 3



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Source: RDC 2019

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Conceptual Site Plan

Figure 4

LEGEND

1. Entry Signage
2. Parking Entry/Exit
3. Outdoor Seating & Dining Plaza
4. Connection to Existing Park
5. 12'-0" Sidewalk, Typ.
6. 2nd Floor Terrace
7. Decorative Removable Bollards, Typ.
8. Accent Paving on Podium Promenade
9. Overhead Trellis / Shade Structure
10. Umbrellas, Typ.
11. Covered Dining Areas
12. Stairwell From Podium to Grade (Runnels and/or Elevators are Available at All Stair Locations)
13. Central Lawn and Gathering Area
14. Flow Through Planters
15. Seatwall
16. CMU Block Wall
17. Elevator & Stair Access at LRT Platform
18. Aspahlt Paving to Remain
19. Loading Dock
20. Tree Grove
21. Parking Lot Trees in Raised Planters, Typ.
22. Painted Mural Parking Stalls, Typ.
23. Street Tree in Decomposed Granite Tree Well with Structural Soil, Typ.
24. Concrete Topping Slab at Parking Lot
25. Bench Seating Along Parkway, Typ.
26. Corner Monument Signage
27. Short Term Bicycle and Scooter Parking
28. Outdoor Fire Pit and Seating Area, Typ.
29. Decorative Pots, Typ.
30. Linear Raised Planters
31. Accessible Walkway
32. Existing Retaining Wall
33. Drop Off Area
34. Bike Hub
35. Enhanced Paving at Crosswalks, Typ.
36. Site Distance Triangles, Typ.

Costa Verde Blvd.
Right-Of-Way
Building Setback
Existing Gas Station
Existing Restaurant
Bldg. D
Bldg. C
Bldg. Q1
Bldg. Q2
Bldg. A
Bldg. B
Bldg. E
Bldg. F
Bldg. G
Bldg. H
Bldg. T1
Bldg. T2
Bldg. J
Bldg. K
Property Line
Las Palmas Square
Pedestrian Access Easement
135'-0" R/W
14'-0" Parkway
12'-0" Sidewalk per City of San Diego SDG-155
Noble Drive
Genesee Avenue
Light Rail Station & Platform
Esplanade Court
Hotel (Bldg. L)

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Source: RDC 2019

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Landscape Plan

Figure 5

Building B, apartments located across Nobel Drive to the south, and the currently under construction Monte Verde multi-family residential project adjacent to the north.

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2006) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. In addition, excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses or schools. Vibration-sensitive land uses in the project area include the adjacent multi-family residences and senior housing community.

2.3 REGULATORY FRAMEWORK

Applicable noise standard for the proposed project are codified in the following City regulations:

2.3.1 City of San Diego Municipal Code, Chapter 5, Article 9.5, Division 4, §59.5.0404, Construction Noise

(a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.

(b) Except as provided in subsection (c) hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m.

(c) The provisions of subsection (b) of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

2.3.2 City of San Diego Municipal Code, Chapter 5, Article 9.5, Division 4, §59.5.0401, Sound Level Limits

(a) It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table (Table 1, *Applicable Noise Limits*), at any location in the City on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

Table 1
APPLICABLE NOISE LIMITS

Land Use Zone	Time of Day	One-hour Average Sound Level (dBA)
Single Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-Family Residential (up to a maximum density of 1/2000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All other Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	60
Industrial or Agricultural	Anytime	75

Source: City of San Diego Municipal Code, Chapter 5, Article 9.5, Division 4, §59.5.0401, Sound Level Limits
dBA = A-weighted decibel

(b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by Section 59.5.0404 of this article.

2.3.3 City of San Diego General Plan Noise Element

The City General Plan Noise Element (City 2008) establishes noise compatibility guidelines for uses affected by traffic noise, as shown in Table 2, *City of San Diego Land Use Noise Compatibility Guidelines*. The conditionally compatible noise levels for project land uses are 75 CNEL for hotels (visitor accommodations), offices, and commercial-retail. For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to reduce noise levels to make the outdoor activities acceptable. For indoor uses at a conditionally compatible land use, exterior noise must be attenuated to 45 CNEL for hotels and 50 CNEL for offices and commercial-retail to be considered a compatible land use.

Table 2
CITY OF SAN DIEGO LAND USE NOISE COMPATIBILITY GUIDELINES[1]

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	<60	60-65	65-70	70-75	75+
Parks and Recreational					
Parks, Active and Passive Recreation					
Outdoor Spectator Sports, Golf Courses; Water Recreational Facilities; Indoor Recreation Facilities					
Agricultural					
Crop Raising & Farming; Community Gardens, Aquaculture, Dairies; Horticulture Nurseries & Greenhouses; Animal Raising, Maintain & Keeping; Commercial Stables					
Residential					
Single Dwelling Units; Mobile Homes		45			
Multiple Dwelling Units		45	45		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; K-12 Educational Facilities; Libraries; Museums; Child Care Facilities		45			
Other Educational Facilities including Vocational/Trade Schools and Colleges, and Universities)		45	45		
Cemeteries					
Retail Sales					
Building Supplies/Equipment; Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Apparel & Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating & Drinking; Financial Institutions; Maintenance & Repair; Personal Services; Assembly & Entertainment (includes public and religious assembly); Radio & Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Vehicle Repair & Maintenance; Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution					

Table 2 (cont.)
CITY OF SAN DIEGO LAND USE NOISE COMPATIBILITY GUIDELINES[1]

Land Use Category				Exterior Noise Exposure (dBA CNEL)				
				<60	60-65	65-70	70-75	75+
Industrial								
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries								
Research & Development							50	
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.					
		Outdoor Uses	Activities associated with the land use may be carried out.					
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number (45 or 50) for occupied areas. Conditionally indicated by the number for occupied areas.					
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable					
	Incompatible	Indoor Uses	New construction should not be undertaken.					
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.					

Source: City 2008 (as amended in 2015)

[1] Compatible noise levels and land use definitions reflect amendments to the City's General Plan approved in 2015.

dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level

2.4 EXISTING CONDITIONS

2.4.1 Surrounding Land Uses

Surrounding uses include the Vi at La Jolla Village senior housing community and multi-family residential uses to the west, multi-family residential uses to the south, a surface parking lot and the approved Monte Verde residential project currently under construction to the north, and the Westfield University Town Center (UTC) regional shopping center to the east. The project site is adjacent to an extension of the Trolley's light rail line that would extend along Genesee Avenue which is currently under construction. A new, elevated Trolley station and platform is planned to be located south of Esplanade Court above the center median of Genesee Avenue. Trolley service within the area is expected to be in operation in 2021.

2.4.2 Existing Noise Conditions

2.4.2.1 General Site Survey

Two 10-minute traffic noise measurements were conducted during a site visit on April 12, 2016 (see Appendix A, *On-site Noise Measurement Sheets*, for survey notes). The traffic measurements were near the northeast corner of the project site, adjacent to Genesee Avenue, and in the southern portion of the project site, adjacent to Nobel Drive. During the traffic noise measurement, start and end times were

recorded, and vehicle counts were made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segments. The measurement time was sufficiently long for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize. The vehicle counts were then converted to one-hour equivalent volumes by applying an appropriate factor.

The measured noise levels and related weather conditions are shown in Table 3, *Noise Measurement Results*. Traffic counts for the timed measurements and the one-hour equivalent volumes are shown in Table 4, *Measured Traffic Volumes and Vehicular Distribution*.

Table 3
NOISE MEASUREMENT RESULTS

Measurement	Location	Conditions	Time	dBA L_{EQ}	Notes
M1	Approximately 150 feet north of Genesee Avenue/ Esplanade Court	67°F, wind 8 miles per hour (mph) WNW, 63 percent humidity, partly cloudy	10:41-10:51 a.m.	68.5	Construction noise (e.g., back up alarms) across Genesee, approximately 400 feet to southeast; bus stop approximately 100 feet to the north with two buses stopping
M2	Approximately 100 feet east of driveway to project site off Nobel Drive	68°F, wind 3 mph WNW, 61 percent humidity, mostly sunny	12:31-12:41 p.m.	67.6	N/A

dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

Table 4
MEASURED TRAFFIC VOLUMES AND VEHICULAR DISTRIBUTION

Roadway	Traffic	Autos	MT[1]	HT[2]
Genesee Avenue (M1)	10-minute count	170	16	2
	One-hour Equivalent	1020	96	12
	Percent	**90%**	**9%**	**1%**
Nobel Drive (M2)	10-minute count	294	4	0
	One-hour Equivalent	1764	24	0
	Percent	**98%**	**2%**	**0%**

[1] MT=Medium Trucks (double tires/two axles)
[2] HT=Heavy Trucks (three or more axles)

3.0 ANALYSIS METHODOLOGY AND ASSUMPTIONS

3.1 METHODOLOGY AND EQUIPMENT

The following equipment was used to measure existing noise levels at the project site:

- Larson Davis System LxT Integrating Sound Level Meters
- Larson Davis Model CAL150 Calibrator

- Windscreen and tripod for the sound level meter
- Digital camera

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All measurements were made with a meter that conforms to the American National Standards Institute (ANSI) specifications for sound level meters (ANSI SI.4-1983 R2001). All instruments were maintained with National Bureau of Standards traceable calibration per the manufacturers' standards.

Modeling of the exterior noise environment for this report was accomplished using two computer noise models: Computer Aided Noise Abatement (CadnaA) version 4.5 and Traffic Noise Model (TNM) version 2.5. CadnaA is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed CadnaA model, and uses the most up-to-date calculation standards to predict outdoor noise impacts. CadnaA traffic noise prediction is based on the data and methodology used in the TNM. TNM was released in February 2004 by the U.S. Department of Transportation (USDOT) and calculates the daytime average hourly L_{EQ} from three-dimensional model inputs and traffic data (California Department of Transportation [Caltrans] 2004). Computer Aided Design (CAD) plans provided by the project applicant were inputted into the models. Input variables included road alignment, elevation, lane configuration, area topography, existing and planned noise control features, projected traffic volumes, estimated truck composition percentages, and vehicle speeds.

The one-hour L_{EQ} noise level is calculated utilizing peak-hour traffic; peak-hour traffic volumes can be estimated based on the assumption that 10 percent of the average daily traffic would occur during a peak hour. The model-calculated one-hour L_{EQ} noise output is the equivalent to the CNEL (Caltrans 2009).

Project construction noise was analyzed using the Roadway Construction Noise Model (RCNM; USDOT 2008), which utilizes estimates of sound levels from standard construction equipment.

3.2 ASSUMPTIONS

3.2.1 Construction

To prepare the site for construction, the project would demolish some of the existing buildings, parking spaces, curbs, and sidewalks; remove existing vegetation; and conduct site grading. Project construction would entail the use of equipment throughout the site for the full term of construction. See Table 5, *Construction Phases and Equipment*, for equipment information by phase.

Table 5
CONSTRUCTION PHASES AND EQUIPMENT

Construction Phase	Equipment	Number
Demolition	Excavator	2
	Concrete/Industrial Saw	1
	Rubber Tired Loader	1
	Off-highway Truck	2
Site Preparation	Rubber Tired Dozer	4
	Tractors/Loaders/Backhoe	4
Grading	Excavator	1
	Grader	1
	Rubber Tired Dozer	1
	Tractors/Loaders/Backhoe	3
	Scraper	3
	Off-highway Truck	2
Underground Utilities	Tractor/Loader/Backhoe	2
Building Construction	Crane	1
	Excavator (for soil drill)	1
	Rough Terrain Forklift	4
	Generator Set	2
	Tractors/Loaders/Backhoe	3
	Welder	3
	Off-highway truck (cement truck)	2
Paving	Paver	2
	Paving Equipment	2
	Roller	2
Architectural Coating	Air Compressor	1

Source: CalEEMod

3.2.2 Operation

The proposed improvements would introduce several new or modified operational noise sources, including additional retail space, office space, a relocated grocery store, additional parking structures, plazas, and a hotel.

