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April 12, 2021

Job # S210110

Tom Paull
4033 and 4039 Lamont Street
San Diego, California 92109

Subject: Response to Noise Comments for the NEST (City of San Diego Project Number 676545)

This letter is in response to City of San Diego staff review comments for the NEST project. Comments are found in the City of San Diego's second review, dated April 1, 2021, and this letter references the location of each comment response or requested changes in the revised report.

Italics are added to indicate City of San Diego staff comments.

City of San Diego Comments:

44-1: Include the definition and description of Sensitive Receptors as identified in the General Plan and CEQA Thresholds.

RESPONSE: A definition of "sensitive receptors" was incorporated into Section 2.0 of the revised report.

44-2: Include a discussion on ground borne vibrations.

RESPONSE: A detailed construction vibration calculation was incorporated into Section 5.4 of the revised report. According to construction vibration calculations, on-site construction vibration is not anticipated to cause damage to off-site buildings and will only approach the threshold of "strongly perceptible" vibration for a short period of time when work is performed on the exterior boundaries of the proposed building. Therefore, it is the opinion of the undersigned that temporary construction vibration impacts would not be "excessive" and therefore are less than significant.

If you have any questions or require additional information, please feel free to contact Mo Ouwenga at 760-738-5570 or mouwenga@eilarassociates.com.

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Acoustical Analysis Report for the NEST

City of San Diego Project No. 676545

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Job # S210110

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Appendices

1.0 Executive Summary

The proposed project, the NEST, consists of the demolition of existing structures and construction of a mixed-use building to contain 18 residential units and two commercial units. The project site is located at 4033 and 4039 Lamont Street in the City of San Diego, California.

The current and future noise environment primarily consists of traffic noise from Lamont Street. Future traffic noise levels at residential building facades will range from 32 CNEL at the southern breezeway of the second floor to 60 CNEL at the west facade of the second floor. The City of San Diego Noise Element to the General Plan Table NE-3 requires that residential outdoor use areas be protected from noise levels greater than 65 CNEL. Calculations show that exterior noise levels at the outdoor use areas will meet the exterior noise limit of 65 CNEL as designed. Therefore, no project design features are deemed necessary to attenuate exterior noise impacts to outdoor use areas at the site.

The City of San Diego General Plan Table NE-3 requires interior noise levels of 45 CNEL or less in residential units and 50 CNEL or less in commercial units. Calculations show that future traffic noise impacts to building facades will not exceed 60 CNEL; therefore, interior noise levels in residential and commercial spaces will comply with the 45 CNEL and 50 CNEL requirements, respectively, with typical building construction. No special design features, such as mechanical ventilation or STC-rated glazing, are required for meeting interior noise limits for residential or commercial spaces.

Noise from the anticipated HVAC equipment on site was calculated to determine impacts at sensitive receptors. Calculations show that noise levels from the mechanical equipment will be in compliance with the City of San Diego noise regulations found within the Municipal Code Section 59.5.0401 at all surrounding sensitive receptors. No project design features are deemed necessary to control project-generated noise impacts from mechanical equipment. Additionally, it was determined that no significant noise impacts would result from project-generated traffic.

Calculations show that noise from temporary construction activities will not exceed the applicable construction noise limits of the City of San Diego Municipal Code Section 59.5.0404 at surrounding sensitive receptors. Construction is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. Standard construction noise control methods, including adhering to permissible hours of operation, maintaining equipment in proper operating condition, and placing staging areas at furthest locations from noise sensitive receptors, shall also be employed as much as feasible to reduce noise impacts to surrounding sensitive receptors. As construction vibration is not anticipated to cause damage to off-site buildings and will only approach the threshold of "slightly perceptible" vibration for a short period of time when work is performed on the eastern portion of the building, it is the opinion of the undersigned that temporary construction vibration impacts would not be "excessive" and therefore are less than significant.

As detailed herein, noise impacts to and from the project site will comply with all applicable City of San Diego noise regulations with the project is currently designed.

2.0 Introduction

This acoustical analysis report is submitted to satisfy the acoustical requirements of the City of San Diego Noise Element to the General Plan and the City of San Diego Municipal Code. Its purpose is to assess noise impacts from roadway traffic to identify project features or requirements necessary to achieve interior noise levels of 45 CNEL or less in habitable residential spaces and 50 CNEL or less in commercial spaces, in compliance with the City of San Diego Noise Element to the General Plan. In addition, this report assesses noise impacts from

permanent and temporary project-related noise sources, such as mechanical equipment operation, project-generated traffic, and construction noise. This analysis will determine if project design features are necessary and feasible to reduce these impacts to comply with the applicable noise regulations of the City of San Diego Noise Element to the General Plan and Municipal Code.

Sensitive receptors are defined to include any noise-sensitive receiver. According to the City of San Diego Noise Element to the General Plan and CEQA Significant Determination Thresholds, sensitive receptors include the following land uses: residential, schools, libraries, hospitals, nursing facilities, day care, hotels, motels, parks, convalescent homes, offices, churches, business, professional uses, commercial, retail, industrial, and outdoor spectator sports uses. Sensitive receptors surrounding the project site include single-family and multi-family residential properties.

All noise level or sound level values presented herein are expressed in terms of decibels, with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ} for a specified duration. Unless a different time period is specified, L_{EQ} is implied to mean a period of one hour.

The Community Noise Equivalent Level (CNEL) is a calculated 24-hour weighted average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, L_{DN}, which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on A-weighted decibels. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines, and for enforcement of noise ordinances.

Sound pressure is the actual noise experienced by a human or registered by a sound level instrument. When sound pressure is used to describe a noise source, the distance from the noise source must be specified in order to provide complete information. Sound power, on the other hand, is a specialized analytical metric used to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

Some of the data may also be presented as octave-band-filtered and/or 1/3-octave-band-filtered data, which are a series of sound spectra centered about each stated frequency, with half of the bandwidth above and half of the bandwidth below each stated frequency. This data is typically used for machinery noise analysis and barrier calculations.

2.1 Project Description

The proposed project, the NEST, consists of the demolition of existing structures and construction of a mixed-use building to contain 18 residential units and two commercial units. Outdoor use areas for the project are provided as private patios or balconies at some units and a common outdoor use area on the second floor. Additional information is provided in the project plans, included as Appendix A.

2.2 Project Location

The project site is located at 4033 and 4039 Lamont Street in the City of San Diego, California. The Assessor's Parcel Number (APN) for the property is 424-431-27-00. The project location is shown on the Vicinity Map, Figure 1, following this report. An Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map of this area are also provided as Figures 2 through 4, respectively.

2.3 Applicable Noise Regulations

This acoustical analysis report is submitted to satisfy the acoustical requirements of the City of San Diego Noise Element to the General Plan and the City of San Diego Municipal Code.

The City of San Diego Noise Element to the General Plan Table NE-3 states that exterior noise levels at outdoor use areas of residential properties should not exceed 65 CNEL. Additionally, the Noise Element requires that interior noise levels not exceed 45 CNEL in residential space and 50 CNEL in commercial space. The State of California also requires that interior noise levels not exceed 50 dBA peak hour in commercial space. As the 50 CNEL limit is stricter than the 50 dBA peak hour limit, the 50 CNEL limit was applied.

The City of San Diego Municipal Code, Section 59.5.0401 specifies noise limits based on the land use of the properties in question. As the City of San Diego Municipal Code states that noise limits apply "on the boundaries of the property," noise levels were evaluated at the nearest sensitive receptor locations beyond the project site (at immediately adjacent property lines or beyond the alley). The most restrictive nighttime noise limits at surrounding land uses are 40 dBA for single-family residential, 45 dBA for low-density multi-family residential (density of less than one unit per 2,000 square feet of lot area), and 50 dBA for high-density multi-family residential (density of over one unit per 2,000 square feet of lot area); mixed use buildings, such as the proposed project, fall into the high-density multi-family residential category. Noise level limits at receiver locations on the boundary of two different land uses shall be the arithmetic mean of the two respective noise level limits. The project site is proposed to be high-density multi-family residential/mixed use. The properties to the east (4020, 4028, 4032, and 4056 Honeycutt Street) have single-family residential uses. The property to the east (4036-4038 Honeycutt Street) has low-density multi-family residential use; the properties to the north, east, and south (4055 Lamont Street, 4046 Honeycutt Street, and 4021 Lamont Street) have high-density multi-family residential use. Based on the averaging of noise limits at unlike properties, the most restrictive applicable noise limit is 45 dBA at single-family residential properties and 47.5 dBA at low-density multi-family residential properties.

In addition, Section 59.5.0404 of the City of San Diego Municipal Code states that construction activity is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. During permissible hours of operation, noise levels from construction activity must be limited to a twelve-hour average of no greater than 75 dBA at any property line zoned for residential use.

Please refer to Appendix B for pertinent sections of the San Diego Noise Element to the General Plan and City of San Diego Municipal Code.

3.0 Environmental Setting

3.1 Existing Noise Environment

3.1.1 Roadway Traffic Sources

Current exterior noise at the site consists primarily of traffic noise from Lamont Street. No other noise source is considered significant.

The current traffic volume for Lamont Street was given based on information from the San Diego Association of Governments (SANDAG) Transportation Data (see reference), which provides 24-hour traffic counts for segments in the vicinity of the project site.

Lamont Street is a two-lane, two-way Local Collector running generally north-south along the west boundary of the project site. The posted speed limit is 30 mph. SANDAG year 2015 traffic counts show a volume of approximately 6,100 Average Daily Trips (ADT) in the vicinity of the project site.

No current or future truck percentages were available for Lamont Street; however, based on neighboring and surrounding land use, roadway classification, professional experience, and on-site observations, a truck percentage mix of 0.5% medium and 0.5% heavy trucks was used.

Traffic volumes for the roadway sections near the project site are shown in Table 1. For further roadway details and projected future ADT traffic volumes, please refer to Appendix C: CadnaA Analysis Data and Results.

Table 1. Overall Roadway Traffic Information

Roadway Name	Speed Limit (mph)	Vehicle Mix (%)		Current ADT (2015)	Future ADT (2050)
		Medium Trucks	Heavy Trucks		
Lamont Street	30	0.5	0.5	6,100	8,100

Without the consideration of shielding provided by proposed on-site structures, the current traffic noise contours calculated at ground level show that traffic noise impacts to the project site are between 50 and 60 CNEL. Current traffic noise contours are shown in Figure 5.

3.1.2 Measured Noise Level

An on-site inspection and a traffic noise measurement were made on the afternoon of Tuesday, February 2, 2021. The weather conditions were as follows: mostly cloudy skies, high humidity, and temperature in the mid 60s with winds at 8 to10 mph. A traffic noise measurement was made along the northwest boundary of the project site, approximately 30 feet east of the Lamont Street centerline and approximately 80 feet north of the Chico Street centerline. The primary source of noise during the measurement was traffic noise. The microphone was placed at approximately five feet above the existing grade. The traffic volumes for Lamont Street were recorded for automobiles, medium-size trucks, and large trucks during the measurement period. After a 15-minute sound level measurement (paused for non-traffic sources such as aircraft), no changes in the L_{EQ} were observable and results were recorded. The measured noise level and related weather conditions are shown in Table 2, and the noise measurement location is shown on Figure 3.

Table 2. On-Site Noise Measurement Conditions and Results

Date	Tuesday, February 2, 2021
Time	1:11 p.m. – 1:29 p.m.
Conditions	Mostly cloudy skies, wind at 8-10 mph, temperature in the mid 60s with high humidity
Measured Traffic Noise Level	57.1 dBA L_{EQ}

Additionally, a long-term noise measurement was made beginning the afternoon of Monday, February 1, 2021 and running through the afternoon of Tuesday, February 2, 2021. The purpose of this measurements was to obtain long-term ambient noise information. The performed noise measurement is expected to be representative of the typical noise exposure at the site and encompasses the primary source of noise, which is

traffic noise. The long-term noise monitor was placed at a height of five feet above ground level, at approximately 47 feet east of the Lamont Street centerline and approximately 50 feet north of the Chico Street centerline. Noise data obtained on site is shown in Table 3, and the measurement location is shown graphically in Figure 3.

Table 3. Long-Term Measured Noise Levels on Site

Date	Time	Hourly Average Noise Level (dBA L_{EQ})
February 1, 2021	12 p.m. – 1 p.m.	54.7
	1 p.m. – 2 p.m.	53.3
	2 p.m. – 3 p.m.	54.7
	3 p.m. – 4 p.m.	53.9
	4 p.m. – 5 p.m.	52.0
	5 p.m. – 6 p.m.	52.9
	6 p.m. – 7 p.m.	53.7
	7 p.m. – 8 p.m.	52.1
	8 p.m. – 9 p.m.	46.6
	9 p.m. – 10 p.m.	45.1
	10 p.m. – 11 p.m.	43.7
	11 p.m. – 12 a.m.	46.9
February 2, 2021	12 a.m. – 1 a.m.	37.4
	1 a.m. – 2 a.m.	38.9
	2 a.m. – 3 a.m.	37.0
	3 a.m. – 4 a.m.	37.5
	4 a.m. – 5 a.m.	41.8
	5 a.m. – 6 a.m.	44.0
	6 a.m. – 7 a.m.	49.0
	7 a.m. – 8 a.m.	52.3
	8 a.m. – 9 a.m.	54.0
	9 a.m. – 10 a.m.	53.9
	10 a.m. – 11 a.m.	57.6
	11 a.m. – 12 p.m.	55.0

Measured noise levels were observed to range from a minimum of 37.0 dBA between the hours of 2 a.m. and 3 a.m. on February 2, 2021 to a maximum of 57.6 dBA between 10 a.m. and 11 a.m. on February 2, 2021.

3.1.3 Calculated Noise Level

Noise levels were calculated for the site using the methodology described in Section 4.1.2. The calculated noise levels (L_{EQ}) were compared with the measured traffic noise level to determine if adjustments or corrections (calibration) should be applied to the traffic noise prediction model. Adjustments are intended to account for site-specific differences, such as reflection and absorption, which may be greater or lesser than accounted for in the model.

The measured noise level of 57.1 dBA L_{EQ} at approximately 30 feet east of the Lamont Street centerline and approximately 80 feet north of the Chico Street centerline was compared to the calculated (modeled) noise level of 57.6 dBA L_{EQ} for the same anticipated traffic flow. According to the Federal Highway Administration's Highway Traffic Noise: Analysis and Abatement Guide (see reference), a traffic noise model is considered validated if the measured and calculated noise impacts differ by three decibels or less. No adjustment was deemed necessary to model future noise levels for this location as the difference between the measured and calculated levels was found to be less than three decibels. The traffic noise model is assumed to be representative of actual traffic noise that is experienced on site. This information is shown in Table 4. Please refer to Appendix C for additional information.

Table 4. Calculated versus Measured Traffic Noise Data

Location	Calculated	Measured	Difference	Correction
30' east of Lamont Street C.L. and 80' north of Chico Street C.L.	57.6 dBA L_{EQ}	57.1 dBA L_{EQ}	0.5 dB	None Applied

3.2 Future Noise Environment

The future noise environment in the vicinity of the project site will be primarily a result of the same ambient noise sources, as well as the noise generated by the proposed uses at the project site. Project-generated noise sources include permanent HVAC equipment, project-generated traffic, and temporary construction equipment.

3.2.1 Roadway Traffic

The future (year 2050) traffic volumes for surrounding roadways were obtained from the SANDAG Series 14 Transportation Forecast Information Center (TFIC). According to SANDAG, by the year 2050, the traffic volume of Lamont Street is estimated to increase to 8,100 ADT.

The same truck percentages from the existing traffic volumes were used for future traffic volume modeling. For further roadway details and projected future ADT traffic volumes, please refer to Appendix C: CadnaA Analysis Data and Results.

Without the consideration of shielding provided by proposed on-site structures, the future traffic noise contours calculated at ground level show traffic noise impacts to the entire project site and will be between 51 and 61 CNEL. Future traffic noise contours are shown in Figure 6.

3.2.2 HVAC Equipment

Though detailed project mechanical plans are not currently available, a rooftop heat pump is expected to service each unit; each commercial space and the lobby were also assumed to have one heat pump each. Each rooftop HVAC unit is expected to be equivalent to the 2.5-ton Carrier model 25HBC5 unit. Noise level data for this unit was provided by the manufacturer in the form of unweighted octave band sound power levels and an A-weighted overall sound power level. As the octave band levels did not add up to the overall A-weighted sound power level, they were adjusted to add up to the A-weighted overall level. The adjusted sound power level data for the proposed rooftop HVAC units is shown in Table 5. All rooftop HVAC units were modeled as being operational at all times for a worst-case analysis. Please refer to Appendix D for additional information.

Table 5. Sound Power Levels of Carrier 25HBC5

Unit	Sound Power Levels (dB) at Octave Band Frequency (Hz)							Overall Sound Power Level (dBA)
	125	250	500	1,000	2,000	4,000	8,000	
Carrier 25HBC5030	52.9	60.4	63.4	67.4	64.4	61.9	55.4	71.0

Equipment noise levels shown above were incorporated into the permanent project-generated noise impact analysis as shown in Section 5.3.1.

3.2.3 Project-Generated Traffic

Project-generated traffic volumes were roughly estimated to determine whether the addition of vehicle trips associated with the project would have a direct noise impact on traffic noise levels in the vicinity of the project. An analysis of the potential change in traffic noise levels to the surrounding area was evaluated based on the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (see reference). The project's impacts have been evaluated to determine whether a direct noise impact will result. A significant impact is generally considered to be a doubling of sound energy, which is an increase of three decibels over existing conditions.

Using the methodology of the aforementioned guide and considering the residential and commercial operations of the site, the proposed project is anticipated to generate approximately 118 ADT on surrounding roadways. This estimated volume has been incorporated into the analysis detailed in Section 5.3.2.

3.2.4 Temporary Construction Equipment

According to the project proponent and professional experience, on-site construction activities are expected to consist of foundation excavation and building construction. There will be a single phase of construction. Please refer to Table 6 for anticipated on-site construction equipment during each stage of activity with noise levels and duty cycles for each piece of equipment. Construction equipment noise levels were provided by the UK Department for Environment, Food and Rural Affairs (DEFRA), and duty cycle information was taken from the Federal Highway Administration (FHWA) (see references). Although FHWA offers noise levels of construction equipment, professional experience and observations of construction activity by Eilar Associates, Inc. suggest that the noise levels given by DEFRA are more representative of equipment noise levels that would be generated at smaller scale construction sites such as the proposed project.

Table 6. Anticipated Construction Activity and Equipment Noise Levels			
Equipment	**Duty Cycle (%)[1]**	**Noise Level at 50 feet (dBA)[2]**	**Activity Stage**
Air Compressor	40	62	Building Construction
Backhoe	40	65	Foundation Excavation
Crane	16	67	Building Construction
Dump Truck	40	77	Foundation Excavation
Excavator	40	66	Foundation Excavation
Forklift	40	67	Building Construction

[1]Duty cycle information was provided by the Federal Highway Administration.
[2]Noise level information was provided by UK Department for Environment, Food and Rural Affairs.

Equipment noise levels shown above were incorporated into the temporary construction noise impact analysis as shown in Section 5.4.

4.0 Methodology and Equipment

4.1 Methodology

4.1.1 Traffic Noise Measurement

Typically, a "one-hour" equivalent sound level measurement (L_{EQ}, A-Weighted) is recorded for at least one noise-sensitive location on the site. During the on-site noise measurement, start and end times are recorded and vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment(s). Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site.

For measurements of less than one hour in duration, the measurement time is long enough for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize. The vehicle counts are then converted to one-hour equivalent volumes by applying an appropriate factor. Other field data gathered include measuring or estimating distances, angles-of-view, slopes, elevations, roadway grades, and vehicle speeds. This information is subsequently verified using available maps and records.

4.1.2 Roadway Noise Calculation

The Traffic Noise Model (TNM) calculation protocol in CadnaA Version 2020 (based on the methodology used in TNM Version 2.5, released in February 2004 by the U.S. Department of Transportation) was used for all traffic modeling in the preparation of this report. Using the TNM protocol, the CNEL is calculated as 9.2 percent of the ADT for surrounding roadways, based on the studies made by Wyle Laboratories (see reference). Future CNEL is calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested, and planned with TNM, as required.

4.1.3 CadnaA Noise Modeling Software

Modeling of the outdoor noise environment is accomplished using CadnaA Version 2020, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. CadnaA (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and alleviation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts. Noise standards used by CadnaA that are particularly relevant to this analysis include ISO 9613 (Attenuation of sound during propagation outdoors). CadnaA provides results that are in line with basic acoustical calculations for distance attenuation and barrier insertion loss.

4.1.4 Formulas and Calculations

Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10\log(10^{L1/10} + 10^{L2/10} + 10^{LN/10})$$

where L_C = the combined noise level (dB), and
L_N = the individual noise sources (dB).

This procedure is also valid when used successively for each added noise source beyond the first two. The reverse procedure can be used to estimate the contribution of one source when the contribution of another concurrent source is known and the combined noise level is known. These methods can be used for L_{EQ} or other metrics (such as L_{DN} or CNEL), as long as the same metric is used for all components.

Project-Generated Traffic Noise Impacts

Changes in traffic noise levels can be predicted by inputting the ratio of the two scenarios into the following logarithmic equation:

$$\Delta = 10\log(V2/V1)$$

where: Δ= Change in sound energy,
V1 = original or existing traffic volume, and
V2 = future or cumulative traffic volume.

Construction Vibration Calculations

The construction vibration assessment contained herein is evaluated using calculations of peak particle velocity (PPV). PPV at receivers is calculated as follows:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where PPV_{equip} is the peak particle velocity (in inches per second) of the equipment, adjusted for distance, PPV_{ref} is the reference vibration level (in inches per second) at a distance of 25 feet from the equipment, and D is the distance from the equipment to the receiver.

4.2 Measurement Equipment

Some or all of the following equipment was used at the site to measure existing noise levels:

- Larson Davis Model LxT Type 1 Sound Level Meter, Serial # 4084
- Soft dB Model Piccolo II Type 2 Sound Level Meter, Serial # P0220112605
- Larson Davis Model CA200 Type 1 Calibrator, Serial # 16454

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterward to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with a sound level meter that conforms to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 Noise Impacts

5.1 Exterior

5.1.1 Noise Impacts to Outdoor Use Areas

The City of San Diego requires multi-family residential projects to maintain noise levels of 65 CNEL or less at residential outdoor use areas. The project proposes private patios or balconies for some units, with a common outdoor use area on the second floor. Future traffic noise impacts were calculated at each of these outdoor use areas using CadnaA to determine whether noise impacts will exceed the 65 CNEL threshold.

Calculations assume shielding provided by the proposed project building on site. Outdoor use receivers were calculated at a height of 3.5-feet above floor level to represent ear height of a seated person. Results of this analysis are shown in Table 7 below. Additional information is provided in Appendix C, and a graphical representation of outdoor use receiver locations is provided as Figure 7.

Table 7. Worst-Case Traffic Noise Levels at Outdoor Use Areas – Current Design

Floor	Receiver	Location	Noise Limit (CNEL)	Exterior Traffic Noise Level (CNEL)
1	OU1-1	Unit 1 Porch	65	59.2
	OU2-1	Unit 2 Porch	65	59.0
2	OU3-2	Unit 4 Balcony	65	59.1
	OU4-2	Unit 5 Balcony	65	33.7
	OU5-2	Unit 6 Balcony	65	31.8
	OU6-2	Unit 9 Balcony	65	58.9
	OU7-2	Common Open Space	65	40.3

Table 7. Worst-Case Traffic Noise Levels at Outdoor Use Areas – Current Design				
Floor	**Receiver**	**Location**	**Noise Limit (CNEL)**	**Exterior Traffic Noise Level (CNEL)**
3	OU3-3	Unit 12 Balcony	65	58.8
	OU4-3	Unit 13 Balcony	65	35.8
	OU5-3	Unit 14 Balcony	65	36.6
	OU6-3	Unit 17 Balcony	65	58.6

As shown above, future traffic noise impacts at the project site will not exceed 65 CNEL at private outdoor use areas as designed. No project design features are deemed necessary for exterior noise control at the project site.

5.1.2 Noise Impacts to Building Facades

Future traffic noise impacts were also calculated at building facades and were found to range from 32 CNEL at the southern breezeway of the second floor to 60 CNEL at the west facade of the second floor. A complete listing of calculated future traffic noise impacts is shown in Table 8, and a graphical representation of building facade receiver locations is shown in Figure 8.

Table 8. Future Traffic Noise Levels at Building Facades				
Receiver	**Location**	**Future Traffic Noise Levels at Building Facades (CNEL)**		
		Floor 1	**Floor 2**	**Floor 3**
F1	West	59.4	59.8	59.3
F2	West	58.9	59.4	59.1
F3	West	59.7	60.0	59.5
F4	South	55.1	56.3	56.6
F5	South	51.4	53.0	53.6
F6	East	49.9	51.6	52.4
F7	East	43.1	44.1	45.8
F8	East	44.1	46.2	47.2
F9	North	51.6	53.0	53.6
F10	North	55.0	56.3	56.3
F11	South	--	52.2	52.1
F12	West	--	39.6	47.3
F13	Southern Breezeway	--	32.1	38.0

5.2 Interior

The State of California and the City of San Diego require buildings to be designed in order to attenuate, control, and maintain interior noise levels not greater than 45 CNEL in habitable space and 50 CNEL in commercial space, as formulated in the City of San Diego General Plan Table NE-3. According to the U.S. EPA (see reference), current exterior building construction is generally expected to achieve at least 15 decibels of exterior-to-interior noise attenuation with windows opened.

As shown in Table 8, noise impacts at project residential building facades will not exceed 60 CNEL. As all exterior noise levels at building facades will be 60 CNEL or less, all units on site will comply with City of San Diego interior noise regulations of 45 CNEL or less with typical building construction achieving 15 decibels of attenuation with windows opened. Likewise, as facade impacts do not exceed 65 CNEL at commercial facades, interior noise levels will also not exceed 50 CNEL with typical building construction. For these reasons, no special design features, such as mechanical ventilation or STC-rated glazing, are required for meeting interior noise limits in residential or commercial space.

5.3 Permanent Project-Related Noise Impacts

5.3.1 Mechanical Noise Impacts

As detailed in Section 2.3, applicable noise limits for permanent project-generated noise levels at this project site would be 45 dBA at single-family residential properties, 47.5 dBA at low-density multi-family residential properties, and 50 dBA at high-density multi-family residential property lines. Noise impacts of roof-mounted HVAC equipment, as detailed in Section 3.2.2, were calculated at surrounding property lines of noise-sensitive receptors to the north, south, and east and are shown in Table 9. Any other surrounding sensitive receptors are located at a greater distance from proposed equipment and will be exposed to lesser noise impacts due to additional distance attenuation and/or shielding provided by intervening structures. Ground-floor receptors were placed at a height of five feet above ground level. As there are second-story and third-story sensitive receptors at some of the surrounding residential buildings, receptors were placed at heights of 15 feet and 25 feet to determine second-story and third-story sensitive receptors. Calculations considered noise shielding that will be provided by proposed on-site building. A graphical representation of noise source and receiver locations is provided as Figure 9. Please refer to Appendix C for additional information.

Table 9. Project-Generated Noise Levels at Surrounding Property Lines

Receiver	Location	Nighttime Noise Limit (dBA L_{EQ})	Equipment Noise Level (dBA)		
			Floor 1	Floor 2	Floor 3
R1	North – High-Density MFR	50	29.9	32.9	41.4
R2	Northeast – SFR	45	26.1	--	--
R3	East – Low-Density MFR	47.5	28.8	33.4	--
R4	East – SFR	45	27.2	31.2	38.9
R5	South – High-Density MFR	50	31.1	37.0	--

As shown above, as currently designed, noise levels from the mechanical equipment will be in compliance with the City of San Diego noise regulations found within the Municipal Code Section 59.5.0401 at all surrounding sensitive receptors. No project design features are deemed necessary to control project-generated noise impacts from mechanical equipment.

5.3.2 Project-Generated Traffic Noise Impacts

As detailed in Section 3.2.3, the proposed project is anticipated to generate approximately 118 ADT on surrounding roadways. For a worst-case analysis of project-generated traffic noise, the anticipated project traffic was added to the existing traffic volume of Lamont Street to determine the anticipated increase in noise levels along the roadway resulting from the addition of project traffic. This existing traffic volume was used to determine the anticipated increase in noise levels resulting from project-generated traffic. A significant impact is generally considered to be a doubling of sound energy, which is an increase of three decibels over existing conditions. Project-generated traffic noise increases are shown in Table 10.

Table 10. Anticipated Traffic Noise Increases with Project-Generated Traffic

Roadway	Traffic Volume (ADT)			Noise Level Increase (dB)
	Existing	Project	Existing + Project	
Lamont Street	6,100	118	6,218	0.1

As shown in Table 10, no direct impacts are anticipated to result from project traffic, as the increase in noise levels along Lamont Street would be less than three decibels. For this reason, project-generated traffic noise levels will be less than significant.

Additionally, traffic noise impacts were evaluated at the edge of the right-of-way of Lamont Street to determine the traffic CNEL levels with and without the proposed project. Existing and existing plus project traffic noise impacts were evaluated in CadnaA; results are shown in Table 11.

Table 11. Anticipated Traffic Noise Increases with Project-Generated Traffic

Location	Traffic Noise Impacts (CNEL)		
	Existing	Existing + Project	Noise Level Increase
Edge of Right-of-Way of Lamont Street	62.6	62.6	0.0

As shown above, project-generated traffic added to the existing traffic volume of Lamont Street will not result in significant traffic noise impacts at adjacent properties, as there will be no increase in traffic volumes at off-site receivers as a result of this project. As the addition of project-generated traffic to the existing traffic volume will be less than significant, the addition of project-generated traffic to the future traffic volume would likewise be less than significant, as future traffic volumes will exceed those in the existing environment and the addition of vehicle trips would have a lesser impact on noise levels.

5.4 Temporary Construction Noise Impacts

According to the City of San Diego Municipal Code Section 59.5.0404, construction activity is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. During permissible hours of operation, noise levels from construction activity must be limited to a twelve-hour average of no greater than 75 dBA at any property line zoned for residential use.

According to the project proponent and from professional experience, on-site construction activities are expected to consist of foundation excavation and building construction. There will be a single phase of construction. Please refer to Table 6 for anticipated on-site construction equipment during each stage of activity, construction equipment noise levels, and duty cycles for each piece of equipment. Construction noise levels were calculated at property lines of surrounding sensitive receptors to the north, south, and east. Any other potentially noise-sensitive receivers are located at a greater distance from construction activity and would be exposed to lesser noise impacts due to distance attenuation and shielding provided by intervening structures.

Construction noise sources were placed near the center of the work area to evaluate typical impacts to the surrounding sensitive receptors as equipment moves around the property. Noise calculations consider typical duty cycles of equipment to account for periods of activity and inactivity on the site. Noise levels for each stage of construction are shown in Table 12. Detailed calculations can be found in Appendix C, and a graphical representation of construction noise source and receiver locations is provided as Figure 10.

Table 12. Temporary Construction Noise Levels at Surrounding Property Lines

Activity Stage	Equipment	Receiver	Noise Limit (dBA L_{EQ})	12-Hour Average Construction Noise Level (dBA L_{EQ})
Foundation Excavation	Backhoe, Dump Truck, Excavator	C1 (North)	75	73.0
		C2 (East)	75	71.8
		C3 (South)	75	72.5
Building Construction	Air Compressor, Crane, Forklift	C1 (North)	75	64.5
		C2 (East)	75	63.2
		C3 (South)	75	64.0

As shown above, construction noise levels will meet the 75 dBA limit at all sensitive receptors. No additional project design features are deemed necessary for construction noise control.

Calculations show that all construction stages will be in compliance with construction noise limits of The City of San Diego Municipal Code Section 59.5.0404 as designed. The following "good practice" measures should still be practiced as a courtesy to residential neighbors:

1. Staging areas should be placed as far as possible from sensitive receptors. Ideally, staging areas would be located along the west boundary of the site.

2. Place stationary equipment in locations that will have a lesser noise impact on nearby sensitive receptors.

3. Turn off equipment when not in use.

4. Limit the use of enunciators or public address systems, except for emergency notifications.

5. Equipment used in construction should be maintained in proper operating condition, and all loads should be properly secured to prevent rattling and banging.