Retail space would be built in multiple locations on the project site, up to a height of 45 feet. The proposed operational noise sources for the retail uses would be heating, ventilation, and air conditioning (HVAC) systems and delivery truck and trash compactor operations. The grocery store would have several potential noise sources that are typical for commercial markets, which include HVAC equipment, delivery truck activities, and trash compactors similar to the retail space. The central plaza area would occasionally hold events that may include amplified music from live entertainment. The proposed hotel operational noise sources would also include HVAC units. Each project land use would generate vehicular traffic that would increase noise levels on nearby roadways.

3.2.2.1 Heating, Ventilation, and Air Conditioning Units

Specific HVAC planning information for the project, including the sound levels of unit types, number of units, and locations, are not currently available. Analysis in this report is based on typical size and

locations for HVAC units used in similar facilities to the project's facilities, using the known noise levels of a Carrier 38AQS016 16-ton HVAC unit.

Standard HVAC planning assumes one ton of HVAC for every 350 SF of habitable space (PDH Center 2012). Based upon preliminary building square footage provided by the project applicant, the following tons of HVAC per building and the amount of 16-ton HVAC units per building are shown in Table 6, *Heating, Ventilation, and Air Conditioning Unit Assumptions.*

Table 6
HEATING, VENTILATION, AND AIR CONDITIONING UNIT ASSUMPTIONS

Building	Estimated Square Footage (SF)[1]	Tons of HVAC per Building	16-ton HVAC Units per Building[2]
A	11,240	32	3
B	53,180	152	10
C	28,290	81	6
D	35,700	102	7
E	9,950	28	2
F	17,910	51	4
G	20,290	58	4
H	9,660	28	2
J	12,070	34	3
K	8,730	25	2
Q1	1,450	4	1
Q2	800	2	1
T1	150,000	429	27
T2	210,000	600	38
Hotel	125,000	357	23

[1] Source: Regency Centers 2019
[2] As part of a conservative analysis, the 16-ton heating, ventilation, and air conditioning (HVAC) unit estimates are rounded up to the next whole number.

The manufacturer's noise data for the Carrier 38AQS016 is shown in Table 7, *Condenser Noise Data*; more detailed information can be found in Appendix B, *Carrier 38AQS016 Condenser Data*.

Table 7
CONDENSER NOISE DATA

Source	Noise Levels in Decibels[1] (dB) Measures at Octave Frequencies									dBA L_{EQ}
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Carrier 38AQS016	93.0	93.0	93.0	86.0	83.0	80.0	78.0	73.0	71.0	86.0

Source: Appendix B
[1] Sound Power Levels (S_{WL})
Hz = Hertz; kHz = kilohertz; dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

3.2.2.2 Loading Dock

Noise sources within the loading dock would be from delivery trucks and a trash compactor. The loudest noise source from the loading dock area would be backup alarms from delivery trucks. Typical backup

alarms generate noise of 97 dBA at four feet with a single frequency of 1,000 Hz. The specific alarm data used in this analysis are shown in Table 8, *Backup Alarm Noise Data*. Delivery truck operations would occur within a retail loading area behind and beneath Building D and C on the western edge of the site.

Table 8
BACKUP ALARM NOISE DATA

Source	Noise Levels in Decibels[1] (dB) Measures at Octave Frequencies									dBA L_{EQ}
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Backup Alarm	12.7	12.7	12.7	12.7	12.7	109.7	12.7	12.7	12.7	109.7

Source: HELIX 2010
[1] Sound Power Levels (S_{WL})
Hz = Hertz; kHz = kilohertz; dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

A trash compactor is a large hydraulic press with a containment bin. The compactor is turned on causing a large hydraulic press to compact the waste in the bin. The machine runs a full cycle that typically lasts slightly over one minute and turns off automatically. Data used in this analysis are shown in Table 9, *Trash Compactor Noise Data*. As shown in Table 9, the continuous use of the compactor would generate 97.5 dBA L_{EQ} and the one minute per hour use would generate 79.7 dBA L_{EQ}. Trash compactor operations would occur within the retail loading area west of Building D at the western edge of the site.

Table 9
TRASH COMPACTOR NOISE DATA

Source	Noise Levels in Decibels[1] (dB) Measures at Octave Frequencies									dBA L_{EQ}
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Compactor Continuous	88.8	88.2	85.8	82.9	97.8	92.1	83.5	87.8	80.3	97.5
Compactor for One Minute per Hour	71.0	70.4	68.0	65.1	80.0	74.3	65.7	70.0	62.5	79.7

Source: HELIX 2010
[1] Sound Power Levels (S_{WL})
Hz = Hertz; kHz = kilohertz; dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

3.2.2.3 Parking Lot

A two-level parking structure would be located beneath the project's podium level. The parking structure would be accessed from internal project roadways, Esplanade Court, and Genesee Avenue. The parking structure would have minimal exterior noise impacts due its location beneath the podium level. However, the southern portion of the top floor would be exposed. The top parking floor would contain approximately 197 spaces. A conservative assumption of each parking space being turned over every 2 hours was used.

3.2.2.4 Live Music

The central event plaza of the project would include an area where events would be held (see Figure 5 for location of the court). The loudest noise generation from events would likely be from live music. This noise analysis is based on an assumed group of two to four musicians with only ground or low

stage-mounted equipment and amplified systems. No festival or event staging, large-scale amplification, or seating is anticipated or analyzed for these events. Music is planned for up to five nights per week and could run until 10:00 p.m. For this noise analysis, it was assumed that live music would generate a noise level of 84.4 dBA L_{EQ} at a distance of 5 feet.

3.2.2.5 Emergency Generator

The project would provide a generator for use during emergency situations or power failures. The project would use a Kohler Power Systems Model 2000REOZMD diesel generator. The generator would be located beneath either Building T1 or T2, behind a louvered screen wall or within the enclosed lower parking level. Additionally, the generator would be located near the project's eastern property line, away from any nearby NSLUs. Because the generator would be enclosed beneath the project's proposed buildings, noise levels would not be significantly audible at nearby property lines. Emergency generator noise levels to noise-sensitive receptors are therefore not analyzed in this report.

3.2.2.6 Transportation

Vehicular Traffic Volumes

The Transportation Impact Analysis (TIA) for the project (Linscott, Law & Greenspan Engineers [LLG] 2019) provides the Existing and Buildout (Year 2035) traffic volumes without and with the proposed project for surrounding street segments. Anticipated future traffic noise levels are based on these forecasted traffic volumes.

Off-site Impacts

The project's off-site impacts were determined by modeling a scenario that included the baseline Buildout (Year 2035) traffic volumes on the roadway segments and comparing them with the addition of project trips. Table 10, *Existing and Buildout (Year 2035) Traffic Volumes,* shows the daily traffic volumes for the existing and Buildout (Year 2035) scenarios, both with and without project-added trips, for the street segments in the vicinity of the project site.

Table 10
EXISTING AND BUILDOUT (YEAR 2035) TRAFFIC VOLUMES

Roadway Segment	ADT			
	Existing	Existing + Project	Buildout (Year 2035)	Buildout (Year 2035) + Project
La Jolla Village Drive				
Regents Road to Costa Verde Boulevard	35,240	35,590	46,190	46,540
Costa Verde Boulevard to Genesee Avenue	37,280	37,580	50,320	50,620
Nobel Drive				
Regents Road to Costa Verde Boulevard	24,570	25,920	32,400	33,750
Costa Verde Boulevard to Genesee Avenue	22,410	23,760	32,750	34,100
Genesee Avenue to Towne Centre Drive	20,270	20,820	31,090	31,640
Genesee Avenue				
La Jolla Village Drive to Esplanade Court	28,790	30,330	45,100	46,640
Esplanade Court to Nobel Drive	22,980	25,000	35,990	38,010
Nobel Drive to Decoro Street	30,920	32,020	45,700	46,800

Table 10 (cont.)
EXISTING AND BUILDOUT (YEAR 2035) TRAFFIC VOLUMES

Roadway Segment	ADT			
	Existing	Existing + Project	Buildout (Year 2035)	Buildout (Year 2035) + Project
Regents Road				
Executive Drive to La Jolla Village Drive	18,100	18,250	23,740	23,890
La Jolla Village Drive to Nobel Drive	15,170	15,420	21,760	22,010
South of Nobel Drive	15,170	15,370	14,300	14,500

Source: LLG 2019
ADT = average daily trips

On-site Impacts

To model the hypothetical conservative scenario for on-site traffic impacts, the Buildout (Year 2035) with project-added traffic volumes were used to represent the exposure of on-site NSLUs to the highest noise levels. The following traffic volumes were used:

- 33,750 average daily trips (ADT) for Nobel Drive from Regents Road to Costa Verde Boulevard;
- 34,100 ADT for Nobel Drive from Costa Verde Boulevard to Genesee Avenue;
- 46,640 ADT for Genesee Avenue from La Jolla Village Drive to Esplanade Court; and
- 38,010 ADT for Genesee Avenue from Esplanade Court to Nobel Drive.

Additional Vehicular Traffic Assumptions

The posted speed limits for the analyzed roads are 45 miles per hour (mph) for La Jolla Village Drive and Genesee Avenue and 40 mph for Nobel Drive and Regents Road. During site visit observations of Genesee Avenue, it was noted that due to the general area congestion that occurs on the segment of the road along the project site, vehicles rarely attain full speed. Therefore, the posted speed limit was reduced by 5 mph for modeling vehicles traveling along Genesee Avenue from La Jolla Village Drive to Nobel Drive.

Site visit observations revealed a relatively high amount of medium trucks on Genesee Avenue and a relatively low amount of medium and heavy trucks on Nobel Drive. For modeling, the percentage breakdown of vehicles was assumed to be a more typical breakdown of 94 percent automobiles, 4 percent medium trucks, and 2 percent heavy trucks. These percentages were used for vehicle composition for modeling the existing and future noise conditions in the vicinity of the project for all segments in both the off-site and on-site scenarios.

TNM software was used to calculate the distances to noise contour lines for the off-site impacts (refer to Section 4.4.2).

MTS Transit Bus Stop

Multiple bus stops are located along southbound Genesee Avenue and four are located along northbound Genesee Avenue (Metropolitan Transit System [MTS] 2016), including the UTC Transit Center across Genesee Avenue within the Westfield UTC regional shopping center. One bus stop is directly adjacent to the project site, near the proposed hotel; the only stops are located the north of the project. A 12-second measurement of this bus stop, MTS Bus Route 202, was taken as the bus came to a complete stop to pick up passengers. It should be noted that the observed buses idled for approximately one to two minutes while waiting for passengers, and in this time their engines did not make audible noise. Table 11, *Bus Stop Noise Data,* shows the noise data for this bus stop.

Table 11
BUS STOP NOISE DATA

Source	Noise Levels in Decibels[1] (dB) Measures at Octave Frequencies								dBA L_{EQ}
	63 Hz	125 Hz	250 Hz	500 Hz	1 KHz	2 kHz	4 kHz	8 kHz	
MTS Bus	92.4	91.1	89.7	85.6	83.7	92.2	89.4	94.4	97.8

Source: HELIX 2016

[1] Sound Power Levels (S_{WL})

MTS = Metropolitan Transit System; Hz = Hertz; kHz = kilohertz; dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

Future San Diego Trolley Operations

The Trolley, operated by MTS, would extend light rail service to the project area with a station located on an elevated platform in the middle of Genesee Avenue adjacent to Building T2 of the project. The extension is currently under construction with service anticipated to begin in 2021. As the Trolley would be traveling at low speeds near the project due to deceleration to stop at the station or acceleration to leave the station, the main Trolley noise source to proposed project NSLUs would be from the train's horns.

According to the Environmental Impact Report (EIR) for the Mid-Coast Trolley project, train horns are electronic and have two loudness settings; the low setting is 75 dBA at 100 feet, and the high setting is 85 dBA at 100 feet when measured directly in front of the train (San Diego Association of Governments [SANDAG] 2014a). Off-site noise is reduced by mounting the horns at track level on the trains rather than on the roof, and focusing the sound forward of the vehicle. Noise experienced at greater than a 30-degree angle from the front of the train is reduced by 5 dBA or more as the angle continues to increase.