6. Schedule work to avoid simultaneous construction activities that both generate high noise levels.

7. Use equipment with effective mufflers.

8. Minimize the use of backup alarms.

With construction operating hours limited to those permitted by the City of San Diego and adherence to the general good practice construction noise control techniques, temporary construction noise impacts will be in compliance with the noise limits of the City of San Diego Municipal Code Section 59.5.0404 at surrounding noise-sensitive receptors.

The proposed foundation excavation phase of construction is expected to generate the highest vibration levels of the two stages, as it consists of excavation. According to the Federal Transit Administration Transit Noise and Vibration Assessment Manual (see reference), a small bulldozer generates a peak particle velocity (PPV) of approximately 0.003 inches/second at a distance of 25 feet from equipment. This vibration level for a small bulldozer is expected to be comparable to that of an excavator or backhoe, which are proposed to be used on site. The evaluation of an impact's significance can be determined by reviewing both the likelihood of annoyance to individuals as well as the potential for damage to existing structures. According to the Caltrans Transportation and Construction Vibration Guidance Manual (see reference), the appropriate threshold for damage to modern residential structures is a PPV of 0.5 inches/second. Annoyance is assessed based on levels of perception, with a PPV of 0.012 being considered "slightly perceptible," 0.035 inches/second as "distinctly perceptible," 0.100 inches/second as "strongly perceptible," and 0.400 inches/second as "very disturbing."

The exact location of all excavation activity is currently unknown; however, it is estimated that the nearest location would be approximately ten feet from the nearest residential structure, when the garage along the southern portion of the building is excavated. At this distance, the PPV would be approximately 0.012 inches/second. This level of vibration falls well below the building damage PPV criteria of 0.5 inches/second. The impact falls at the "slightly perceptible" PPV criteria for annoyance; however, vibration would be reduced to be less than perceptible by the time excavation is located at a distance of more than ten feet from receivers. As construction vibration is not anticipated to cause damage to off-site buildings and will only approach the threshold of "slightly perceptible" vibration for a short period of time when work is performed on the exterior boundaries of the proposed building, it is the opinion of the undersigned that temporary construction vibration impacts would not be "excessive" and therefore are less than significant.

6.0 Conclusion

The City of San Diego Noise Element to the General Plan Table NE-3 requires that residential outdoor use areas be protected from noise levels greater than 65 CNEL. Calculations show that exterior noise levels at the outdoor use areas will meet the exterior noise limit of 65 CNEL as designed. Therefore, no project design features are deemed necessary to attenuate exterior noise impacts to outdoor use areas at the site.

The City of San Diego General Plan Table NE-3 requires interior noise levels of 45 CNEL or less in residential units and 50 CNEL or less in commercial units. Calculations show that future traffic noise impacts to building facades will not exceed 60 CNEL; therefore, interior noise levels in residential and commercial spaces will comply with the 45 CNEL and 50 CNEL requirements, respectively, with typical building construction. No special design features, such as mechanical ventilation or STC-rated glazing, are required for meeting interior noise limits for residential or commercial spaces.

Noise from the anticipated HVAC equipment on site was calculated to determine impacts at sensitive receptors. Calculations show that noise levels from the mechanical equipment will be in compliance with the City of San Diego noise regulations found within the Municipal Code Section 59.5.0401 at all surrounding sensitive receptors. No project design features are deemed necessary to control project-generated noise impacts from mechanical equipment. Additionally, it was determined that no significant noise impacts would result from project-generated traffic.

Calculations show that noise from temporary construction activities will not exceed the applicable construction noise limits of the City of San Diego Municipal Code Section 59.5.0404 at surrounding sensitive receptors. Construction is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. Standard construction noise control methods, including adhering to permissible hours of operation, maintaining equipment in proper operating condition, and placing staging areas at furthest locations from noise sensitive receptors, shall also be employed as much as feasible to reduce noise impacts to surrounding sensitive receptors. As construction vibration is not anticipated to cause damage to off-site buildings and will only approach the threshold of "slightly perceptible" vibration for a short period of time when work is performed on the eastern portion of the building, it is the opinion of the undersigned that temporary construction vibration impacts would not be "excessive" and therefore are less than significant.

As detailed herein, noise impacts to and from the project site will comply with all applicable City of San Diego noise regulations with the project is currently designed.

7.0 Certification

All recommendations for noise control are based on the best information available at the time our consulting services are provided. However, as there are many factors involved in sound and impact transmission, and Eilar Associates has no control over the construction, workmanship, or materials, Eilar Associates is specifically not liable for final results of any recommendations or implementation of the recommendations.

The findings and recommendations of this acoustical analysis report are based on the information available and are a true and factual analysis of the potential acoustical issues associated with the NEST project, to be located at 4033 and 4039 Lamont Street in the City of San Diego, California. This report was prepared by Mo Ouwenga and Amy Hool.

Mo Ouwenga, INCE
Acoustical Consultant

Amy Hool, INCE
President/CEO

8.0 References

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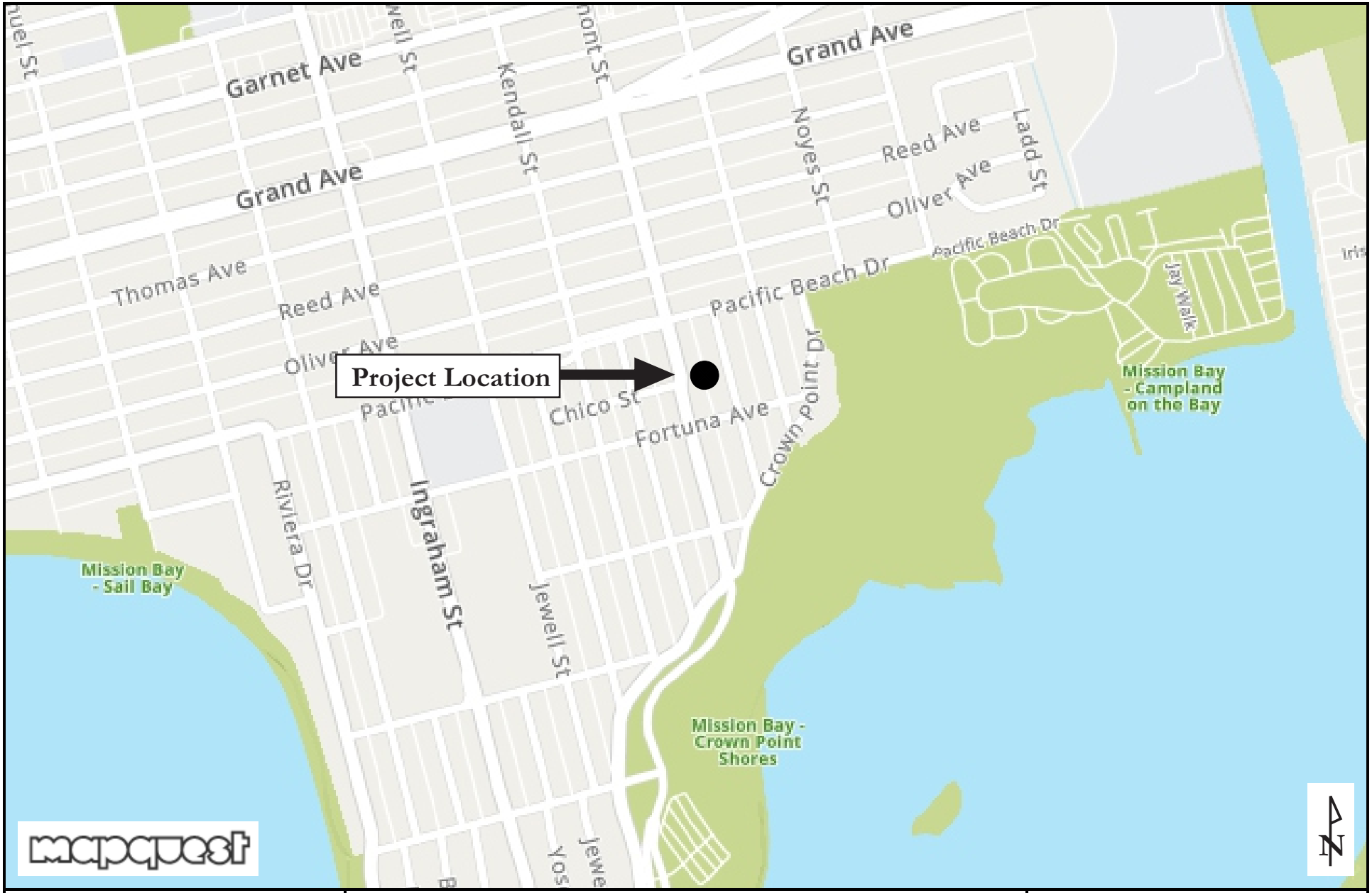
Figures



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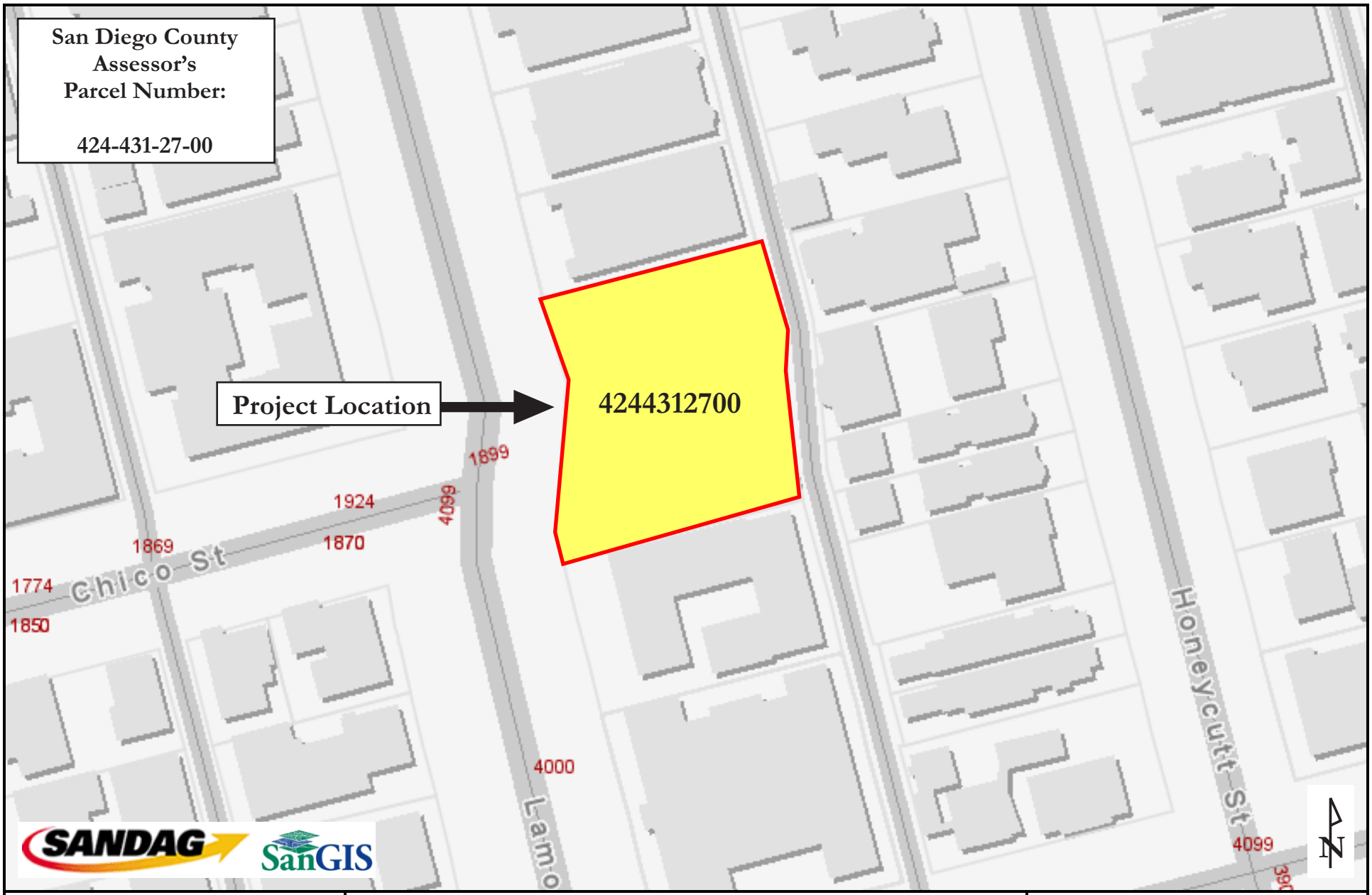
Vicinity Map
Job # S210110

Figure 1



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Assessor's Parcel Map
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Figure 2

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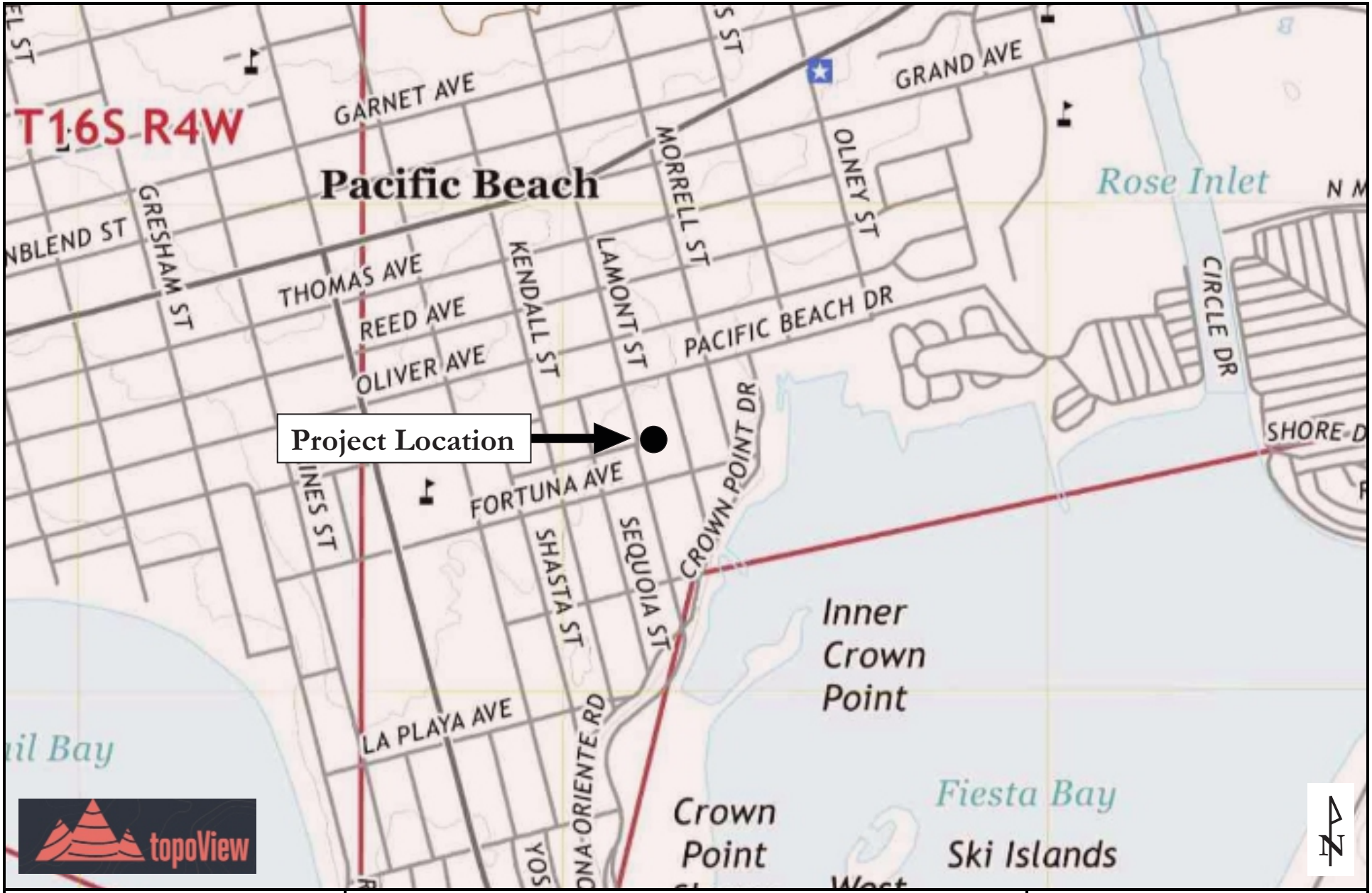
Satellite Aerial Photograph Showing Noise Measurement Locations
Job # S210110

Figure 3



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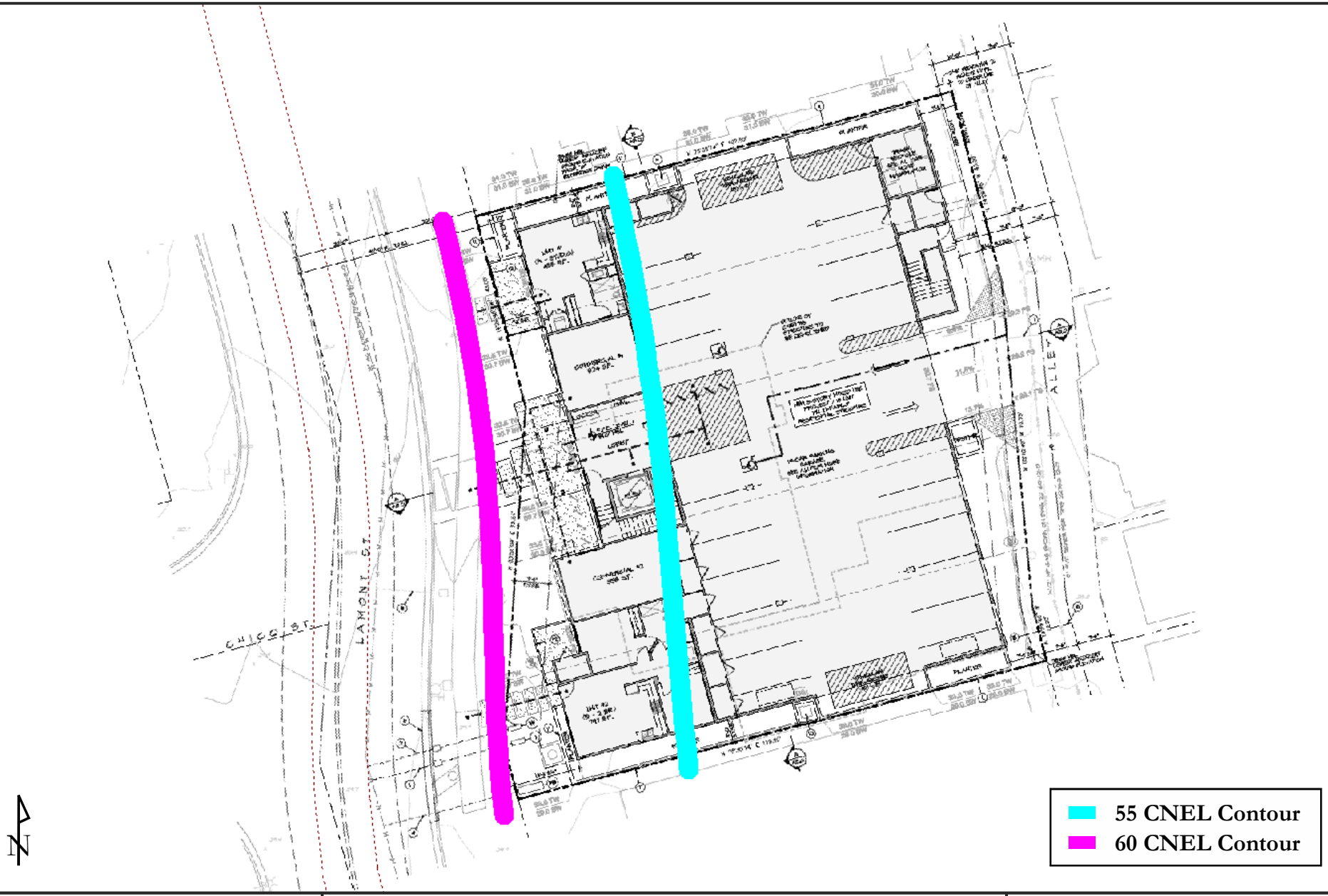
Topographic Map
Job # S210110

Figure 4



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Site Plan Showing Current Traffic CNEL Contours
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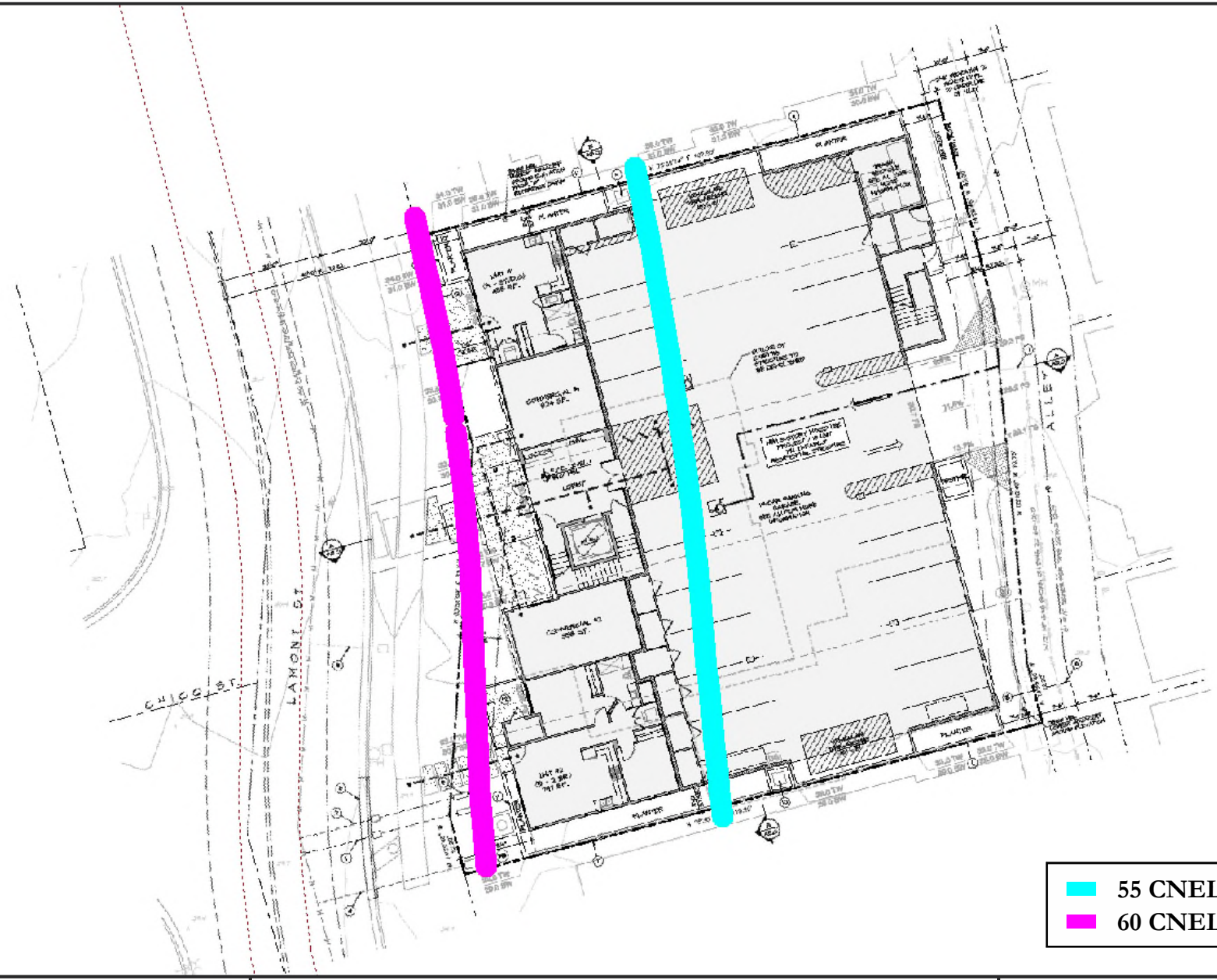
Figure 5



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Site Plan Showing Future Traffic CNEL Contours
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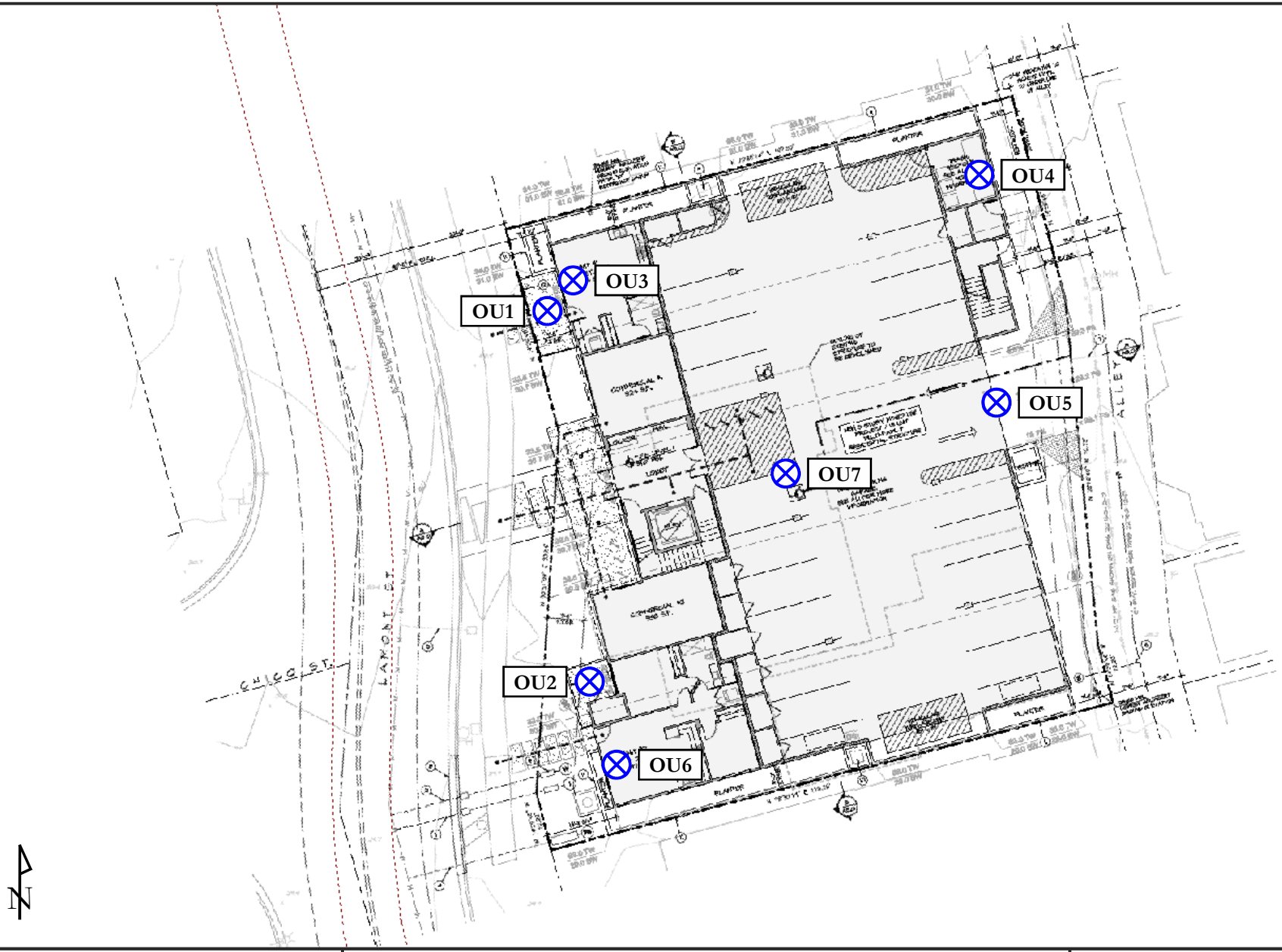
Figure 6



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Site Plan Showing Outdoor Use Receiver Locations
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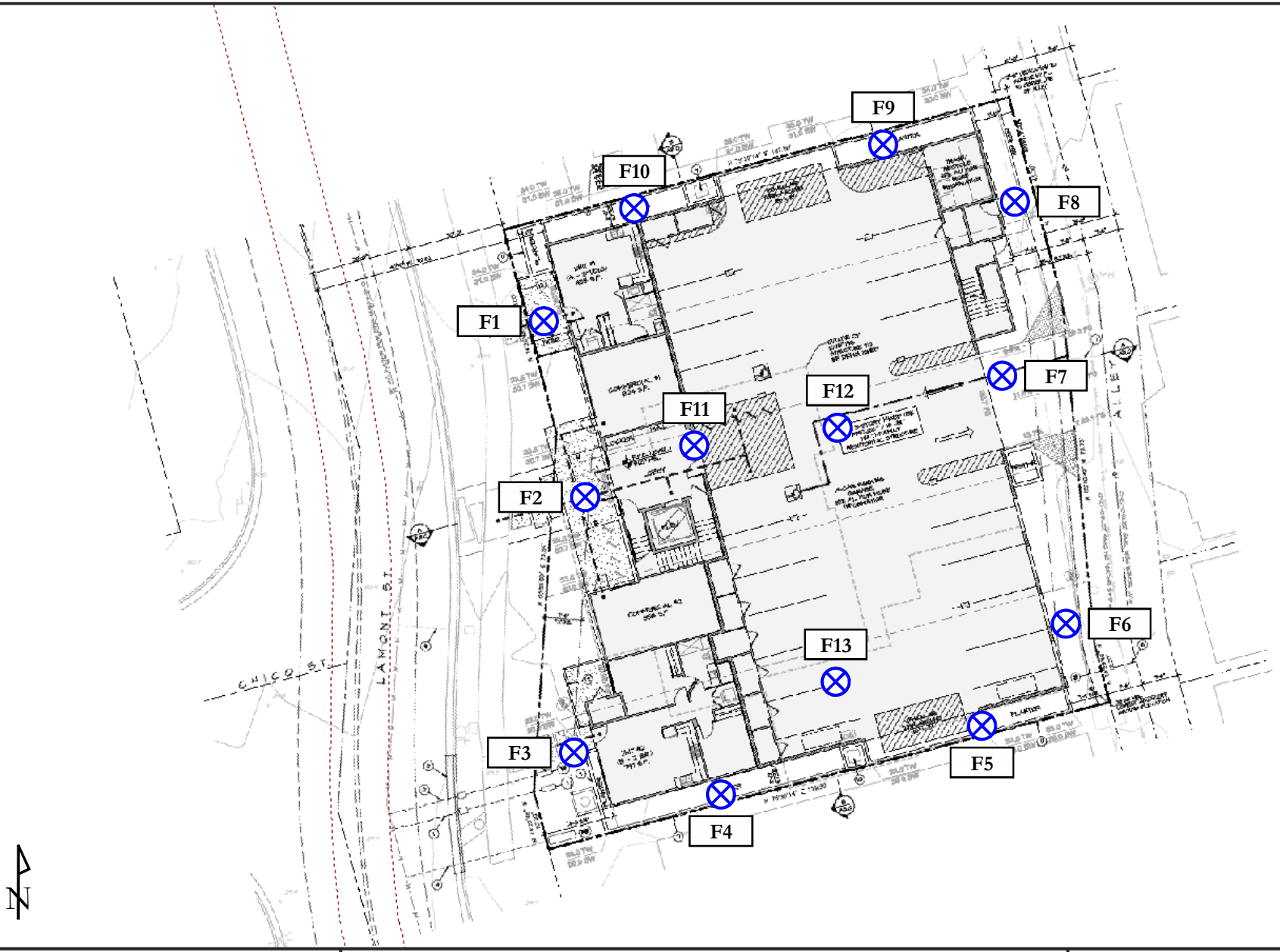
Figure 7