The Trolley would run at 7.5-minute headways between 6:00 a.m. to 6:00 p.m. and 15-minute headways from 4:00 a.m. to 6:00 a.m. and 6:00 p.m. to 12:00 a.m.; no trains would run from 12:00 a.m. to 4:00 a.m. (SANDAG 2014b).

MTS uses the quieter horn when exiting stations. According to the Mid-Coast Trolley Noise and Vibration Impacts Technical Report, the horns would be used twice when exiting a station (SANDAG 2014b). The California Public Utilities Commission (CPUC) requires use of the high setting when a safety concern is identified by the operator (e.g., a pedestrian on the tracks). The CPUC also requires that MTS use horns to warn patrons before the train departs from a station.

To analyze a conservative scenario from the use of Trolley horns, it was assumed that the loudest setting for the horns would be used three times for three seconds each time upon entering and exiting the

station. Given a train entering and leaving the station every 7.5 minutes, this would equal 144 seconds of horn use per hour. Under these assumptions, the horns would create an hourly noise level of 71.0 dBA at 100 feet; noise levels from the horns would be 65 dBA at 200 feet, 60 dBA at 350 feet, and 57 dBA at 500 feet.

Trolley alignment in the area would have no grade crossings and, thus, no crossing gates with bells.

Public address (PA) systems may be installed at the stations to announce when trains are arriving as well as to provide additional information to Trolley riders. These systems would have automatic volume adjustment controls, so the announcements would be only a few decibels above ambient noise levels (SANDAG 2014b). The Mid-Coast Trolley Noise and Vibration Impacts Technical Report found that with proper design of the PA systems and the automatic volume adjustment, the noise from these systems would not generate moderate or severe noise impacts in communities near stations. The systems would be located approximately 80 feet from the nearest project building (Buildings T2). With the low noise levels produced by the PA system and distance to nearby project buildings, the PA system would not be expected to create a calculable (or audible) noise level at the project.

Aircraft

The closest airport to the project site is Marine Corps Air Station (MCAS) Miramar, located approximately 2.8 miles to the east. The site is located outside of the 60 CNEL contour as shown on the Compatibility Policy Map: Noise MCAS Miramar Airport Land Use Compatibility Plan (ALUCP; Airport Land Use Commission 2008) and the MCAS Miramar Air Installations Compatible Use Zones (AICUZ) Update (MCAS Miramar 2004). Based upon the increasing distances between the 60, 65, and 70 CNEL contours, the airport noise level at the project site is estimated to be 57 CNEL.

3.3 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE AND CONDITIONS OF APPROVAL

The following thresholds are based on the City Significance Determination Thresholds and Noise Ordinance, as applicable to the project.

A significant noise impact would occur if the project would:

1. Result in temporary construction noise that exceeds 75 dBA L_{EQ} (12 hour) at the property line of a residentially-zoned property from 7:00 a.m. to 7:00 p.m. (as identified in Section 59.0404 of the City's Municipal Code) or if non-emergency construction occurs during the 12-hour period from 7:00 p.m. to 7:00 a.m.

2. Result in or create a significant permanent increase in the existing noise levels. For the purposes of this analysis, a significant increase would be greater than a perceptible change (3 dBA) over existing conditions or the generation of noise levels at a common property line that exceed the limits shown in Table 1.

The following condition of approval would be required for all proposed new uses:

3. Projects shall not expose new development to noise levels at exterior use areas or interior areas in excess of the noise compatibility guidelines established in the City General Plan Noise

Element. The conditionally compatible noise levels for project land uses are 75 CNEL for hotels, offices, and commercial-retail. For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. For indoor uses at a conditionally compatible land use, exterior noise must be attenuated to 45 CNEL for hotels and multi-family residential and 50 CNEL for offices and commercial-retail to be considered a compatible land use.

A significant vibration impact would occur of the project would:

4. Subject vibration-sensitive land uses to construction-related ground-borne vibration that exceeds the severe vibration annoyance potential criteria for human receptors, as specified by Caltrans (2013), of 0.4 inches per second peak particle velocity (PPV), and 0.5 inches per second PPV for damage to structures for continuous/frequent intermittent construction sources (such as impact pile drivers, vibratory pile drivers, and vibratory compaction equipment).

4.0 IMPACTS

4.1 ISSUE 1: TEMPORARY INCREASE IN AMBIENT NOISE LEVELS

4.1.1 Construction Noise

The most substantial noise increases from construction activities that may affect off-site uses would occur during demolition, grading, and building construction. The loudest construction activity during demolition would be from the potential use of an excavator-mounted breaker and/or concrete saw to demolish part of the concrete underground parking garage, including parts of the ground level slabs. During demolition of the other structures and grading, a dozer or excavator, in conjunction with a loader and an off-highway truck, would be used to demolish or grade material and to load the debris for removal. Building construction would involve an excavator-mounted drill for building footings, a cement truck to fill in the footings, and a crane to raise up project structures.

Demolition of the underground parking garage and aboveground slabs would occur within 85 feet of the nearest residentially-zoned property line, which is adjacent to the pocket park to the west. A breaker and concrete saw would be expected to be used for 40 percent of an 8-hour construction day and would not be in operation simultaneously. At a distance of 85 feet, a breaker would generate a noise level of 79.7 dBA L_{EQ} (12 hour). The 75 dBA L_{EQ} noise contour would be 145 feet. At a distance of 85 feet, a concrete saw would generate a noise level of 79.3 dBA L_{EQ} (12 hour). The 75 dBA L_{EQ} noise contour would be 139 feet. Therefore, use of a breaker or concrete saw during demolition of the underground parking garage would exceed the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour) at the property line of a residentially-zoned property and impacts would be potentially significant.

For building demolition and grading, operation of a dozer, loader, and off-highway truck or an excavator, loader, and off-highway truck would occur throughout the site at various distances from the residentially-zoned property line to the west. The pieces of equipment would be expected to operate for 40 percent of an 8-hour construction day. The 75 dBA L_{EQ} (12 hour) noise contour associated with demolition and grading using a dozer, loader, and off-highway truck would be 70 feet. The 75 dBA L_{EQ} (12 hour) noise contour associated with demolition and grading using an excavator, loader, and off-highway truck would be 65 feet. Demolition and grading work at existing Buildings A, B, C, D, and K (refer to Figure 3) would occur within these distances to the residentially-zoned property line to the

west. Therefore, the use of these pieces of equipment would exceed the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour) during demolition and grading work at Buildings A, B, C, D, and K, and impacts would be potentially significant.

Demolition and grading work for other project areas would occur outside of these distances to the residentially-zoned property line to the west, and impacts would be less than significant for these areas.

For building construction, operation of an excavator-mounted drill, cement truck, and crane would also occur throughout the site at various distances from the residentially-zoned property line to the west. These pieces of equipment would be expected to operate for 40 percent of an 8-hour construction day and would not be in operation simultaneously. The 75 dBA L_{EQ} (12 hour) noise contours for a drill, concrete truck, and crane would be 41 feet, 40 feet, and 49 feet, respectively. Construction of proposed Buildings A, B, C, D, and L (refer to Figure 4) would be expected to occur within these distances to the residentially-zoned property line to the west. Therefore, the use of these pieces of equipment would exceed the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour) during building construction work for Buildings A, B, C, D, and L, and impacts would be potentially significant.

Building construction work for other project areas would occur outside these distances to the residentially-zoned property line to the west, and impacts would be less than significant for these areas. See Appendix C, *Construction Noise Model Outputs*, for model outputs.

4.1.2 Mitigation Measures

The following mitigation measures would be required to reduce construction noise impacts to below a level of significance:

NOI-1 **Parking Garage Demolition Noise Barriers.** Prior to issuance of demolition, grading, or building permits, the City's Environmental Designee and Mitigation Monitoring Coordination (MMC) shall ensure the following notes are included on the project plans. For demolition of the underground parking garage and ground level slabs, if a breaker is used within 145 feet or if a concrete saw is used within 139 feet of a residentially-zoned property line, a temporary 12-foot-high noise control barrier shall be erected between the breaker and concrete saw and the property line to reduce noise levels below the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour). If applicable, a construction safety barrier may be enhanced to act as a noise control barrier by meeting the specifications listed below.

The temporary noise control barrier shall be tall enough to break the line of sight between the breaker and concrete saw and the property line. The sound attenuation barrier must be solid. It can be constructed of wood, plywood, or flexible vinyl curtains that meet a rating of Sound Transmission Class (STC) 19, as long as there are no cracks or gaps, through or below the wall. Any seams or cracks must be filled or caulked. If wood or plywood is used, it can be tongue and groove and must be at least 5/8-inch total thickness or have a density of at least 3.5 pounds per square foot.

Alternative methods (including, but not limited to the use of alternative sound barriers, noise attenuation devices/modifications to construction equipment, limiting hours of operation, or a combination of these measures) may be employed to reduce noise levels below the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour); however, if alternate measures are

employed, they shall be evaluated by a qualified acoustician prior to the initiation of construction activities to ensure that they will reduce noise levels to within City standards.

NOI-2 Building Demolition, Grading, and Construction Noise Barriers. Prior to issuance of demolition, grading, or building permits, the City's Environmental Designee and MMC shall ensure the following notes are included on the project plans. A temporary 12-foot high noise control barrier shall be erected between the construction equipment and residentially-zoned property lines within the following distances to reduce noise levels below the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour):

- 70 feet for demolition and grading using a dozer, loader, and off-highway truck;
- 65 feet for demolition and grading using an excavator, loader, and off-highway truck;
- 41 feet for building construction using a drill;
- 40 feet for building construction using a concrete truck; and
- 49 feet for building construction using a crane.

If applicable, a construction safety barrier may be enhanced to act a noise control barrier by meeting the specifications listed below.

The temporary noise control barrier shall be tall enough to break the line of sight between the pieces of equipment and the pocket park. The sound barrier specifications and alternative compliance procedures shall be the same as those described in Mitigation Measure NOI-1.

4.1.3 Significance of Impacts After Mitigation

With implementation of the construction noise barriers described in Mitigation Measures NOI-1 and NOI-2, impacts would be less than significant.

4.2 ISSUE 2: PERMANENT INCREASE IN AMBIENT NOISE LEVELS

4.2.1 Off-site Transportation Noise

4.2.1.1 Exterior Noise Levels

TNM software was used to calculate the noise contour distances for off-site roadway segments in the project vicinity for the following scenarios: Existing, Existing + Project, Buildout (Year 2035), and Buildout (Year 2035) + Project. The off-site roadway modeling represents a conservative analysis that does not consider topography or attenuation provided by existing structures. The results of this analysis measured in CNEL at the nearest NSLUs to the roadway segments are shown below in Table 12, *Off-site Traffic Noise Levels.* Additional analysis for the 70, 65, and 60 CNEL distances are provided in Appendix D, *Off-site Traffic Noise Levels.*

Table 12
OFF-SITE TRAFFIC NOISE LEVELS

Roadway Segment	Distance to Nearest NSLU (feet)[1]	CNEL at Nearest NSLU					
		Existing			Buildout (Year 2035)		
		Existing	Existing + Project	Change in CNEL	Buildout (Year 2035)	Buildout (Year 2035) + Project	Change in CNEL
La Jolla Village Drive							
Regents Road to Costa Verde Boulevard	100	70.1	70.2	+0.1	70.7	71.3	+0.6
Costa Verde Boulevard to Genesee Avenue	100	70.4	70.4	0.0	71.7	71.7	0.0
Nobel Drive							
Regents Road to Costa Verde Boulevard	80	68.4	68.7	+0.3	69.6	69.8	+0.2
Costa Verde Boulevard to Genesee Avenue	70	68.3	68.4	+0.1	70.1	70.2	+0.1
Genesee Avenue to Towne Centre Drive	70	68.3	68.4	+0.1	70.1	70.2	+0.1
Genesee Avenue							
La Jolla Village Drive to Esplanade Court	70	71.1	71.4	+0.3	73.1	73.2	+0.1
Nobel Drive to Decoro Street	70	71.4	71.6	+0.2	73.1	73.2	+0.1
Regents Road							
Executive Drive to La Jolla Village Drive	60	68.6	68.6	0.0	69.7	69.8	+0.1
La Jolla Village Drive to Nobel Drive	60	67.8	67.9	+0.1	69.4	69.4	0.0
South of Nobel Drive	70	68.2	68.4	+0.2	68.1	68.2	+0.1

[1] Distance measured from roadway centerline; the nearest NSLUs on all roadways are multi-family residential land uses.
CNEL = Community Noise Equivalent Level; NSLU = noise sensitive land use

A direct significant impact would occur if exterior useable spaces are exposed to noise levels exceeding the thresholds listed under Section 2.3.3, if those uses were not already exposed to noise levels above the thresholds before the project. The nearest NSLUs to the studied roadways are multi-family residences. For these NSLUs, the threshold would be 70 CNEL. If noise levels under the Existing or Buildout (Year 2035) scenarios without the project already exceed the applicable significance thresholds, a significant impact would occur for the Existing + Project or Buildout (Year 2035) + Project scenarios if the project's contribution would be 3 CNEL or greater. Table 12 displays noise levels both with and without the project. As shown, noise levels would exceed 70 CNEL without implementation of the project along most roadway segments.

The related increase in noise levels from project-added traffic would be a maximum of 0.6 CNEL, which would not result in an increase to ambient noise levels in excess of 3 CNEL. For the roadway segments that do not exceed 70 CNEL in the scenario without the project, the project-added trips would not increase noise levels above 70 CNEL. Therefore, direct exterior off-site transportation noise impacts would be less than significant.

4.2.1.2 Interior Noise Levels

Typical architectural materials are expected to attenuate exterior noise levels by 15 CNEL when measured inside a building. Therefore, if exterior noise levels exceed 60 CNEL at a building's façade, a significant interior impact may occur. If noise levels under the Existing or Buildout (Year 2035) scenarios without the project already exceed the applicable significance thresholds, a significant impact to interior noise levels at off-site NSLUs may occur for the Existing + Project or Buildout (Year 2035) + Project scenarios if the project's contribution would be 3 CNEL or greater.

As noted earlier, noise levels in the project scenarios would exceed 60 CNEL and the increase in noise levels from project-added traffic along these roadways would be less than 3 CNEL. Therefore, the project's off-site transportation noise would not cause significant direct impacts related to interior noise of off-site NSLUs.

4.2.1.3 Cumulative Noise Levels

Exterior

The potential for a cumulative noise impact can occur when traffic from multiple projects combines to increase noise levels above thresholds. A significant cumulative exterior impact would occur if:

- Cumulative projects in combination with the proposed project result in the exposure of an off-site NSLU that is exposed to less than 70 CNEL in the Existing scenario to an exterior noise level of 70 CNEL or greater in the Buildout (Year 2035) + Project scenarios; or

- Cumulative projects in combination with the proposed project cause an increase of at least 3 CNEL from Existing to Buildout (Year 2035) + Project scenarios if the NSLU is already exposed to 70 CNEL or greater under the Existing scenario.

As shown on Table 13, *Cumulative Off-site Traffic Noise Levels*, two segments are identified as having a significant cumulative exterior impact by having their exterior noise levels increased above 70 CNEL: Nobel Drive from Costa Verde Boulevard to Genesee Avenue and from Genesee Avenue to Towne Center Drive.

Table 13
CUMULATIVE OFF-SITE TRAFFIC NOISE LEVELS

Roadway Segment	Distance to Nearest NSLU (feet)[1]	CNEL at Nearest NSLU						
		Existing	Buildout (Year 2035)	Buildout (Year 2035) + Project	Change from Existing to Buildout (Year 2035) + Project	Cumulative Impact?	Change from Buildout (Year 2035) to Buildout (Year 2035) + Project	Cumulatively Considerable Contribution?
La Jolla Village Drive								
Regents Road to Costa Verde Boulevard	100	70.1	70.7	71.3	+1.2	No	+0.6	No
Costa Verde Boulevard to Genesee Avenue	100	70.4	71.7	71.7	+1.3	No	0.0	No
Nobel Drive								
Regents Road to Costa Verde Boulevard	80	68.4	69.6	69.8	+1.4	No	+0.2	No
Costa Verde Boulevard to Genesee Avenue	70	68.3	70.1	70.2	+1.8	Yes	+0.1	No
Genesee Avenue to Towne Centre Drive	70	68.3	70.1	70.2	+1.9	Yes	+0.1	No
Genesee Avenue								
La Jolla Village Drive to Esplanade Court	70	71.1	73.1	73.2	+2.1	No	+0.1	No
Nobel Drive to Decoro Street	70	71.4	73.1	73.2	+1.8	No	+0.1	No
Regents Road					0			
Executive Drive to La Jolla Village Drive	60	68.6	69.7	69.8	+1.2	No	+0.1	No
La Jolla Village Drive to Nobel Drive	60	67.8	69.4	69.4	+1.6	No	0.0	No
South of Nobel Drive	70	68.2	68.1	68.2	0.0	No	+0.1	No

[1] Distance measured from roadway centerline; the nearest NSLUs on all roadways are multi-family residential land uses.
CNEL = Community Noise Equivalent Level; NSLU = noise sensitive land use

A cumulatively considerable contribution to this impact would occur if a project contributes more than 1 CNEL to the cumulative noise increase. As shown in Table 13, the project would not contribute more than 1 CNEL to the cumulative increase in traffic noise along the Nobel Drive segments. Therefore, traffic-related exterior noise impacts from the project are not cumulatively considerable.

Interior

A significant cumulative interior impact would occur if cumulative projects in combination with the proposed project meet the following conditions: (1) result in interior noise levels in excess of 45 CNEL; or (2) cause an increase of at least 3 CNEL from the Existing to Buildout (Year 2035) scenarios. As typical architectural materials are expected to attenuate noise levels by 15 CNEL, interior noise levels would be 45 CNEL or greater if the noise levels at the building façades exceed 60 CNEL. No segments would have a significant cumulative interior impact according to this standard.

4.2.2 Operational Noise – Off-site Receptors

The project's operational noise-generating land uses include retail spaces, grocery store, parking structure, offices, and a hotel. Specifically, the known or anticipated noise sources within these uses would include HVAC units, delivery trucks and a trash compactor within the loading dock, live music, and vehicular traffic. Operation of the project would therefore generate permanent increased noise levels for nearby off-site NSLUs. Receiver locations indicating the locations of off-site receptors (labeled as OFF) were placed in areas that were expected to be exposed to high operational noise levels and are shown on Figure 6, *Modeled Receiver Locations.*

All operational noise sources are expected to be in use throughout the daytime and evening hours. The City Noise Ordinance property line limit for the boundary of a multi-family residential and commercial property line is 60 dBA L_{EQ} during daytime hours from 7:00 a.m. to 7:00 p.m. and 55 dBA L_{EQ} during evening hours from 7:00 p.m. to 10:00 p.m.

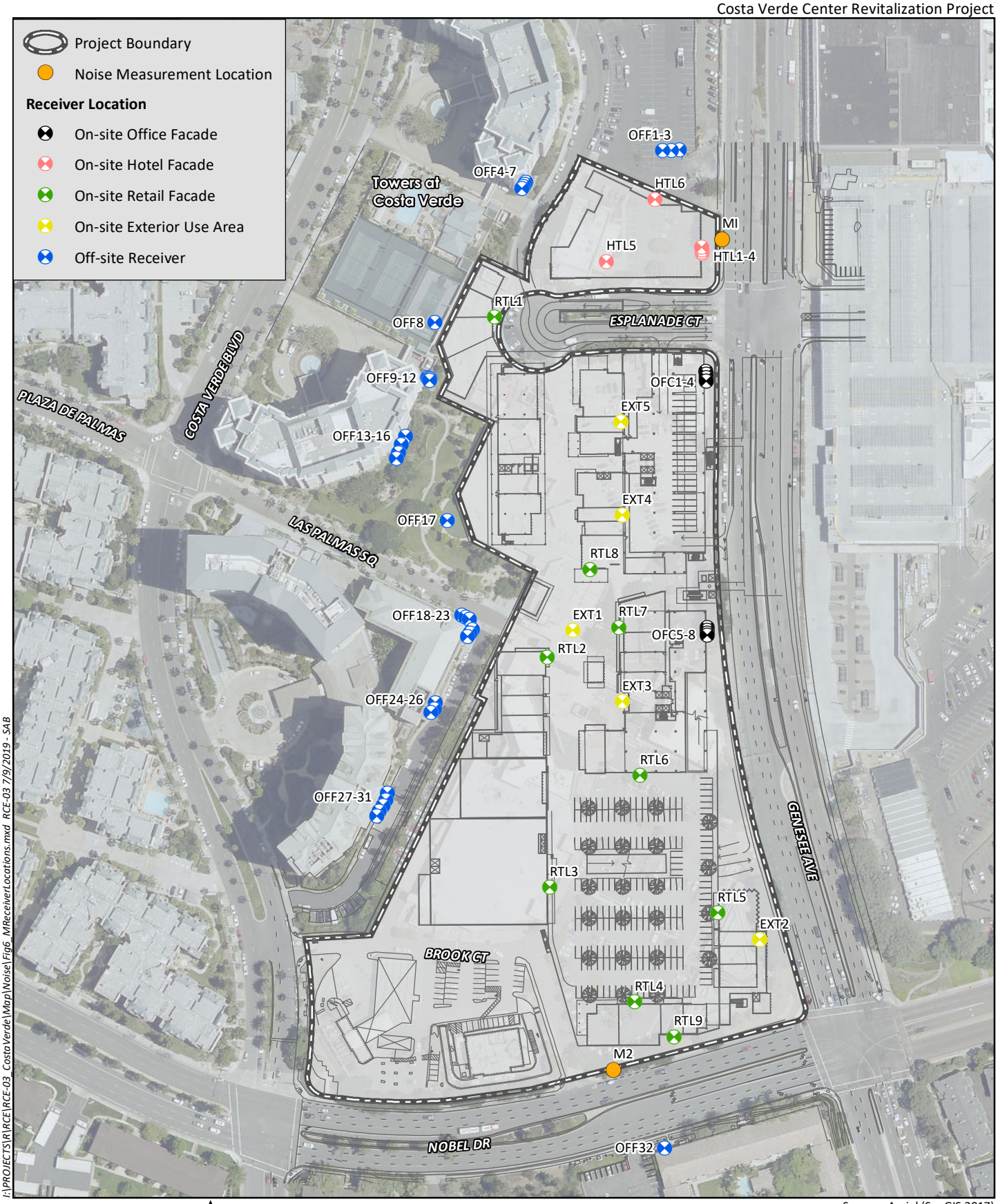
4.2.2.1 Heating, Ventilation, and Air Conditioning

HVAC units would be located on the roofs of the retail, hotel, and office buildings. Due to their elevated locations atop the project structure's rooftops, noise levels would be elevated for the high-rise structures of the Vi at La Jolla Village senior housing community and at the Towers at Costa Verde residential buildings to the west. The modeled noise levels represent a conservative scenario based on all units working simultaneously for one hour. HVAC noise levels are expected to range from 37 to 57.2 dBA L_{EQ} at the off-site receivers. HVAC noise levels in isolation would therefore exceed these City Noise Ordinance limit during the evening hours at the off-site senior housing community to the west.

4.2.2.2 Loading Dock Operations

A collective noise level was calculated during a typical hour for delivery unloading and trash compaction. Delivery operations are based on a single truck trip per hour. The trash compactor analysis is based on one cycle with one-minute duration per hour. The modeled noise levels from the planned deliveries and trash compaction are expected to range from -1.3 to 47.5 dBA L_{EQ} at the off-site receivers.[1] Loading dock

[1] Because zero decibels represents the human threshold for hearing, any sound pressure that is lower than the threshold of human hearing will register as a negative number.