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Site Plan Showing Facade Receiver Locations
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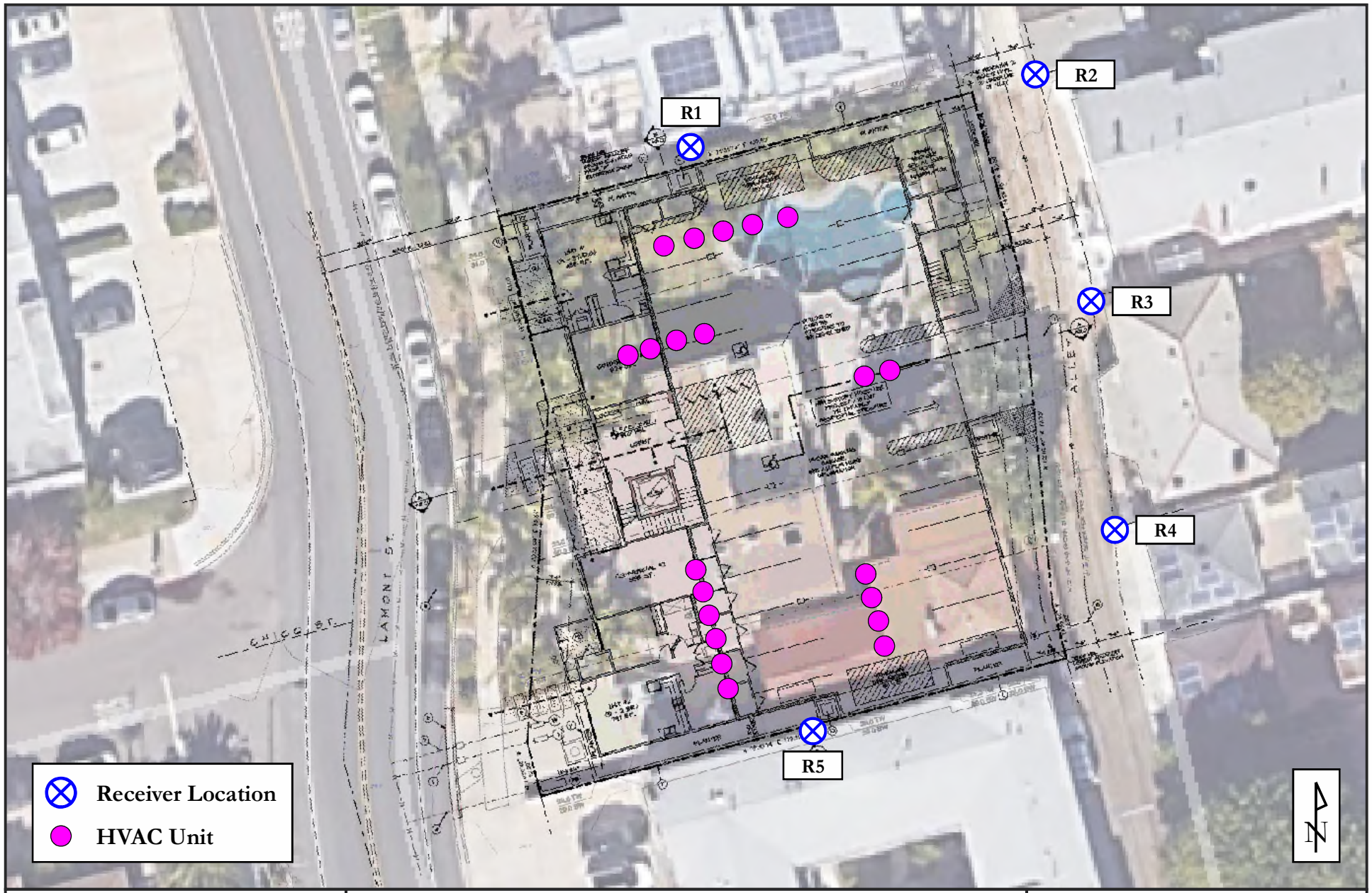
Figure 8



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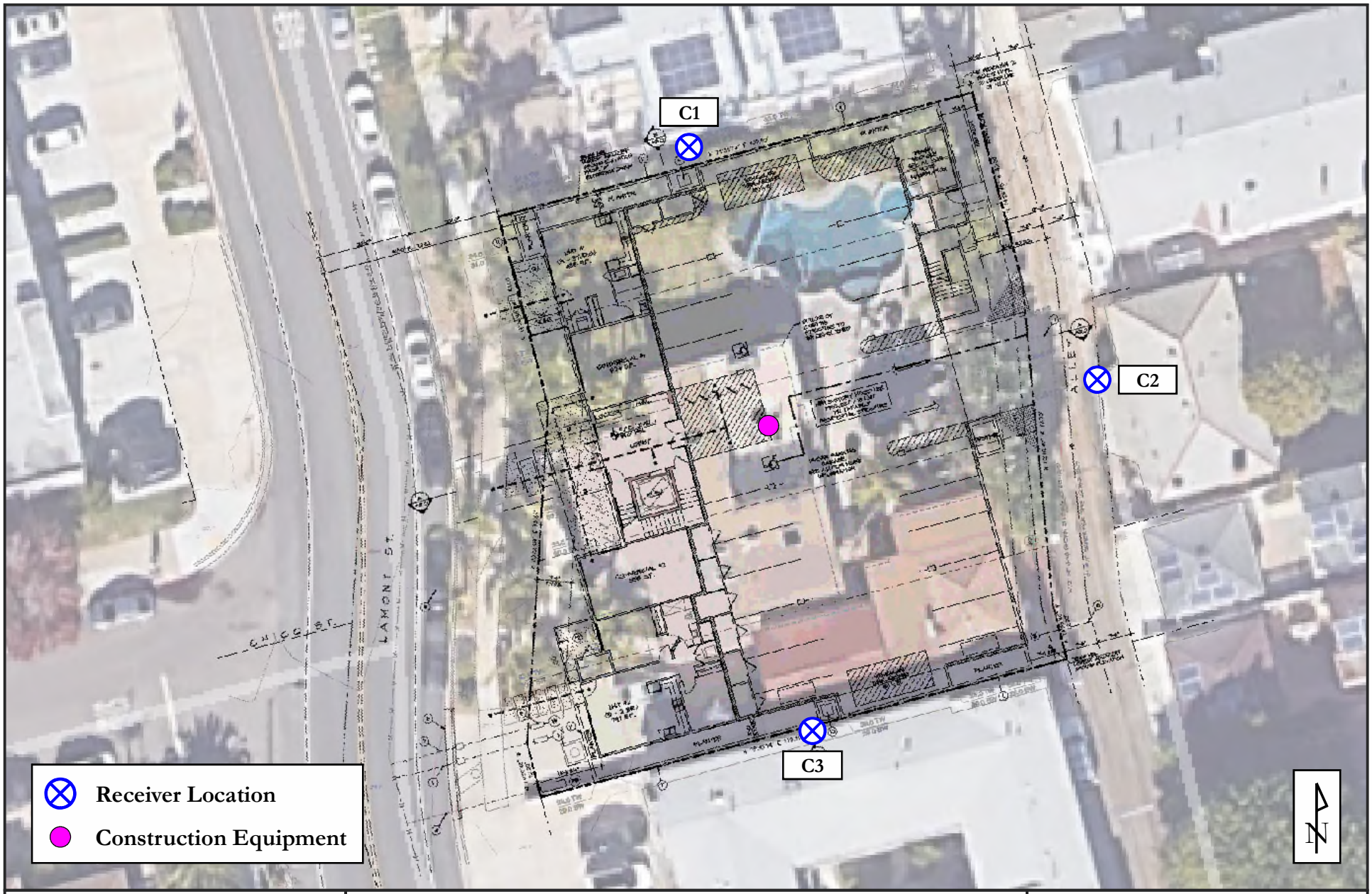
**Satellite Aerial Photograph Showing Site Plan,
Mechanical Equipment Locations, and Receiver Locations
Job # S210110**

Figure 9



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Satellite Aerial Photograph Showing Site Plan, Construction Equipment Location, and Receiver Locations
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Figure 10

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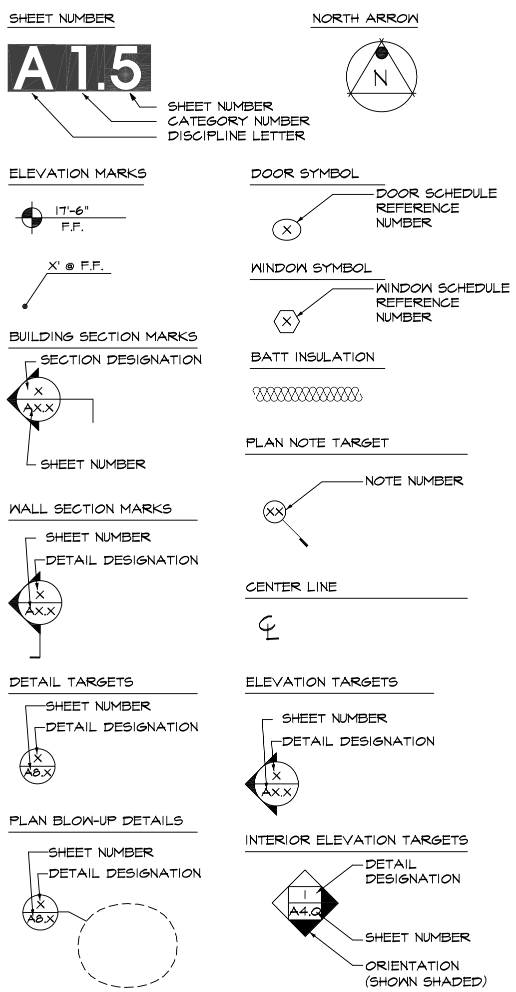
Appendix A
Project Plans

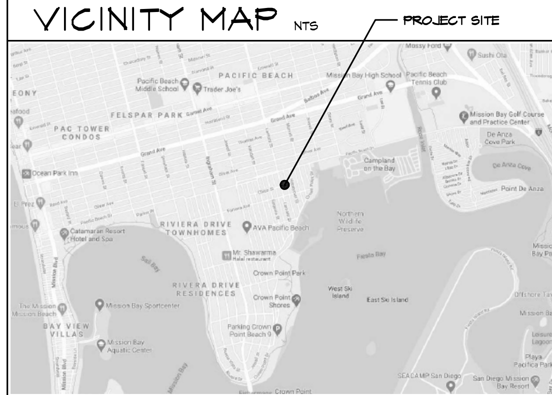
SYMBOLS



ABBREVIATIONS

ACOUS.	ACOUSTICAL	FL.	FLOOR	PNT.	PAINT
ADJ.	ADJUSTABLE.	FLEX.	FLEXIBLE	PNL.	PANEL
A.F.F.	AT FINISHED FLOOR	FLOUR.	FLUORESCENT	POL.	POLISHED
AGG.	AGGREGATE	FT.	FOOT	PROP.	PROPERTY
ALUM.	ALUMINUM	FRUN.	FURNITURE	PTD.	PAINTED
ALT.	ALTERNATE	FURR.	FURRING	PTN.	PARTITION
A.P.	ACCESS PANEL	FUT.	FUTURE	PT.	POINT
APPROX.	APPROXIMATE	GA.	GAUGE	QTY.	QUANTITY
ARCH.	ARCHITECTURAL	GALV.	GALVANIZED	R.	RUBBER
ASPH.	ASPHALT	GEN.	GENERAL	RECEP.	RECEPTION
AUTO.	AUTOMATIC	GL.	GLASS	REINF.	REINFORCING
BD.	BOARD	GND.	GROUND	R.O.W.	RIGHT OF WAY
BLDG.	BUILDING	GR.	GRADE	RAD.	RADIUS
BOT.	BOTTOM	GYP. BD.	GYPSUM BOARD	R.B.	RUBBER BASE
B.U.R.	BUILT UP ROOFING	H.C.	HARD CORE	R.D.	ROOF DRAIN
CAB.	CABINET	HDWD.	HARDWARE	REC.	RECESSED
CIRC.	CIRCULATION	H.M.	HOLLOW METAL	REF.	REFERENCE
C.L.	CENTER LINE	HORZ.	HORIZONTAL	REFR.	REFRIGERATOR
CLR.	CLEAR	HR.	HOUR	REINF.	REINFORCED
CLG.	CEILING	HT.	HEIGHT	REQD.	REQUIRED
CLO.	CLOSET	HTG.	HEATING	REV.	REVISION
COL.	COLUMN	H.W.	HOT WATER	RFG.	ROOFING
CONC.	CONCRETE	IN.	INCH(ES)	RM.	ROOM
CONF.	CONFERENCE	INCAND.	INCANDESCENT	R.O.	ROUGH OPENING
CONN.	CONNECTION	INCL.	INCLUDED	S.	SOUTH
CONSTR.	CONSTRUCTION	INSUL.	INSULATED	SAN.	SANITARY
CONT.	CONTINUOUS	INT.	INTERIOR	SCHED.	SCHEDULE
CONTR.	CONTRACTOR	INTERM.	INTERMEDIATE	SECT.	SECTION
COORD.	COORDINATE	JT.	JOINT	SECUR.	SECURITY
CORR.	CORRIDOR	KIT.	KITCHEN	S.F.	SQUARE FOOT
CPT.	CARPET	LAM.	LAMINATE	SHR.	SHOWER
C.J.	CONTROL JOINT	LAUN.	LAUNDRY	SHT.	SHEET
C.T.	CERAMIC TILE	LAV.	LAVATORY	SIM.	SIMILAR
CTR.	CENTER	LB.(S)	POUNDS	SL.	SLOPE
C.W.	COLD WATER	L.F.	LINEAR FOOT	SPEC.	SPECIFICATION
DBL.	DOUBLE	LT.	LIGHT	SPKR.	SPEAKER
DEMO.	DEMOLITION	MACH.	MACHINE	SQ.	SQUARE
DEPT.	DEPARTMENT	MAINT.	MAINTENANCE	S.ST.	STAINLESS STEEL
DIA.	DIAMETER	MAS.	MASONRY	STA.	STATION
DIAG.	DIAGONAL	MATL.	MATERIAL	STD.	STANDARD
DIFF.	DIFFUSER	MAX.	MAXIMUM	STL.	STEEL
DIM.	DIMENSION	MECH.	MECHANICAL	STOR.	STORAGE
DIV.	DIVISION	MEMB.	MEMBRANE	STRUC.	STRUCTURAL
DN.	DOWN	MFR.	MANUFACTURER	SUSP.	SUSPENDED
D.P.	DAMPPROOFING	MIN.	MINIMUM	SYM.	SYMMETRICAL
DR.	DOOR	MISC.	MISCELLANEOUS	T.	TREAD
DTL.	DETAIL	MOV.	MOVABLE	T.O.	TOP OF
E.	EAST	MTD.	MOUNTED	T.&B.	TOP & BOTTOM
EA.	EACH	MTL.	METAL	T.&G.	TONGUE & GROOVE
EL.	ELEVATION	MUL.	MULLION	TEL.	TELEPHONE
ELAS.	ELASTOMERIC	N.	NORTH	TEMP.	TEMPERED
ELEC.	ELECTRICAL	N.I.C.	NOT IN CONTRACT	TLT.	TOILET
ELEV.	ELEVATOR	NO.	NUMBER	TOPO.	TOPOGRAPHY
EMER.	EMERGENCY	NOM.	NOMINAL	TYP.	TYPICAL
ENCL.	ENCLOSURE	N.T.S.	NOT TO SCALE	UNF.	UNFINISHED
ENGR.	ENGINEER	OA.	OVERALL	UTL.	UTILITY
ENT.	ENTRANCE	O.C.	ON CENTER	VENT.	VENTILATION
E.J.	EXPANSION JOINT	O.D.	OUTSIDE DIAMETER	VERT.	VERTICAL
E. PNL.	ELECTRICAL PANEL	O.F.D.	OVERFLOW DRAIN	VEST.	VESTIBULE
EQ.	EQUAL	OFF.	OFFICE	V.I.F.	VERIFY IN FIELD
EQUIP.	EQUIPMENT	OH.	OVERHEAD	VOL.	VOLUME
EXH.	EXHAUST	OPNG.	OPENING	W.	WEST
EXST.	EXISTING	OPP.	OPPOSITE	W.C.	WATER CLOSET
EXP.	EXPANSION	PAV.	PAVING	WD.	WOOD
EXT.	EXTERIOR	P.C.	PRE-CAST	W.H.	WATER HEATER
F.D.	FLOOR DRAIN	PL.	PLATE	WIN.	WINDOW
FDN.	FOUNDATION	P.LAM.	PLASTIC LAMINATE	W.M.	WIRE MESH
F.E.	FIRE EXTINGUISHER	PLAS.	PLASTER	WTPG.	WATERPROOFING
F.F.	FINISH FLOOR	PLBG.	PLUMBING	WT.	WATER
FIN.	FINISH	PLWD.	PLYWOOD	YD.	YARD

VICINITY MAP NTS



DEVELOPMENT INCENTIVES

INCENTIVE #1:

AN INCENTIVE TO ALLOW THE STRUCTURE TO OBSERVE A 7'-6" MINIMUM FRONT YARD SETBACK FOR CERTAIN ELEMENTS OF THE STRUCTURE INSTEAD OF A 15' MINIMUM SETBACK FOR 50% AND A 20' STANDARD SETBACK FOR THE OTHER 50% OF THE SETBACK AS REQUIRED BY THE SAN DIEGO MUNICIPAL CODE (SDMC) SECTION 131.0443 (E) (1). THE STRUCTURE AND IT'S SETBACKS TO THE CURVING STREET ARE NOT AT STANDARD PLANES AND THE AVERAGE SETBACK GIVEN THE DEEP OFFSETS OF THE FRONT FAÇADE AND THE CURVING FRONTAGE ARE CLOSE TO THE ACTUAL LDC REQUIREMENTS BUT THIS DEVIATION WILL ALLOW FOR A FOOTPRINT AND PARKING AT THE PROPOSED DENSITY. ADDITIONALLY, DUE TO THE CURVE OF LAMONT STREET AT THIS LOCATION, THE PUBLIC RIGHT OF WAY AND LANDSCAPED BELTWAY IS ALREADY GREATER THAN MOST OF THE ADJACENT FRONTAGE ALONG LAMONT STREET AND THIS DEVIATION WILL ONLY RETURN THIS PROPERTY FRONTAGE TO A CONSISTENT FEEL GIVEN THE EXCESSIVE FRONTAGE THAT EXISTS NOW.