HELIX Environmental Planning

Modeled Receiver Locations

Figure 6

noise levels in isolation would therefore not exceed these City Noise Ordinance limit during the evening hours for off-site receptors.

4.2.2.3 Parking Structure

The project's parking structure would include an exposed top level with approximately 197 spaces at the podium level. The lower levels would be enclosed and noise impacts from these levels would be minimal. The projected noise levels from these parking structures would range from -1.0 to 41.7 dBA L_{EQ} at the off-site receivers. Parking structure noise levels alone would therefore not exceed these City Noise Ordinance limit during the evening hours for off-site receptors.

4.2.2.4 Music Events

Outdoor Live Music

Special outdoor events could include live music with low level amplification. For the purposes of this analysis, the location of the live music performances is assumed to be at a central location within the event plaza. The projected noise levels from musicians at the specified receivers would range from 20.4 to 60.3 dBA L_{EQ} at the off-site receivers. Live music event noise levels in isolation may therefore exceed these City Noise Ordinance limit during the evening hours at the off-site senior housing community to the west.

Indoor Music

The project could include an indoor use that would involve amplified music during nighttime hours. Because the specific location and type of operational activities of the use are unknown at this time due to the preliminary stage of design, potential noise levels cannot be quantified. However, based on the potential proximity of this use to the adjacent off-site receivers, noise levels at the off-site receivers could exceed City Noise Ordinance limits, and noise impacts are therefore assessed as potentially significant without mitigation.

4.2.2.5 Combined Operational Noise Levels – Daytime and Evening Hours

Table 14, *Operational Noise Impacts to Off-Site Receivers*, provides the project's combined operational noise levels, as well as the project's HVAC, loading dock, parking structure, and outdoor live music sources in isolation. The combined noise level is a conservative value that assumes all studied operational sources are generating noise simultaneously. For example, the outdoor live music is assumed to operate at the same time as the delivery trucks, when in practice delivery trucks typically unload materials during morning hours, whereas outdoor live music events would likely occur during the afternoon and evening hours.

The combined project noise levels range from 37.6 to 61 dBA L_{EQ} at off-site receiver locations. The project's operational noise levels would therefore exceed the daytime and evening noise limits at certain off-site receivers, and impacts would be potentially significant without mitigation.

Table 14
OPERATIONAL NOISE IMPACTS TO OFF-SITE RECEIVERS

Receiver	Receiver Description	Noise Level (dBA L_{EQ})					Impacts?
		HVAC	Loading Dock[1]	Parking Structure[1]	Outdoor Live Music	Combined	
OFF1	Future Monte Verde South Tower, 1st floor	38.3	-1.3	2.1	20.6	38.4	No
OFF2	Future Monte Verde South Tower, 7th floor	46.3	0.2	7.0	20.4	46.3	No
OFF3	Future Monte Verde South Tower, 13th floor	**57.2**	24.3	16.9	31.5	**57.3**	**Yes**
OFF4	Towers at Costa Verde, North Tower, 1st floor	44.9	3.0	20.3	43.6	47.3	No
OFF5	Towers at Costa Verde, North Tower, 6th floor	50.9	4.5	22.9	43.4	51.6	No
OFF6	Towers at Costa Verde, North Tower, 12th floor	**55.8**	18.3	25.0	42.6	**56.1**	**Yes**
OFF7	Towers at Costa Verde, North Tower, 18th floor	**55.1**	20.3	26.9	45.4	**55.6**	**Yes**
OFF8	Towers at Costa Verde Basketball Court	44.5	11.0	14.4	26.1	44.6	No
OFF9	Costa Verde, South Tower northeast corner, 1st Floor	44.6	7.1	-1.0	24.6	44.6	No
OFF10	Costa Verde, South Tower northeast corner, 6th Floor	54.2	9.6	27.1	36.9	54.3	No
OFF11	Costa Verde, South Tower northeast corner, 12th Floor	**55.4**	16.1	31.1	49	**56.3**	**Yes**
OFF12	Costa Verde, South Tower northeast corner, 18th Floor	54.7	23.4	32.7	48.7	**55.7**	**Yes**
OFF13	Costa Verde, South Tower southeast corner, 1st Floor	46.8	9.9	18.8	47.9	50.4	No
OFF14	Costa Verde, South Tower southeast Corner, 6th Floor	53.0	9.5	27.8	52.6	**55.8**	**Yes**
OFF15	Costa Verde, South Tower southeast Corner, 12th Floor	54.4	23.1	33.0	51.6	**56.2**	**Yes**
OFF16	Costa Verde, South Tower southeast Corner, 18th Floor	53.8	28.4	34.8	50.3	**55.5**	**Yes**
OFF17	Pocket Park	47.0	14.7	19.7	45.8	49.4	No
OFF18	Vi at La Jolla Village, L-shaped Building facing north, 1st floor	47.1	17.3	9.4	**56.7**	**57.2**	**Yes**
OFF19	Vi at La Jolla Village, L-shaped Building facing north, 3rd floor	50.0	19.1	11.3	**59.9**	**60.3**	**Yes**
OFF20	Vi at La Jolla Village, L-shaped Building facing north, 5th floor	53.3	23.6	19.7	**60**	**60.9**	**Yes**
OFF21	Vi at La Jolla Village, L-shaped Building facing east, 1st floor	46.9	33.8	19.0	**57.5**	**57.9**	**Yes**
OFF22	Vi at La Jolla Village, L-shaped Building facing east, 3rd floor	51.2	36.7	25.1	**60.3**	**60.8**	**Yes**
OFF23	Vi at La Jolla Village, L-shaped Building facing east, 5th floor	54.3	37.5	32.2	**59.9**	**61**	**Yes**
OFF24	Vi at La Jolla Village, L-shaped Building facing southeast, 1st floor	45.4	39.7	20.3	37	46.9	No
OFF25	Vi at La Jolla Village, L-shaped Building facing southeast, 3rd floor	49.1	44.2	25.8	36.4	50.5	No
OFF26	Vi at La Jolla Village, L-shaped Building facing southeast, 5th floor	52.1	43.9	32.7	39.5	53	No
OFF27	Vi at La Jolla Village, South Tower, 1st floor	44.2	44.3	22.0	30.2	47.3	No
OFF28	Vi at La Jolla Village, South Tower, 3rd floor	48.3	47.5	27.7	30.1	51	No

Table 14 (cont.)
OPERATIONAL NOISE IMPACTS TO OFF-SITE RECEIVERS

Receiver	Receiver Description	Noise Level (dBA L_{EQ})					Impacts?
		HVAC	Loading Dock[1]	Parking Structure[1]	Outdoor Live Music	Combined	
OFF29	Vi at La Jolla Village, South Tower, 5th floor	50.8	47.3	33.6	31	52.5	No
OFF30	Vi at La Jolla Village, South Tower, 10th floor	52.0	45.5	41.7	42.7	53.5	No
OFF31	Vi at La Jolla Village, South Tower, 18th floor	51.6	43.7	41.5	49	54.2	No
OFF32	Multi-family residential complex across Nobel Drive	37.0	26.1	21.0	21.1	37.6	No

OFF = Off-site receiver

[1] Because zero decibels represents the human threshold for hearing, any sound pressure that is lower than the threshold of human hearing will register as a negative number.

Bold indicates potential impacts based on the City Noise Ordinance's evening standards of 55 dBA L_{EQ} (one hour).

4.2.3 Operational Noise – On-site Receptors

Because the project would incorporate multiple operational noise sources and would contain multiple uses, analysis of the project's operational noise to the project's proposed on-site NSLUs was conducted. Refer to Figure 6 for on-site receivers.

On-site NSLU receptors include the project's hotel north of Esplanade Court (labeled as HTL). As shown in Table 15, *Operational Noise Impacts to On-Site Receivers*, noise impacts from the project's HVAC, loading dock, parking structure, and live music would generate noise levels that range from 38.7 to 51.0 dBA L_{EQ} at the hotel's façades. The City Noise Ordinance limits for commercial zones are 60 dBA L_{EQ} during nighttime hours. Impacts would be less than significant. Noise measurements of on-site receptors to determine General Plan compliance for new uses can be found in Section 4.3.1.

Table 15
OPERATIONAL NOISE IMPACTS TO ON-SITE RECEIVERS

Receiver	Receiver Description	Noise Level (dBA L_{EQ})
HTL1	Proposed Hotel, 1st floor facing east	38.7
HTL2	Proposed Hotel, 2nd floor facing east	39.4
HTL3	Proposed Hotel, 3rd floor facing east	39.9
HTL4	Proposed Hotel, 5th floor facing east	41.2
HTL5	Proposed Hotel, 3rd floor facing south	51.0
HTL6	Proposed Hotel, 3rd floor facing north	42.1

dBA = A-weighted decibel; L_{EQ} = one-hour average sound level

4.2.4 Mitigation Measures

Because operational of the project would generate noise levels exceeding daytime, evening, and nighttime limits set by the City Noise Ordinance, impacts related to Issue 2 would be potentially significant without mitigation. Implementation of mitigation measures NOI-3 and NOI-4 would reduce noise impacts to off-site receptors.

NOI-3 **Event Plaza Noise Barrier.** Noise levels from operational noise generated by the project shall meet the arithmetic mean of the City noise ordinance standards between a commercial and multi-family residential use. This standard is 60 dBA L_{EQ} during the hours between 7:00 a.m. and 7:00 p.m., 55 dBA L_{EQ} during the hours between 7:00 p.m. and 10:00 p.m., and 52.5 dBA L_{EQ} during the hours between 10:00 p.m. and 7:00 a.m. Noise reduction may be accomplished through on-site sound barriers or use restrictions.

To reduce noise levels from live music performances within the project's event plaza, all performances with amplified sound shall be directed to the east. A moveable or permanent bandshell shall be erected as a noise barrier. The barrier shall be at least 6 feet high and shall be located between the performers and the off-site receptors to the west. If amplified sound is used, any amplification equipment (e.g. speakers) shall not extend above or around the sound barrier, as viewed from the off-site receptors to the west. Non-amplified (acoustic) live music performances shall be permitted without the requirement of a noise barrier.

All sound barriers must be solid. They can be constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, as long as there are no cracks or gaps, through or below the walls. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least one-inch total thickness or have a density of at least 3.5 pounds per square foot. Where architectural or aesthetic factors allow, glass or clear plastic 3/8 of an inch thick or thicker may be used, if it is desirable to preserve a view. Sheet metal of 18 gauge (minimum) may be used, if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind.

NOI-4 **HVAC Noise Barriers**. Noise levels from operational noise generated by rooftop equipment shall meet the arithmetic mean of the nighttime City noise ordinance standards between a commercial and multi-family residential use. This standard is 52.5 dBA L_{EQ} during the hours between 10:00 p.m. and 7:00 a.m. Noise reduction may be accomplished through on-site noise barriers.

Sound barriers shall be constructed surrounding the rooftop HVAC units on all project buildings. On Building B, the barriers shall be incorporated into the proposed 14-foot mechanical screens. On Building T1, the barriers shall be incorporated into the proposed 25-foot mechanical screens. The barriers shall be at least two feet higher than the tallest noise-generating rooftop equipment on all other structures.

All sound barriers must be solid. They can be constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, as long as there are no cracks or gaps, through or below the walls. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least one-inch total thickness or have a density of at least 3.5 pounds per square foot. Sheet metal of 18 gauge (minimum) may be used, if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind.

NOI-5 **Indoor Music Use Noise Analysis.** Prior to issuance of a Conditional Use Permit (CUP) for indoor music use, a noise analysis shall be completed to assess operational noise sources associated with the indoor music use. Appropriate noise attenuation measures identified in the noise analysis shall be incorporated into the project design to ensure compliance with the City Noise Ordinance limits between a commercial use and multi-family residential use of 60 dBA L_{EQ} during the hours between 7:00 a.m. and 7:00 p.m., 55 dBA L_{EQ} during the hours between 7:00 p.m. and 10:00 p.m., and 52.5 dBA L_{EQ} during the hours between 10:00 p.m. and 7:00 a.m. Methods for ensuring compliant noise levels may include, but not be limited to, the following:

- Restricting music-generating equipment to indoor locations;
- Constructing the building so that the entry doors face away from the adjacent off-site receivers;
- Including a double set of entry doors that are offset to limit noise transmission through the doors; and
- Ensuring that any side or rear doors remain securely closed when music is playing.

4.2.5 Significance of Impacts After Mitigation

Implementation of mitigation measures NOI-3, NOI-4, and NOI-5 would reduce noise levels at all off-site receivers. Table 16, *Mitigated Operational Noise Levels*, provides the combined noise levels of noise expected to be generated between the daytime and evening hours of 7:00 a.m. and 10:00 a.m. and nighttime hours from 10:00 p.m. to 7:00 a.m. with all incorporated noise barriers. Measured noise levels at off-site receivers would not exceed 53.7 dBA L_{EQ} during daytime or evening hours, and would not exceed 52.3 dBA L_{EQ} during nighttime hours. Impacts from the project's operational noise would be less than significant.

Table 16
MITIGATED COMBINED OPERATIONAL NOISE LEVELS

Receiver Number	Receiver Description	Noise Level (dBA L_{EQ})		Impacts?
		Daytime/ Evening	Nighttime	
OFF1	Future Monte Verde South Tower, 1st floor	34.3	34.2	No
OFF2	Future Monte Verde South Tower, 7th floor	39.1	39.1	No
OFF3	Future Monte Verde South Tower, 13th floor	48.7	48.7	No
OFF4	Towers at Costa Verde, North Tower, 1st floor	44.0	42.1	No
OFF5	Towers at Costa Verde, North Tower, 6th floor	48.0	46.3	No
OFF6	Towers at Costa Verde, North Tower, 12th floor	50.3	49.7	No
OFF7	Towers at Costa Verde, North Tower, 18th floor	53.0	52.3	No
OFF8	Towers at Costa Verde Basketball Court	43.4	43.4	No
OFF9	Towers at Costa Verde, South Tower northeast corner, 1st Floor	39.9	39.8	No
OFF10	Towers at Costa Verde, South Tower northeast corner, 6th Floor	49.4	49.1	No
OFF11	Towers at Costa Verde, South Tower northeast corner, 12th Floor	52.2	49.7	No
OFF12	Towers at Costa Verde, South Tower northeast corner, 18th Floor	52.3	49.8	No
OFF13	Towers at Costa Verde, South Tower southeast corner, 1st Floor	40.6	40.4	No
OFF14	Towers at Costa Verde, South Tower southeast Corner, 6th Floor	49.2	45.1	No
OFF15	Towers at Costa Verde, South Tower southeast Corner, 12th Floor	51.0	46.1	No
OFF16	Towers at Costa Verde, South Tower southeast Corner, 18th Floor	51.6	47.0	No
OFF17	Pocket Park	42.8	40.5	No
OFF18	Vi at La Jolla Village, L-shaped Building facing north, 1st floor	51.0	40.7	No
OFF19	Vi at La Jolla Village, L-shaped Building facing north, 3rd floor	52.4	42.4	No
OFF20	Vi at La Jolla Village, L-shaped Building facing north, 5th floor	53.3	45.1	No
OFF21	Vi at La Jolla Village, L-shaped Building facing east, 1st floor	51.8	42.3	No
OFF22	Vi at La Jolla Village, L-shaped Building facing east, 3rd floor	53.0	44.9	No
OFF23	Vi at La Jolla Village, L-shaped Building facing east, 5th floor	53.7	47.9	No
OFF24	Vi at La Jolla Village, L-shaped Building facing southeast, 1st floor	42.9	44.5	No
OFF25	Vi at La Jolla Village, L-shaped Building facing southeast, 3rd floor	46.9	46.7	No
OFF26	Vi at La Jolla Village, L-shaped Building facing southeast, 5th floor	48.0	47.4	No
OFF27	Vi at La Jolla Village, South Tower, 1st floor	45.2	46.3	No
OFF28	Vi at La Jolla Village, South Tower, 3rd floor	48.7	48.6	No

Table 16 (cont.)
MITIGATED COMBINED OPERATIONAL NOISE LEVELS

Receiver Number	Receiver Description	Noise Level (dBA L_{EQ})		Impacts?
		Daytime/ Evening	Nighttime	
OFF29	Vi at La Jolla Village, South Tower, 5th floor	49.0	48.9	No
OFF30	Vi at La Jolla Village, South Tower, 10th floor	50.4	49.6	No
OFF31	Vi at La Jolla Village, South Tower, 18th floor	52.3	49.7	No
OFF32	Multi-family residential complex south across Nobel Drive	33.4	33.2	No

dBA = A-weighted decibel; L_{EQ} = one-hour average sound level
OFF = Off-site receiver

4.3 ISSUE 3: NOISE LEVEL STANDARD COMPLIANCE FOR NEW USES

4.3.1 Exterior Noise Levels

The City General Plan states that existing and future noise levels should be considered when making land use planning decisions to minimize people's exposure to excessive noise. As shown in Table 2, office, retail, and hotel land uses are not compatible in areas where exterior noise levels exceed 75 CNEL. Noise sources that may affect the exterior noise levels of the project include off-site traffic from Genesee Avenue and Nobel Drive, aircraft noise from MCAS Miramar, noise generated by the Trolley, and on-site noise sources such as HVAC units, delivery trucks, a trash compactor, and live music. Multiple on-site receivers modeled vicinity noise for noise level standards for compliance of new uses. These receivers include locations associated with the project's retail, office, event plaza, and hotel uses. Receiver locations can be seen on Figure 6.

As noted in the Section 3.2.2, future traffic noise levels presented in this analysis are based on forecasted traffic volumes provided in the TIA (LLG 2019), aircraft noise levels are based upon the contours presented in the MCAS Miramar ALUCP, and the Trolley noise levels are based upon horn noise information presented in the Mid-Coast Trolley EIR and Noise Technical Report. The aircraft and Trolley noise levels are conservative estimates that do not account for buildings or topographical attenuation.

The project's exterior areas include the event plaza, retail terrace, office balconies, and building façades. Exterior use areas are modeled as receivers EXT1 through EXT5, the hotel building as HTL1 through HTL6, office buildings as OFC1 through OFC8, and retail buildings as RTL1 through RTL9. All receivers are shown in Table 17, *Future On-site Noise Levels* and are depicted on Figure 6. Noise levels at the building façades are also provided in the table for the interior noise analysis (see Section 4.3.1.1).

As shown in Table 17, noise levels at the project's exterior areas and building façades were modeled as high as 74.9 CNEL. The exterior use areas (EXT1 through EXT5) were modeled as high as 69.8 CNEL. Therefore, noise levels throughout the project site would not exceed the City's Noise Element exterior noise level conditionally compatible standards of 75 CNEL for hotels, offices, or commercial-retail. Impacts to project outdoor use areas would be less than significant.

Table 17
FUTURE ON-SITE NOISE LEVELS

Receiver Number	Location	Noise Levels (CNEL)				Exceed Exterior Compatibility Guidelines?[2]	Exceed Interior Compatibility Guidelines?[3]
		Roadways and Operations[1]	Aircraft	Trolley	Combined		
EXT1	Event Plaza	63.7	57	63.1	64.5	No	No
EXT2	Building F terrace, facing east	69.6	57	65.3	69.8	No	**Yes**
EXT3	Building T1 balcony, facing west	61.2	57	N/A	62.6	No	No
EXT4	Building T2 balcony, facing west	60.6	57	N/A	62.2	No	No
EXT5	Building T2 balcony, facing west	55.4	57	N/A	59.3	No	No
HTL1	Hotel 1st floor, facing east	70.8	57	72.6	74.9	No	**Yes**
HTL2	Hotel 2nd floor, facing east	70.3	57	72.6	74.7	No	**Yes**
HTL3	Hotel 3rd floor, facing east	69.8	57	72.6	74.5	No	**Yes**
HTL4	Hotel 5th floor, facing east	69.3	57	72.6	74.3	No	**Yes**
HTL5	Hotel 3rd floor, facing south	57.2	57	63.4	65.1	No	**Yes**
HTL6	Hotel 3rd floor, facing north	63.9	57	66.9	69.0	No	**Yes**
OFC1	Office Building T2, 2nd floor façade, facing east	70.4	57	72.6	74.7	No	**Yes**
OFC2	Office Building T2, 3rd floor façade, facing east	70.0	57	72.6	74.6	No	**Yes**
OFC3	Office Building T2, 4th floor façade, facing east	69.7	57	72.6	74.5	No	**Yes**
OFC4	Office Building T2, 5th floor façade, facing east	69.6	57	72.6	74.4	No	**Yes**
OFC5	Office Building T1, 2nd floor façade, facing east	70.1	57	72.6	74.6	No	**Yes**
OFC6	Office Building T1, 3rd floor façade, facing east	69.6	57	72.6	74.4	No	**Yes**
OFC7	Office Building T1, 4th floor façade, facing east	69.3	57	72.6	74.3	No	**Yes**
OFC8	Office Building T1, 5th floor façade, facing east	69.2	57	72.6	74.3	No	**Yes**
RTL1	Retail Building A retail façade, facing east	55.0	57	59.3	62.2	No	No
RTL2	Retail Building C retail façade, facing east	56.2	57	N/A	59.6	No	No
RTL3	Retail Building D retail façade, facing east	56.2	57	59.3	62.5	No	No
RTL4	Retail Building E retail façade, facing north	54.6	57	58.6	61.8	No	No
RTL5	Retail Building F retail façade, facing west	55.9	57	N/A	59.5	No	No
RTL6	Retail Building G retail façade, facing south	58.0	57	N/A	60.5	No	No
RTL7	Retail Building H retail façade, facing west	71.3	57	N/A	71.5	No	**Yes**
RTL8	Retail Building J retail façade, facing south	62.8	57	63.1	66.5	No	**Yes**
RTL9	Retail Building E retail façade, facing south	69.2	57	N/A	69.5	No	**Yes**

CNEL = Community Noise Equivalent Level; N/A = receivers that, due to attenuation from project buildings, are not expected to be exposed to Trolley noise.

[1] Noise levels are based on project operations and traffic volumes provided in the TIA (LLG 2019).

4.3.1.1 Interior Noise Levels

As traditional architectural materials are expected to attenuate noise levels by 15 CNEL, if noise levels exceed 60 CNEL at the project's hotel façade or 65 CNEL at the commercial-retail or office building façades, interior noise levels may exceed the City Noise Element interior noise standards for each type of land use.

As shown in Table 17, building façade noise levels would exceed 60 CNEL at the hotel façades, and would exceed 65 CNEL at commercial-retail and office uses in Buildings T1, T2, E, F, H, and J. Therefore, interior noise levels would likely exceed City Noise Element interior noise standards without additional architectural attenuation.

4.3.2 Conditions of Approval

The following conditions of approval would be required to ensure project consistency with the City Noise Element:

NOI-5 Exterior-to-Interior Noise Level Limit: For hotel rooms where exterior noise levels exceed 60 CNEL and for commercial-retail and office uses where exterior noise levels exceed 65 CNEL, the project applicant shall coordinate with the project architects and other contractors to ensure compliance with the 45 CNEL interior noise level standard for hotels and 50 CNEL for commercial-retail.