INCENTIVE #2:

AN INCENTIVE TO ALLOW THE STRUCTURE TO OBSERVE THE MINIMUM 5' SIDE YARD SETBACKS INSTEAD OF THE GREATER SETBACK OF 10% OF THE ENTIRE PREMISES WIDTH AS REQUIRED BY THE SAN DIEGO MUNICIPAL CODE (SDMC) SECTION 131.0443 (E) (2). THIS INCENTIVE ALLOWS FOR THE EFFICIENT DEVELOPMENT OF THIS 18 UNIT INFILL SITE THROUGH THE ACCUMULATION OF THE FIVE BASE CONTIGUOUS PARCELS. WHEN COMBINED FOR THIS DEVELOPMENT, THE INCENTIVE REQUEST ALLOWS FOR A MUCH GREATER EFFICIENCY THROUGH THE ACCUMULATED TOTAL LOT SIZE THAT COULD NOT BE AFFORDED IF THE LOTS WERE DEVELOPED INDIVIDUALLY, AND AS A RESULT, THE DESIGN HAS A MUCH MORE DESIRABLE DENSITY. THIS INCENTIVE MERELY SEEKS RELIEF FROM THE UNFORTUNATE CONSEQUENCE OF DEVELOPING THE LOTS TOGETHER IN THAT THE SETBACKS WOULD NO LONGER BE BASED ON THE LOT WIDTH OF AN INDIVIDUAL LOT BUT RATHER, THE SETBACK BECOMES A % OF THE ACCUMULATED *TOTAL* LOT WIDTH WHICH WOULD SEVERELY BURDEN THE PROJECT WITH AN EXTRAORDINARILY LARGE SIDE YARD SETBACKS ON THE PROJECT'S NORTH AND SOUTH SIDE YARDS.
THE INCENTIVE REQUESTS TO PROVIDE 5' SETBACKS ON THE PROJECTS SIDE YARDS WHICH IS TYPICAL FOR ALL THE ADJACENT LOTS AND THE GENERAL PROJECT CONTEXT WHICH IS MOSTLY DEVELOPED AS 50' WIDE PARCELS THAT WOULD HAVE USED THE SAME 5' SIDE YARD SETBACK AS THIS INCENTIVE REQUEST. STRUCT ADHERENCE TO THE 10% PROJECT WIDTH SIDE SETBACKS WOULD LIKELY RESULT IN THE LOSS OF 4 TO 8 UNITS RENDERING THE PROJECT ECONOMICALLY INFEASIBLE.

INCENTIVE #3:

AN INCENTIVE TO REDUCE THE PERCENTAGE OF DWELLING UNITS THAT HAVE PRIVATE EXTERIOR SPACE AS REQUIRED BY THE SAN DIEGO MUNICIPAL CODE (SDMC) SECTION 131.0455 (B). IN THE RM-2-5 ZONE, AT LEAST 75 PERCENT OF THE DWELLING UNITS SHALL BE PROVIDED WITH AT LEAST 60 SQUARE FEET OF USABLE, PRIVATE, EXTERIOR OPEN SPACE ABUTTING THE UNIT WITH A MINIMUM DIMENSION OF 6 FEET. THIS PROJECT PROPOSES 10 OF THE 18 UNITS (55%) TO BE PROVIDED WITH PRIVATE EXTERIOR SPACE. HOWEVER, THE PROJECT PROPOSES EXTENSIVE COMMON OPEN SPACES ON BOTH THE 2ND AND 3RD LEVELS TO COMPENSATE FOR THE 4 UNITS WITHOUT PRIVATE EXTERIOR SPACE, AND THIS DEVIATION ALLOWS FOR AT LEAST 4 ADDITIONAL BEDROOMS AS PART OF THOSE UNITS THAT WITHOUT THIS DEVIATION WOULD NEED TO BE REMOVED OR REDUCED.

INCENTIVE #4:

AN INCENTIVE TO ALLOW FOR AN EXPANDED LIST OF ALLOWED COMMERCIAL USES BEYOND THOSE ALREADY ALLOWED BY RIGHT IN THE RM2-5 ZONE AS PART OF THE MIXED USE DENSITY ALLOWED FOR IN THE PACIFIC BEACH COMMUNITY PLAN. THE INCENTIVE WILL ALLOW FOR A BROADER AND MORE DIVERSE RANGE OF USES TO ALLOW FOR GREATER OPPORTUNITIES TO PROVIDE MEANINGFUL MIXED USE OPPORTUNITIES AS OUTLINED IN THE COMMUNITY PLAN TRANSIT ORIENTED DEVELOPMENT GOALS AND DENSITY BONUS. THE INCENTIVE REQUESTS COMMERCIAL USES AS OUTLINED IN THE CC-4-2 ZONE BE ALSO ALLOWED AS PART OF THIS PROJECT AS OUTLINED IN STATE OF CALIFORNIA DENSITY BONUS LEGISLATION.

GENERAL PLAN DEVELOPMENT GOALS

THE PROPOSED PROJECT RECOGNIZES THE GOALS OF THE CONSERVATION ELEMENT OF THE CITY OF SAN DIEGO'S GENERAL PLAN.

IN AN EFFORT TO REACH THESE GOALS, THE PROJECT WILL EMPLOY THE FOLLOWING:

- SOLAR PHOTOVOLTAIC SYSTEM FOR GENERATING POWER ON SITE (UNDER SEPARATE PERMIT)
- HIGH EFFICACY LIGHTING OR OCCUPANCY SENSORS WHERE APPLICABLE
- "ENERGY STAR" APPLIANCES
- DUAL PANE LOW-E GLAZING ON ALL NEW WINDOWS
- USE OF LOW V.O.C. PAINTS AND LOW EMITTING ADHESIVES, COATINGS, CARPETS, AND OTHER FINISHES WHERE FEASIBLE
- USE OF ENGINEERED WOOD PRODUCTS WHERE APPLICABLE
- NATURAL COOLING AND VENTILATION WITH OPERABLE WINDOWS
- WATER CONSERVING NATIVE & PEST RESISTANT PLANTS IN LANDSCAPE DESIGN WHERE FEASIBLE
- USE OF PERMABLE PAVING WHERE FEASIBLE
- USE OF RAIN SENSOR SHUT OFF DEVICES
- HIGH EFFICIENCY IRRIGATION SYSTEM WITH STATE OF THE ART LOW PRECIPITATION RATE SPRINKLER EQUIPMENT
- ELECTRICAL OUTLET ON SEPARATE CIRCUIT IN EACH GARAGE FOR ELECTRIC CAR USAGE

SETBACK TABLE

SETBACK	REQUIRED		PROPOSED
FRONT (WEST, LAMONT ST.)	MIN.	15'-0"	7'-6"
	STANDARD	20'-0"	
SIDE (NORTH & SOUTH)	MIN.	12'-6"	5'-0"
REAR (EAST, ALLEY)	MIN.	15'-0"	15'-0"

GROSS FLOOR AREA

1ST FLOOR*	2,696
2ND FLOOR*	7,914
3RD FLOOR*	7,914
TOTAL G.F.A.	18,524
ENCLOSED PARKING GARAGE (NOT INCLUDED IN G.F.A. PER SDMC 113.0234(d)(3)(B)(ii) + (iii))	7,504
DECKS & PATIOS & EXT. WALKWAYS	4,854
*INCLUDES SQUARE FOOTAGE OF STORAGE UNITS AT ALL RESIDENTIAL UNITS.	

FLOOR AREA ANALYSIS

1ST FLOOR (COMMON AREA / NON-RESIDENTIAL)

COMMERCIAL SUITES	LOBBY	ELEV. & STAIRS	PARKING GARAGE	TOTAL	TOTAL G.F.A.
682	301	413	7,504	8,900	1,396
ENCLOSED PARKING GARAGE (NOT INCLUDED IN G.F.A. PER SDMC 113.0234(d)(3)(B)(ii) + (iii))					

2ND & 3RD FLOORS (COMMON AREA)

	ELEV. & STAIRS	WALKWAY	TOTAL	TOTAL G.F.A.
2ND FLOOR	450	1,960	2,410	450
3RD FLOOR	450	1,482	1,932	450
TOTAL	900	3,442	4,342	900

1ST, 2ND & 3RD FLOORS (PRIVATE RESIDENTIAL AREA)

UNIT MATRIX	TYPE A	TYPE B	TYPE C	TYPE D, D.1 & D.2	TYPE D.3	TYPE E	TOTAL	TOTAL G.F.A.
UNIT S.F.	453	797	875	882	878	1,136	-	-
STORAGE AREA S.F.	IN GARAGE	50	34	IN GARAGE	35	34	-	-
TOTAL UNIT G.F.A.	453	1,205	909	882	913	1,170	-	-
QUANTITY IN PROJECT	1	1	4	D: 4 D.1: 2 D.2: 2	2	2	18	-
TOTAL S.F. HABITABLE	453	1,155	3,500	7,056	1,826	2,272	16,262	16,262
TOTAL S.F. STORAGE	IN GARAGE	50	136	IN GARAGE	70	68	324	324
TOTAL G.F.A.	453	1,205	3,636	7,056	1,896	2,340	16,586	16,586
UNIT DECK S.F.	ON GRADE	ON GRADE	104	-	-	196	-	-
TOTAL DECK S.F.	ON GRADE	ON GRADE	416	-	-	392	808	-

PARKING CALCULATIONS

	REQUIRED	PROVIDED
RESIDENTIAL 0.5 SPACES REQ'D FOR EACH BDRM., 17 2-BEDROOM UNITS & 1 STUDIO = 35 BDRM.	18	18
COMMERCIAL 2.1 SPACES REQ'D FOR EACH 1,000 S.F., 682 S.F. TOTAL	1	1
MOTORCYCLE SPACES PER S.D.M.C. TABLE 142-05C & D	2	2
BICYCLE SPACES PER S.D.M.C. TABLE 142-05C & D	9	10 IN GARAGE, 6 IN FRONT

PARKING NOTES:

1. RESIDENTIAL PARKING RATIO REQUIREMENTS PER CHAPTER 14, ARTICLE 3 DIVISION 7: AFFORDABLE HOUSING REGULATIONS, SDMC SECTION 143.0744 & TABLE 143-07D.

DENSITY CALCULATIONS

DENSITY NOTES:

1. THE PROPOSED MIXED-USE PROJECT DENSITY COMPLIES WITH THE DENSITY ESTABLISHED BY THE APPLICABLE LAND USE PLAN, THE PACIFIC BEACH COMMUNITY PLAN. THE DENSITY ESTABLISHED BY THE LAND USE PLAN IS HIGHER THAN THE DENSITY ESTABLISHED BY THE BASE ZONE. (SEE TABLE BELOW) (REFER TO SAN DIEGO MUNICIPAL CODE SECTION 143.0410(a)(3)(D))
2. THE PROPOSED MIXED-USE PROJECT IS REQUESTING AN AFFORDABLE HOUSING DENSITY BONUS BASED ON PROVIDING 13% OF THE PRE-BONUS DENSITY AT VERY LOW INCOME PER SDMC SECTION 143.0720 AND TABLE 143-07A.

	1 DWELLING UNIT ALLOWED PER GIVEN LOT S.F.	TOTAL ALLOWABLE NUMBER OF DWELLING UNITS
SAN DIEGO MUNICIPAL CODE ZONE RM-2-5 (PER TABLE 131-04G)	1,500 S.F.	10 UNITS
PACIFIC BEACH COMMUNITY PLAN (PER COMMERCIAL LAND USE, PAGE 41, POLICY #4)	1,000 S.F.	14 UNITS
42.5% AFFORDABLE HOUSING DENSITY BONUS (PER SDMC 143.0720 & TABLE 143-07A)		6 UNITS
ALLOWABLE RESIDENTIAL DENSITY (P. B. ALLOWABLE DENSITY + AFFORDABLE DENSITY BONUS)		20 UNITS

PROJECT DATA

PROJECT DESCRIPTION:

THE PROJECT PROPOSES TO DEMOLISH AN EXISTING SINGLE STORY 3,307 S.F. 2-UNIT APARTMENT AND TO CONSTRUCT A NEW 3-STORY MIXED USE BUILDING WITH 18 RESIDENTIAL UNITS. THE FIRST FLOOR WILL CONSIST OF 2 FOR-RENT RESIDENTIAL UNITS, 2 COMMERCIAL SUITES, A LOBBY, & ON-GRADE PARKING. THE 2ND & 3RD FLOORS WILL CONTAIN 8 FOR-RENT RESIDENTIAL UNITS EACH, FOR A TOTAL OF 18 FOR-RENT RESIDENTIAL UNITS.

THIS IS AN AFFORDABLE HOUSING DENSITY BONUS PROJECT: THE PROJECT PROPOSES TO UTILIZE THE AFFORDABLE HOUSING DENSITY BONUS PROGRAM. THE AREA OF THE LOT IS 13,989 SQUARE FEET AND IT IS LOCATED WITHIN THE RM-2-5 BASE ZONE.
THE PROJECT SITE IS ALSO LOCATED WITHIN THE PACIFIC BEACH COMMUNITY PLAN. THE PROJECT PROPOSES TO USE THE ALLOWABLE DENSITY WITHIN THE PB COMMUNITY PLAN FOR TRANSIT ORIENTED PROJECTS OF ONE DWELLING UNIT PER 1,000 SQUARE FEET PER COMMERCIAL LAND USE, PAGE 41, POLICY #4. THE ALLOWABLE DENSITY PER THE PB COMMUNITY PLAN IS 14 DWELLING UNITS.
THE PROJECT WILL ALSO UTILIZE THE CITY OF SAN DIEGO DENSITY BONUS PROGRAM AND RESERVE 13% OF THE PRE-BONUS UNITS AS VERY LOW INCOME UNITS (2 UNITS) AS DEFINED IN SECTION 143.0720(c)(1). PER TABLE 143-07A OF THE AFFORDABLE HOUSING REGULATIONS, THE ALLOCATION OF A MINIMUM OF 13% OF THE PRE-DENSITY UNITS PROVIDES UP TO 42.5% DENSITY BONUS WITH FOUR DEVELOPMENT INCENTIVES, AND IN THIS PROJECT, TAKES THE BASE DENSITY OF 14 UNITS TO THE 18 UNITS AS PROPOSED - USING A 28.6% DENSITY BONUS.