This will be achieved through additional exterior-to-interior noise analysis once specific building plan information is available. This analysis shall be conducted for the proposed hotel where exterior noise levels are expected to exceed 60 CNEL and for the proposed commercial-retail and office areas where exterior noise levels are expected to exceed 65 CNEL to demonstrate that interior levels do not exceed the applicable City of San Diego Noise Element limit. The information in the analysis shall include wall heights and lengths, room volumes, window and door tables typical for a building plan, as well as information on any other openings in the building shell. With this specific building plan information, the analysis shall determine the predicted interior noise levels at the planned on-site buildings. If predicted noise levels are found to be in excess of the applicable limit, the report shall identify architectural materials or techniques that could be included to reduce noise levels to the applicable limit.

For uses that require up to a 30 dB reduction from exterior-to-interior noise levels, the following standard measures could be incorporated to provide the required noise control:

- Windows and sliding glass doors would be mounted in low air infiltration rate frames (0.5 cubic feet per minute or less, per ANSI specifications).

- Exterior doors would have a solid core with perimeter weather-stripping and threshold seals with a STC rating of at least 31, with the potential for STC rating of 36 or higher if necessary.

- Exterior walls would include minimum of 5/8-inch of stucco or brick veneer over a minimum 1/2-inch plywood or OSB shear panel, R11 insulation and interior 5/8-inch gypsum board.

- Walls would have a STC rating of at least 46.
- Dual-paned windows would be installed with a STC rating of at least 31, with the potential for STC rating of 36 or higher if necessary.
- If exterior sliding glass doors are included, high-performance glazing would be installed with a minimum STC rating of 36.
- Air conditioning or mechanical ventilation systems would be installed to allow windows and doors to remain closed for extended intervals of time so that acceptable interior noise levels can be maintained. The mechanical ventilation system would meet the criteria of the International Building Code (Chapter 12, Section 1203.3 of the 2001 California Building Code).
- If the above recommendations cannot be implemented into the construction of the buildings, a more detailed analysis of interior and exterior noise levels would be conducted when floor plans and construction details are available to demonstrate compliance with the 45 CNEL interior standard for hotel/ multi-family residential and 50 CNEL for commercial-retail.

4.3.3 Policy Consistency After Implementation of Measures

With implementation of NOI-5, potential interior noise levels at on-site NSLUs would be compatible with City Noise Element Standards.

4.4 ISSUE 4: EXCESSIVE GROUND-BORNE VIBRATION

4.4.1 Construction Vibration

Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be conducted by the project. A possible source of vibration during project construction would be a vibratory roller, which is expected to be used within 50 feet of the nearest sensitive use. A vibratory roller would create approximately 0.210 inch per second PPV at a distance of 25 feet (Caltrans 2013). Using the Caltrans criterion of 0.4 inch per second PPV at 25 feet, the approximately 0.210 inch per second PPV vibration impact would be lower than what is considered a “severe” impact for humans, and would not result in building damage. Therefore, although a vibratory roller may be perceptible to nearby human receptors, temporary impacts associated with the roller (and other potential equipment) would be less than significant.

4.4.2 Operational Vibration

The proposed land uses do not include equipment that would generate substantial vibration. Therefore, operational vibration impacts are less than significant.

4.4.3 Mitigation Measures

Because impacts related to Issue 2 would be less than significant, no mitigation is required.

4.4.4 Significance of Impacts After Mitigation

Impacts would be less than significant without mitigation.

5.0 LIST OF PREPARERS

Jason Runyan	Acoustic Analyst
Hunter Stapp	Acoustic Analyst
Charles Terry	Senior Acoustic Specialist
Joanne M. Dramko, AICP	Senior Technical Specialist, Quality Assurance Reviewer
Andrea Bitterling	Project Manager

6.0 REFERENCES

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Appendix A

On-site Noise Measurement Sheets

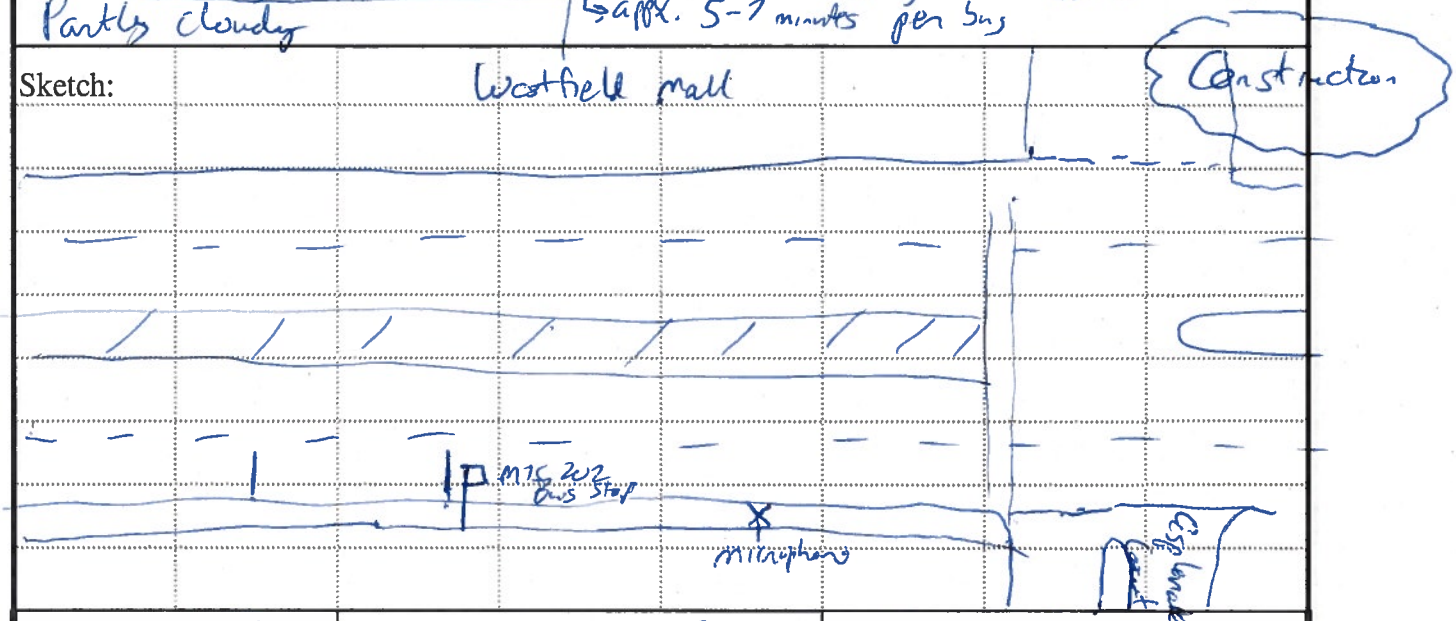
Lt 113

Site Survey

Job # RTC-03	Project Name: Costa Verde		
Date: 4/12/16	Site #: —	Engineer: Bill Wasth	
Address: Near Genessee Avenue / Esplanade Ct Intersection			
Meter: LxT	Serial #: 0004741	Calibrator: CALISO	Serial #: 3688

Notes: Construction noise (back up alarms) across street; bus noise 1600 ft noise (stopping, lowering, starting) Partly cloudy → approx. 5-7 minutes per bus

Sketch:



Temp: 67°	Wind Spd: WNW 8 mph	Humidity: 63 %			
Start of Measurement: 10:41 am	End of Measurement: 10:51	68.5 dBA L_{EQ}			

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
170	16	2

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

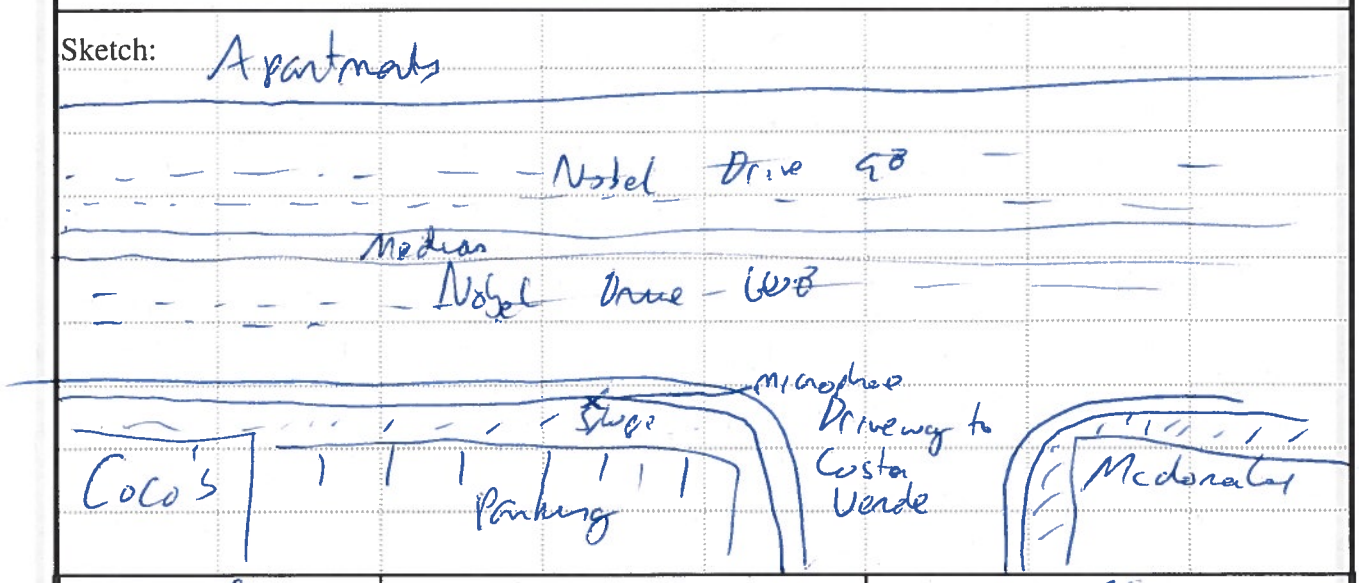
Lxt 116

Site Survey

Job # ACE-03	Project Name: Costa Verde		
Date: 4-12-16	Site #: —	Engineer: Bill Vosti	
Address: Off Nobel Drive, near Mcdonald's			
Meter: LxT	Serial #: 000741	Calibrator: CAL150	Serial #: 3688

Notes: Mostly Sunny

Sketch:



Temp: 68°F	Wind Spd: 3 mph	Humidity: 61 %
Start of Measurement: 12:31 pm	End of Measurement: 12:41 pm	67.6 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
294	4	—

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

Appendix B

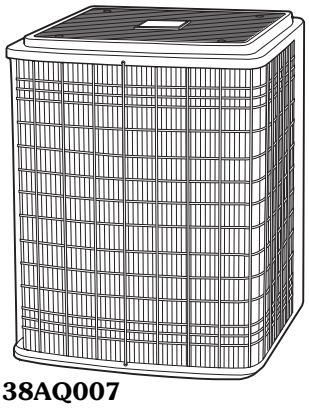
Carrier 38AQS016 Condenser Data

Product Data

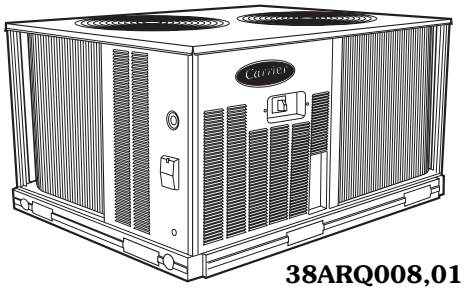
GEMINI™
38AQ007
38ARQ008,012
38AQS016
with 40RMQ008-028
Heat Pump Systems

6 to 25 Nominal Tons

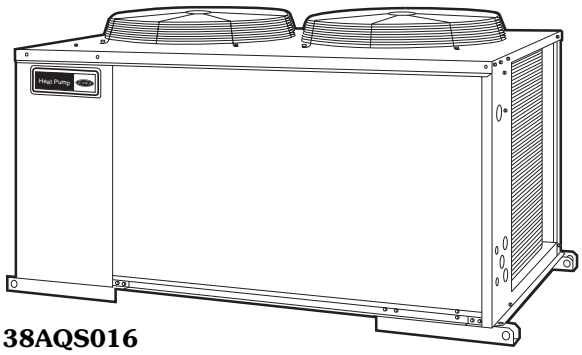
Carrier GEMINI SPLIT SYSTEMS



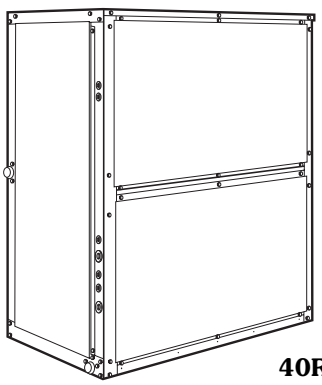
38AQ007



38ARQ008,012



38AQS016



40RMQ

ASHRAE 90.1 COMPLIANT

Gemini heat pump systems save energy and provide outstanding heating and cooling all year with:

- All-season comfort in any climate
- High energy savings capability
- Suitability for new construction or replacement

Features/Benefits

System indoor and outdoor sections offer outstanding performance in either the cooling or heating mode

Heat pump system energy savings opportunity

Electrical energy consumption is always a prime concern when selecting an air-conditioning system for a commercial application. An easy, effective way to save energy is to install a heat pump. When building plans call for a heat pump, consider a matched Carrier 38AQ,ARQ,AQS/40RMQ heat pump system. These systems not only offer highly efficient cooling, they also provide a clean, safe, efficient source of heat. In fact, they are capable of delivering more than 3 units of heat energy for each unit of electrical power consumed.