CITY OF SAN DIEGO EXPEDITE QUALIFICATION:	THIS PROJECT QUALIFIES FOR EXPEDITE PERMIT PROCESSING PER BULLETIN 538, SECTION III, QUALIFYING PROJECT TYPE A AT LEAST 10% OF THE TOTAL UNITS BEING SET ASIDE FOR HOUSEHOLDS WITH AN INCOME AT OR BELOW 60% AREA MEDIAN INCOME.
SITE ADDRESS:	4033-4039 LAMONT ST. SAN DIEGO, CA 92109
ASSESSOR'S PARCEL NUMBER:	424-431-27-00
LEGAL DESCRIPTION:	LOT 13-17 IN BLOCK 1 OF VENICE PARK, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 991, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY MAY 24, 1906.
BUILDING CODES:	2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA RESIDENTIAL CODE 2019 CALIFORNIA ELECTRICAL CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA GREEN BUILDING CODE 2019 CALIFORNIA FIRE CODE SAN DIEGO MUNICIPAL CODE
YEAR BUILT:	1953
EXISTING SOILS CONDITION:	PREVIOUSLY GRADED & DISTURBED
GEOLOGIC HAZARD CATEGORY:	52
OCCUPANCY:	R-2 & S-2
CONSTRUCTION TYPE:	TYPE VB, FIRE SPRINKLERED (NFPA 13D)
LOT ZONING:	RM-2-5
OVERLAY ZONES:	COASTAL HEIGHT LIMIT CITY COASTAL (N-APP-2) PARKING IMPACT TRANSIT PRIORITY AREA PACIFIC BEACH COMMUNITY PLAN
LOT SIZE:	13,989 SF
LOT USE: EXISTING: PROPOSED:	 MULTIFAMILY RESIDENTIAL MULTIFAMILY RESIDENTIAL
ALLOWABLE F.A.R.:	1.35
ALLOWABLE AREA:	18,885 S.F. (1.35 X 13,989)
PROPOSED F.A.R.:	1.35
DENSITY: ALLOWABLE:	14 PER THE PACIFIC BEACH COMMUNITY PLAN (SEE DENSITY CALCULATIONS) + 6 PER THE 42.5% DENSITY BONUS FOR AFFORDABLE HOUSING (SEE DENSITY CALCULATIONS) = 20 TOTAL ALLOWABLE DWELLING UNITS
PROPOSED:	18 DWELLING UNITS
NUMBER OF STORIES: EXISTING: PROPOSED:	 1 - STORY 3 - STORIES
BUILDING HEIGHT: ALLOWABLE:	40'-0" PER BASE ZONE, 30'-0" PER PROP. 'D'
PROPOSED:	29'-10" MAX. ABOVE HIGH POINT OF GRADE PER PROP. D MEASUREMENT
COMMON OPEN SPACE: REQUIRED: PROPOSED:	 450 S.F. (25 S.F./DU = 25 S.F. X 18 DU) 868 S.F. AT THE 2ND FLOOR PODIUM DECK OPEN TO THE SKY
PRIVATE OPEN SPACE: REQUIRED: PROPOSED:	 60 S.F. FOR 75% OF DWELLING UNITS 10 (55%) OF THE 18 DWELLING UNITS ARE PROVIDED WITH AT LEAST 60 S.F. SEE INCENTIVE #4.
STORAGE:	ALL DWELLING UNITS ARE PROVIDED WITH THE REQUIRED STORAGE PER SDMC 131.0454
REFUSE & RECYCLING: REQUIRED:	RES: 48 S.F. REFUSE & 48 S.F. RECYCLING TOTAL 96 S.F. REFUSE/RECYCLING
PROVIDED:	147 S.F. REFUSE/RECYCLING

SHEET INDEX

PROJECT DIRECTORY

OWNER: THOMAS WILLIAM PAULL
4039 LAMONT ST.
SAN DIEGO, CA 92109

ARCHITECT: GOLBA ARCHITECTURE, INC.
1940 GARNET AVE., SUITE 100
SAN DIEGO, CA 92109
TEL. (619) 231-9905, CONTACT: SARAH HORTON

SURVEYOR & CIVIL ENGINEER: CHRISTENSEN ENGINEERING & SURVEYING
7888 SILVERTON AVE., SUITE J
SAN DIEGO, CA 92126
TEL. (858) 271-9901, CONTACT: ANTONY CHRISTENSEN

LANDSCAPE ARCHITECT: TOPIA
5055 NORTH HARBOR DR., SUITE 200
SAN DIEGO, CA 92106
TEL. (858) 458-0555
CONTACT: FRANK MARCZYNSKI, ASLA

SOILS ENGINEER: TERRAPACIFIC CONSULTANTS, INC.
4010 MORENA BOULEVARD, SUITE 108
SAN DIEGO, CA 92117
TEL. (858) 521-1190, CONTACT: CRISTOPHER O' HERN

CERTIFICATION STATEMENT

I HEREBY ACKNOWLEDGE AND CERTIFY THAT:

1. I AM ACCOUNTABLE FOR KNOWING AND COMPLYING WITH THE GOVERNING POLICIES, REGULATIONS AND SUBMITTAL REQUIREMENTS APPLICABLE TO THIS PROPOSED DEVELOPMENT;

2. I HAVE PERFORMED REASONABLE RESEARCH TO DETERMINE THE REQUIRED APPROVALS AND DECISION PROCESS FOR THE PROPOSED PROJECT, AND THAT FAILURE TO ACCURATELY IDENTIFY AN APPROVAL OR DECISION PROCESS COULD SIGNIFICANTLY DELAY THE PERMITTING PROCESS OR RESULT IN A CHANGE IN FEE/DEPOSIT REQUIREMENTS;

3. I HAVE TAKEN THE PROFESSIONAL CERTIFICATION FOR DEVELOPMENT PERMIT COMPLETENESS REVIEW TRAINING AND AM ON THE APPROVED LIST FOR PROFESSIONAL CERTIFICATION;

4. MAINTAINING MY PROFESSIONAL CERTIFICATION FOR DEVELOPMENT PERMIT COMPLETENESS REVIEW PRIVILEGE REQUIRES ACCURATE SUBMITTALS ON A CONSISTENT BASIS;

5. SUBMITTING INCOMPLETE DOCUMENTS AND PLANS ON A CONSISTENT BASIS MAY RESULT IN THE REVOCATION OF MY PROFESSIONAL CERTIFICATION FOR DEVELOPMENT PERMIT COMPLETENESS REVIEW;

6. IF REQUIRED DOCUMENTS OR PLAN CONTENT IS MISSING, PROJECT REVIEW WILL BE DELAYED;

7. THIS SUBMITTAL PACKAGE MEETS ALL OF THE MINIMUM REQUIREMENTS CONTAINED IN LAND DEVELOPMENT MANUAL, VOLUME 1, CHAPTER 1, SECTION 4, AND/OR SECTION 6 FOR REZONES; AND

8. FOR THE PROPOSED PROJECT, I HAVE DETERMINED THE APPROPRIATE PROCESS AND APPROVAL TYPES TO BE AS FOLLOWS:

PROJECT PROCESS LEVEL (2-5): 2
PROJECT APPROVAL(S) NEEDED: COASTAL DEVELOPMNENT PERMIT

RESPONSIBLE CERTIFIED PROFESSIONAL NAME: TIMOTHY GOLBA

SIGNATURE ________ DATE 10-07-20

Prepared By:
Golba Architecture
1940 Garnet Ave. #100
San Diego, CA 92109
(619) 231-9905
fax: 858-750-3471

Project Address:
4033-4039 LAMONT ST.
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Original Date: 10-07-20

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PROJECT INFORMATION

GOLBA ARCHITECTURE inc
Architecture ■ Space Planning ■ Interior Design
1940 Garnet Ave. #100 San Diego California 92109
Phone: (619) 231-9905 Fax: (858) 750-3471

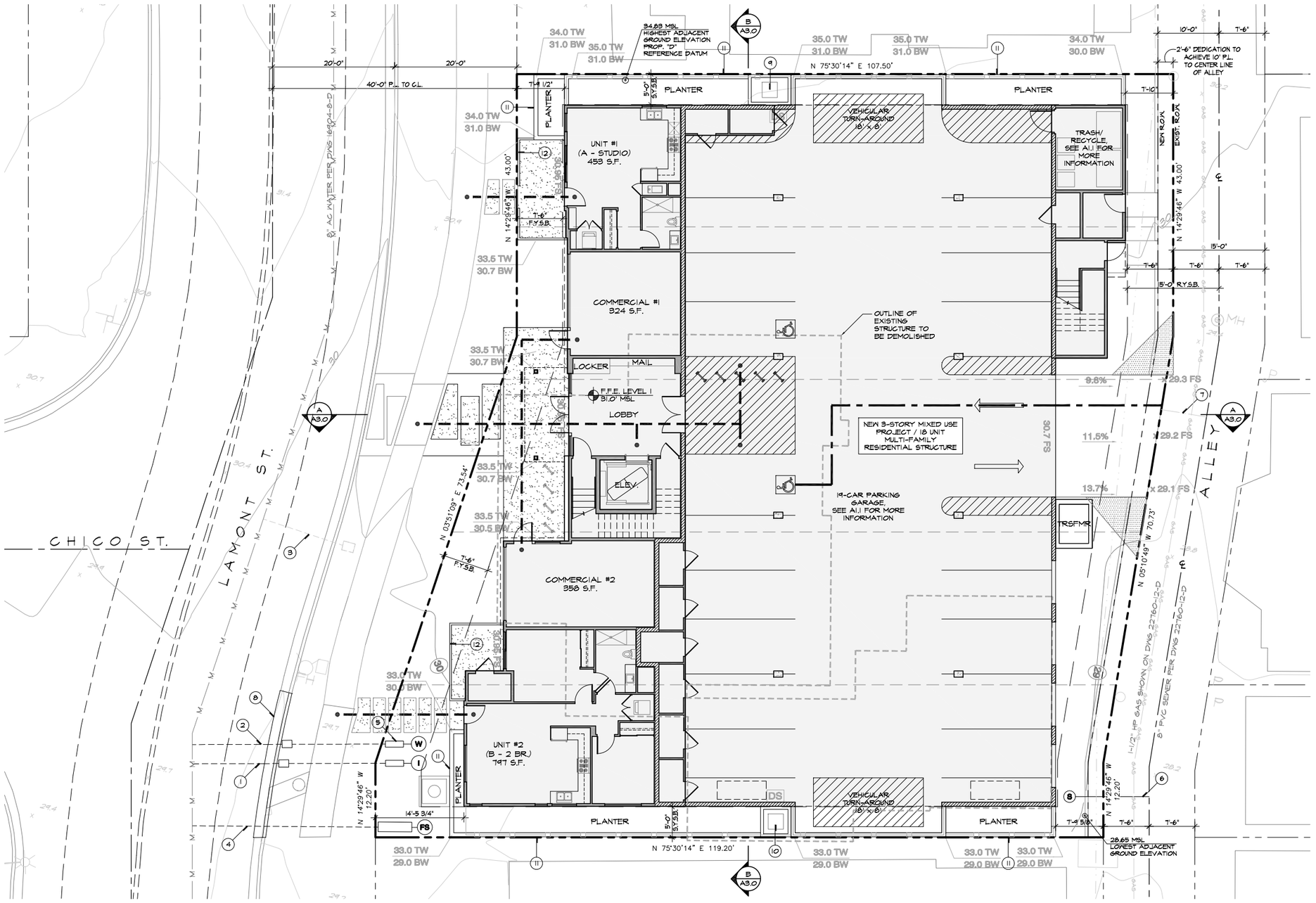
the NEST
4033-4039 LAMONT ST.
SAN DIEGO, CA 92109

PTS # 676545

REGISTERED ARCHITECT
TIMOTHY J. GOLBA
No. C19738
Ren. 7-31-21
STATE OF CALIFORNIA

T 1.1

DATE: 01-04-21



SITE NOTES:

1. THE HIGHEST POINT OF THE ROOF, EQUIPMENT, OR ANY VENT, PIPE, ANTENNA, OR OTHER PROJECTION SHALL NOT EXCEED 30'-0" ABOVE BASE OF MEASUREMENT (REFERENCE DATUM). [SDMC SECTION 132.0505]
2. THERE ARE NO EXISTING OR PROPOSED BUS/ TRANSIT STOPS.
3. SEE ATTACHED TOPOGRAPHIC SURVEY FOR THE SOURCE OF TOPOGRAPHIC INFORMATION.
4. SEE THE ATTACHED PROPOSED GRADING PLAN FOR EXISTING & PROPOSED UTILITIES, GRADES, SITE WALLS, AND STORM-WATER DESIGN.
5. SEE THE ATTACHED PROPOSED LANDSCAPE PLAN FOR LANDSCAPE AND HARDSCAPE DESIGN.

FIRE NOTES

1. PROVIDE BUILDING ADDRESS NUMBERS, VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY PER SAN DIEGO MUNICIPAL CODE SECTION 95.0209.
2. POST INDICATOR VALVES, FIRE DEPARTMENT CONNECTIONS, AND ALARM BELL TO BE LOCATED ON THE ADDRESS/ACCESS SIDE OF THE STRUCTURE.
3. VEGITATION SHALL BE SELECTED AND MAINTAINED IN SUCH A MANNER AS TO ALLOW IMMEDIATE ACCESS TO ALL HYDRANTS, VALVES, FIRE DEPARTMENT CONNECTIONS, FULL STATIONS, EXTINGUISHERS, SPRINKLER RISERS, ALARM CONTROL PANELS, RESCUE WINDOWS, AND OTHER DEVICES OR ARES USED FOR FIREFIGHTING PURPOSES. VEGITATION OR BUILDING FEATURES SHALL NOT OBSTRUCT ADDRESS NUMBERS OR INHIBIT THE FUNCTIONING OF ALARM BELLS, HORNS OR STROBES.
4. DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION.
5. ALL BUILDINGS AND SITES UNDERGOING CONSTRUCTION, ALTERATION OR DEMOLITION SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 33 OF THE CFC.

SITE PLAN KEYNOTES

1. PROPOSED 1" IRRIGATION SERVICE & METER
2. PROPOSED 2" WATER SERVICE & METER
3. EXISTING WATER SERVICE TO BE KILLED AT THE MAIN
4. PROPOSED 4" FIRE SERVICE & METER
5. PROPOSED BACKFLOW PREVENTER, TYP.
6. PROPOSED 6" SEWER LATERAL
7. EXISTING SEWER LATERAL TO BE ABANDONED AT THE PROPERTY LINE
8. EXISTING DRIVEWAY TO BE REMOVED & REPLACED WITH 6" CURB, GUTTER, & SIDEWALK PER CITY STANDARDS, SEE CIVIL DRAWINGS.
9. PROPOSED 4'X6' FILTERRA BIOFILTRATION UNIT PER CIVIL DRAWINGS
10. PROPOSED 4'X4' FILTERRA BIOFILTRATION UNIT PER CIVIL DRAWINGS
11. PROPOSED PLANTER WALL - SEE CIVIL DRAWINGS
12. LOW WOOD FENCE 3'-0" ABOVE GRADE MAX.