ARI* capacity ratings

OUTDOOR UNIT	INDOOR UNIT	COOLING			HEATING			
					Hi-Temp		Low-Temp	
		Net Capacity (Btuh)	EER	IPLV	Net Capacity (Btuh)	COP	Net Capacity (Btuh)	COP
38AQ007†	40RMQ008	75,000	10.3	N/A	71,000	3.2	39,500	2.0
38ARQ008†	40RMQ008	88,000	10.4	N/A	93,000	3.2	57,000	2.2
38ARQ012†	40RMQ012	105,000	10.1	N/A	100,000	3.2	67,000	2.2
38AQS016**	40RMQ016	174,000	9.0	11.3	172,000	3.1	100,000	2.1
38ARQ012 x2	40RMQ024	208,000	9.3	10.5	200,000	3.1	122.000	2.2
38AQS016 & 38ARQ012	40RMQ028	272,000	9.3	9.5	270,000	3.1	158,000	2.1

LEGEND

COP — Coefficient of performance = $\frac{\text{Btuh output}}{\text{Btuh input}}$ or

$\frac{\text{Btuh output}}{\text{Unit Power Input x 3.413}}$ (Based on ARI conditions)

EER — Energy Efficiency Ratio = $\frac{\text{Btuh}}{\text{Unit Power Input}}$ (Based on ARI conditions)

IPLV — Integrated Part-Load Value

*Air Conditioning & Refrigeration Institute.
†Energy Star compliant.
**Does not comply with ASHRAE 90.1 minimum efficiency requirement.

NOTES:
1. Standard ratings are net values, reflecting the effects of circulating fan heat. Supplementary electric heat is not included. Ratings are based on:

   Cooling Standard: 80 F db, 67 F wb (wet bulb) indoor entering-air temperature and 95 F db entering-air outdoor unit.

   Hi-Temp Heating Standard: 70 F db (dry bulb) indoor entering-air temperature and 47 F db/43 F wb entering-air outdoor unit.

   Lo-Temp Heating Standard: 70 F db indoor entering-air temperature and 17 F wb/15 F db entering-air outdoor unit.

   Unit combinations are rated in accordance with ARI standard 340-2000 as appropriate.
2. 38ARQ012 and 38AQS016 are connected to 40RMQ024,028 in duplex configurations.

SOUND POWER LEVELS (dB), 60 Hz

UNIT	OCTAVE BAND								
	63	125	250	500	1000	2000	4000	8000	dBA
38ARQ008	83.1	82.3	82.6	80.9	81.2	78.1	72.8	67.3	85.0
38ARQ012	88.7	82.3	82.6	81.2	81.2	79.2	73.8	67.8	86.0
38AQS016	N/A	93.0	86.0	83.0	80.0	78.0	73.0	71.0	86.0
40RMQ008	95.3	91.3	87.3	86.3	82.3	80.3	76.7	N/A	88.3
40RMQ012	99.0	95.0	91.0	90.0	86.0	84.0	80.0	N/A	92.0
40RMQ016	99.2	95.2	91.2	92.2	86.2	84.2	80.2	N/A	92.9
40RMQ024	102.6	98.6	94.6	95.6	89.6	87.6	83.6	N/A	96.4
40RMQ028	102.5	98.5	94.5	95.5	89.5	87.5	83.5	N/A	96.2

NOTES:
1. Estimated sound power levels, dB re 1 Picowatt.
2. 38ARQ and 38AQS data is based upon a limited amount of actual testing with the estimated sound power data being generated from this data in accordance with ARI standard 370 for large outdoor refrigerating and air-conditioning equipment.
3. 40RMQ data is based on the ASHRAE calculation approach from the ASHRAE handbook 1987 HVAC Systems & Applications, Chapter 52.
4. Since this data is estimated, the sound power levels should not be guaranteed or certified as being the actual sound power levels.
5. The acoustic center of the unit is located at the geometric center of the unit.

Appendix C

Construction Noise Model Outputs

RCE-03 Construction Noise Modeling

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	dBA L_{EQ} at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	90.0	N/A	N/A	N/A	84.3	85.0	79.7	75	145.2
Breaker	90.0	40%	8	12	84.3	85.0	79.7	75	145.2

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	89.6	N/A	N/A	N/A	83.9	85.0	79.3	75	138.7
Concrete Saw	89.6	40%	8	12	83.9	85.0	79.3	75	138.7

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	80.7	N/A	N/A	N/A	77.2	20.0	85.2	75	64.7
Excavator	80.7	40%	8	12	75.0	20.0	82.9	75	49.8
Loader	79.1	40%	8	12	73.4	20.0	81.3	75	41.4
Dump Truck	76.5	40%	8	12	70.8	20.0	78.7	75	30.7

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	81.7	N/A	N/A	N/A	77.9	20.0	85.8	75	69.5
Bulldozer	81.7	40%	8	12	76.0	20.0	83.9	75	55.8
Loader	79.1	40%	8	12	73.4	20.0	81.3	75	41.4
Dump Truck	76.5	40%	8	12	70.8	20.0	78.7	75	30.7

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	80.6	N/A	N/A	N/A	74.9	20.0	82.8	75	49.2
Crane	80.6	40%	8	12	74.9	20.0	82.8	75	49.2

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	78.8	N/A	N/A	N/A	73.1	20.0	81.0	75	40.0
Cement Truck	78.8	40%	8	12	73.1	20.0	81.0	75	40.0

Base

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Per Day	dBA L_{EQ} at 50 feet	Distance (ft)	at Specified Distance	Noise Contour	Distance to Noise Contour
Noise Sum	78.8	N/A	N/A	N/A	73.1	20.0	81.0	75	40.0
Cement Truck	78.8	40%	8	12	73.1	20.0	81.0	75	40.0

Appendix D

Off-site Traffic Noise Levels

Existing and Future Traffic Volumes																			
Roadway /Segment	Existing					Existing + Project					Buildout (Year 2035)					Buildout (Year 2035) + Project					Speed Limit (mph)
	ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			
			Cars	MT	HT			Cars	MT	HT			Cars	MT	HT			Cars	MT	HT	
La Jolla Village Drive																					
Regents to Costa Verde Blvd	35,240	3,524	3,313	141	70	35,590	3,559	3,345	142	71	46,190	4,619	4,342	185	92	46,540	4,654	4,375	186	93	45
Costa Verde Blvd to Genesee	37,280	3,728	3,504	149	75	37,580	3,758	3,533	150	75	50,320	5,032	4,730	201	101	50,620	5,062	4,758	202	101	45
Nobel Drive																					
Regents to Costa Verde Blvd	24,570	2,457	2,310	98	49	25,920	2,592	2,436	104	52	32,400	3,240	3,046	130	65	33,750	3,375	3,173	135	68	40
Costa Verde Blvd to Genesee	22,410	2,241	2,107	90	45	23,760	2,376	2,233	95	48	32,750	3,275	3,079	131	66	34,100	3,410	3,205	136	68	40
Genesee to Towne Ctr Drive	20,270	2,027	1,905	81	41	20,820	2,082	1,957	83	42	31,090	3,109	2,922	124	62	31,640	3,164	2,974	127	63	40
Genesee Avenue																					
La Jolla Village to Esplanade	28,790	2,879	2,706	115	58	30,330	3,033	2,851	121	61	45,100	4,510	4,239	180	90	46,640	4,664	4,384	187	93	40
Nobel to Decoro	30,920	3,092	2,906	124	62	32,020	3,202	3,010	128	64	45,700	4,570	4,296	183	91	46,800	4,680	4,399	187	94	45
Regents Road																					
Executive to La Jolla Village	18,100	1,810	1,701	72	36	18,250	1,825	1,716	73	37	23,740	2,374	2,232	95	47	23,890	2,389	2,246	96	48	40
La Jolla Village to Nobel	15,170	1,517	1,426	61	30	15,420	1,542	1,449	62	31	21,760	2,176	2,045	87	44	22,010	2,201	2,069	88	44	40
South of Nobel	15,170	1,517	1,426	61	30	15,370	1,537	1,445	61	31	14,300	1,430	1,344	57	29	14,500	1,450	1,363	58	29	40

ADT = average daily trips; MT = medium trucks; HT = heavy trucks

Source: Linscott, Law, & Greenspan 2019

Traffic breakdown assumes 94% cars, 4% medium trucks, 2% heavy trucks
Speed limits on Genesee Avenue from La Jolla Village Drive to Nobel Drive reduced to 40 mph based on observations.

Existing and Future Traffic Noise Levels

Roadway/Segment	Distance to NSLU (ft)	Existing				Existing + Project					Buildout (Year 2035)				Buildout (Year 2035) + Project				
		CNEL @ dist. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ dist. (dBA)	Δ at 100ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ dist. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ dist. (dBA)	Δ at 100ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
La Jolla Village Drive																			
Regents to Costa Verde Blvd	100	70.1	105	255	540	70.2	0.1	100	250	530	70.7	110	270	570	71.3	0.6	125.0	300	620
Costa Verde Blvd to Genesee	100	70.4	110	265	550	70.4	0.0	105	260	550	71.7	135	320	600	71.7	0.0	125.0	320	600
Nobel Drive																			
Regents to Costa Verde Blvd	80	68.4	55	145	335	68.7	0.3	60	155	360	69.6	75	190	420	69.8	0.2	75.0	195	430
Costa Verde Blvd to Genesee	70	68.7	50	130	310	69.0	0.3	60	150	350	70.4	75	190	425	70.5	0.1	75.0	195	430
Genesee to Towne Ctr Drive	70	68.3	50	125	300	68.4	0.1	50	130	350	70.1	70	180	410	70.2	0.1	70.0	185	410
Genesee Avenue																			
La Jolla Village to Esplanade	70	71.1	85	215	465	71.4	0.3	90	220	480	73.1	125	290	610	73.2	0.1	125.0	300	620
Nobel to Decoro	70	71.4	70	205	485	71.6	0.2	95	230	500	73.1	125	290	610	73.2	0.1	125.0	300	620
Regents Road																			
Executive to La Jolla Village	60	68.6	40	105	250	68.6	0.0	45	120	290	69.7	55	145	345	69.8	0.1	55.0	150	345
La Jolla Village to Nobel	60	67.8	45	110	270	67.9	0.1	40	105	250	69.4	55	140	325	69.4	0.0	55.0	140	320
South of Nobel	70	68.2	70	100	240	68.4	0.2	50	130	310	68.1	50	125	295	68.2	0.1	50.0	125	300

NSLU = Noise Sensitive Land Use; CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Source: Traffic Noise Model (TNM), version 2.5

Traffic Source Data: Linscott, Law, & Greenspan 2019