SITE LEGEND

- INDICATES PROPERTY LINE
- INDICATES SETBACK LINE
- FOOTPRINT OF PROPOSED BUILDING
- VISIBILITY AREA - NO OBSTRUCTION INCLUDING LANDSCAPING OR SOLID WALLS IN THE VISIBILITY AREA SHALL EXCEED 3 FEET IN HEIGHT

SITE ACCESSIBILITY LEGEND

- NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SEC. 11B307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (SEC. 11B307.3)
- VEHICULAR ACCESS FROM PUBLIC RIGHT-OF-WAY TO ACCESSIBLE PARKING STALL, MAINTAIN 8'-2" VERTICAL CLEARANCE ALONG ENTIRE ROUTE

SITE PLAN

SCALE: 1/8"=1'-0"

SCALE: 1/8"=1'-0"

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SITE PLAN

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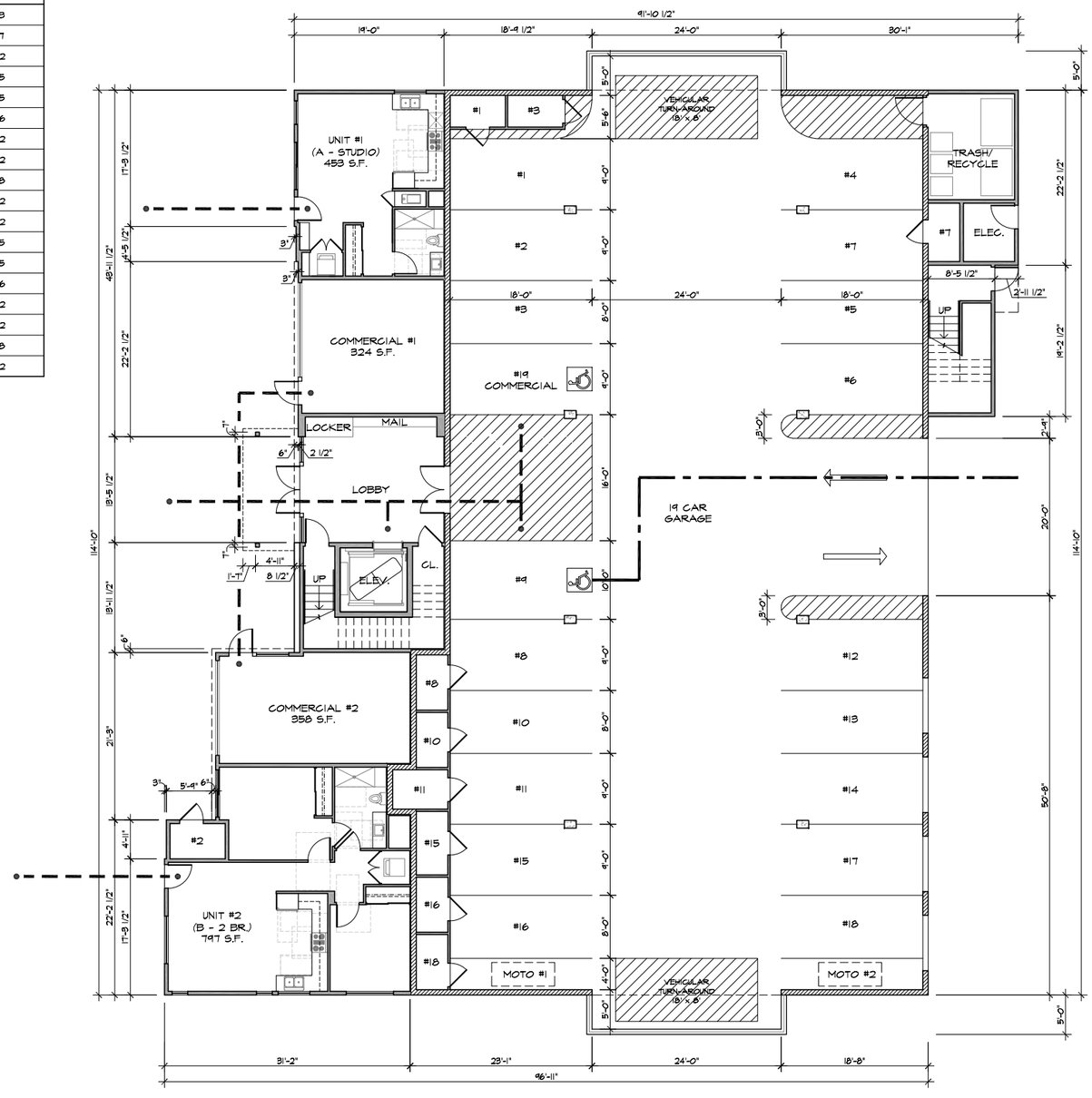
PTS # 676545

REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-14788 Ren. 1-31-21 STATE OF CALIFORNIA

A 0.0

DATE: 01-04-21

DWELLING UNIT TABLE		
UNIT #	UNIT TYPE	UNIT AREA (SF)
1	A - STUDIO	453
2	B - 2 BR.	797
3	D - 2 BR.	882
4	C - 2 BR.	875
5	C - 2 BR.	875
6	E - 2 BR.	1,136
7	D.1 - 2 BR.	882
8	D - 2 BR.	882
9	D.3 - 2 BR.	878
10	D.2 - 2 BR.	882
11	D - 2 BR.	882
12	C - 2 BR.	875
13	C - 2 BR.	875
14	E - 2 BR.	1,136
15	D.1 - 2 BR.	882
16	D - 2 BR.	882
17	D.3 - 2 BR.	878
18	D.2 - 2 BR.	882



FLOOR PLAN NOTES:

1. THE PROPOSED MULTI-FAMILY & PARKING GARAGE SYRUCTURE SHALL BE PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM, CONNECTED & INSTALLED IN ACCORDANCE WITH, A FIRE SPRINKLER SYSTEM THAT COMPLIES WITH, SECTION R313 OR NFPA 13D.
2. THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 0.75-INCH IN HEIGHT FOR SLIDING DOORS SERVING DWELLING UNITS OR 0.5-INCH FOR OTHER DOORS.

FLOOR PLAN LEGEND

- 2x WOOD STUD WALL
- CONCRETE OR CMU WALL
- LOW WALL, 42" A.F.F. (U.N.O.)
- LINE OF BUILDING ABOVE

SITE ACCESSIBILITY LEGEND

- NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SEC. 11B307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (SEC. 11B307.3)
- VEHICULAR ACCESS FROM PUBLIC RIGHT-OF-WAY TO ACCESSIBLE PARKING STALL, MAINTAIN 8'-2" VERTICAL CLEARANCE ALONG ENTIRE ROUTE

FIRST FLOOR PLAN

SCALE: 1/8"=1'-0"

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A 1.1

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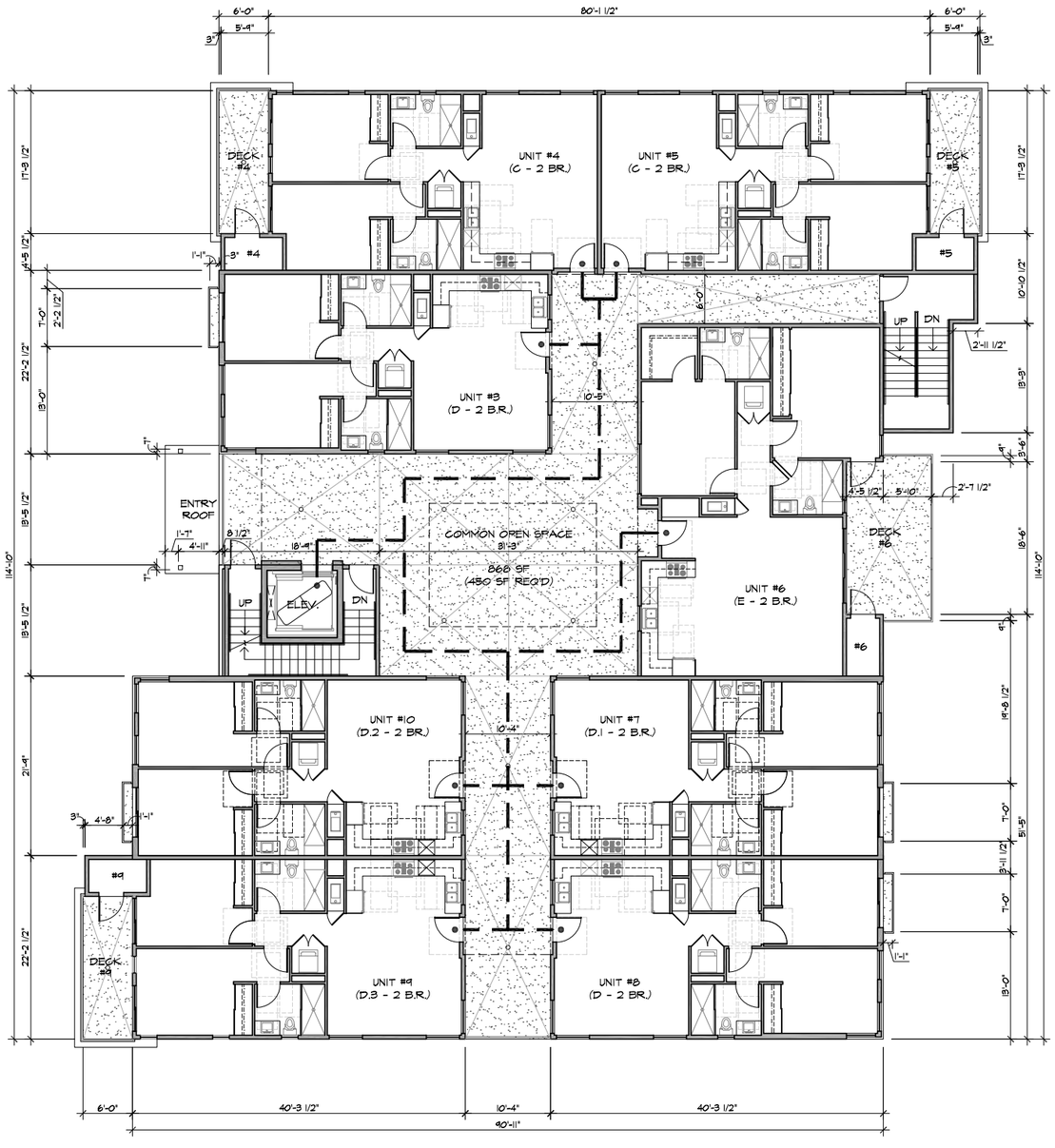
DWELLING UNIT TABLE

UNIT #	UNIT TYPE	UNIT AREA (S.F.)
1	A - STUDIO	458
2	B - 2 BR.	797
3	D - 2 BR.	882
4	C - 2 BR.	875
5	C - 2 BR.	875
6	E - 2 BR.	1,136
7	D.1 - 2 BR.	882
8	D - 2 BR.	882
9	D.3 - 2 BR.	878
10	D.2 - 2 BR.	882
11	D - 2 BR.	882
12	C - 2 BR.	875
13	C - 2 BR.	875
14	E - 2 BR.	1,136
15	D.1 - 2 BR.	882
16	D - 2 BR.	882
17	D.3 - 2 BR.	878
18	D.2 - 2 BR.	882



SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"

FLOOR PLAN NOTES:

1. THE PROPOSED MULTI-FAMILY & PARKING GARAGE SYRUCTURE SHALL BE PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM, CONNECTED & INSTALLED IN ACCORDANCE WITH, A FIRE SPRINKLER SYSTEM THAT COMPLIES WITH, SECTION R313 OR NFPA 13D.
2. THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 0.75-INCH IN HEIGHT FOR SLIDING DOORS SERVING DWELLING UNITS OR 0.5-INCH FOR OTHER DOORS.

FLOOR PLAN LEGEND

- 2x WOOD STUD WALL
- CONCRETE OR CMU WALL
- LOW WALL, 42" A.F.F. (U.N.O.)
- LINE OF BUILDING ABOVE

SITE ACCESSIBILITY LEGEND

- NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SEC. 11B307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (SEC. 11B307.3)
- VEHICULAR ACCESS FROM PUBLIC RIGHT-OF-WAY TO ACCESSIBLE PARKING STALL, MAINTAIN 8'-2" VERTICAL CLEARANCE ALONG ENTIRE ROUTE

SCALE: 1/8"=1'-0"

Prepared By:
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the NEST

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Sheet Title:
SECOND FLOOR PLAN

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PTS # 676545

REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-47188 Exp. 7-31-21 STATE OF CALIFORNIA

A 1.2

DATE: 01-04-21

DWELLING UNIT TABLE

UNIT #	UNIT TYPE	UNIT AREA (S.F.)
1	A - STUDIO	458
2	B - 2 BR.	797
3	D - 2 BR.	882
4	C - 2 BR.	875
5	C - 2 BR.	875
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7	D.1 - 2 BR.	882
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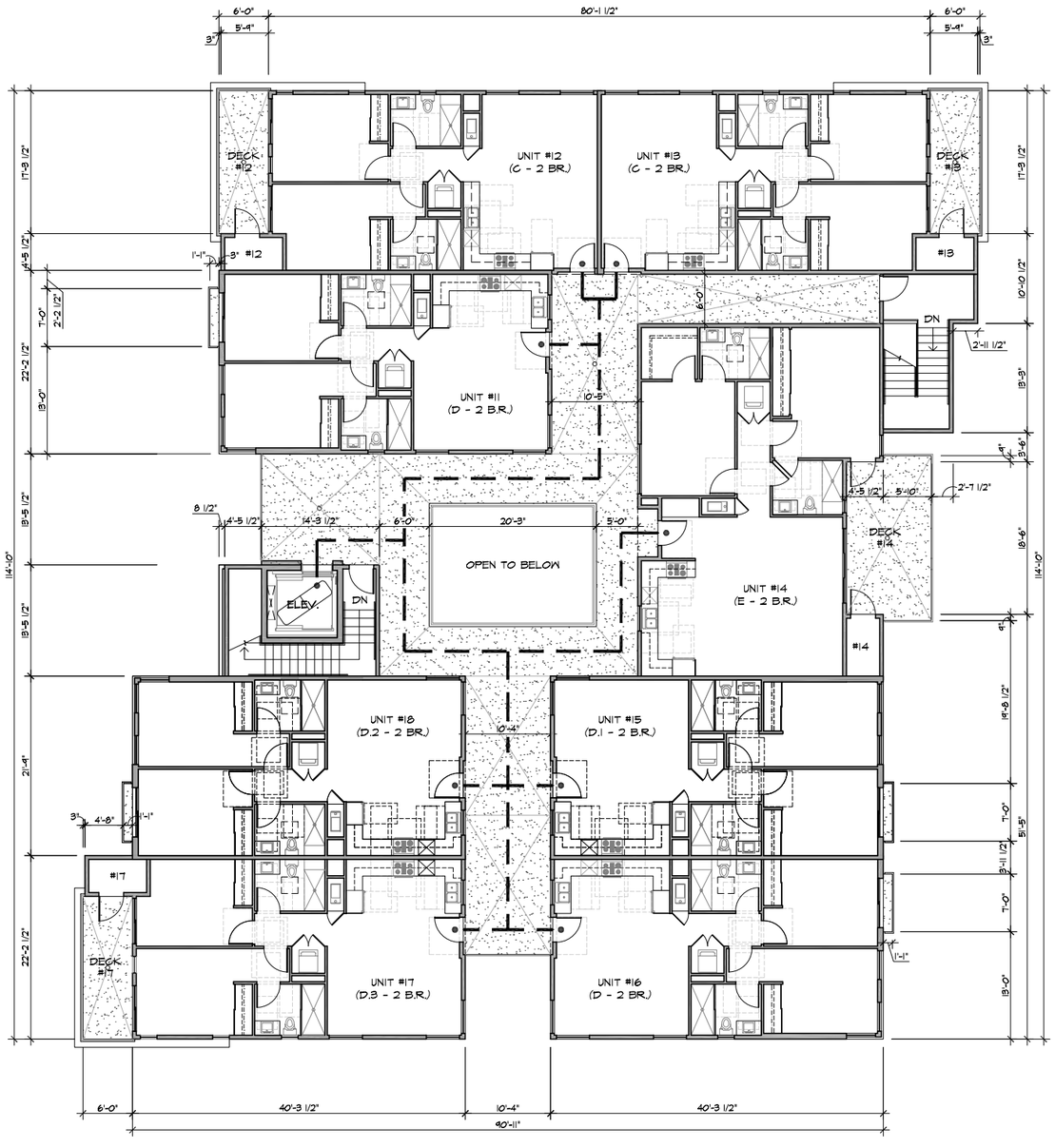

THIRD FLOOR PLAN

SCALE: 1/8"=1'-0"

FLOOR PLAN NOTES:

1. THE PROPOSED MULTI-FAMILY & PARKING GARAGE STRUCTURE SHALL BE PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM, CONNECTED & INSTALLED IN ACCORDANCE WITH, A FIRE SPRINKLER SYSTEM THAT COMPLIES WITH, SECTION R313 OR NFPA 13D.
2. THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 0.75-INCH IN HEIGHT FOR SLIDING DOORS SERVING DWELLING UNITS OR 0.5-INCH FOR OTHER DOORS.

FLOOR PLAN LEGEND

- 2x WOOD STUD WALL
- CONCRETE OR CMU WALL
- LOW WALL, 42" A.F.F. (U.N.O.)
- LINE OF BUILDING ABOVE

SITE ACCESSIBILITY LEGEND

- NEW PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN DIRECTION OF TRAVEL IS LESS THAT 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SEC. 11B307.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM A WALL AND ABOVE 27" AND LESS THAN 80" (SEC. 11B307.3)
- VEHICULAR ACCESS FROM PUBLIC RIGHT-OF-WAY TO ACCESSIBLE PARKING STALL, MAINTAIN 8'-2" VERTICAL CLEARANCE ALONG ENTIRE ROUTE

SCALE: 1/8"=1'-0"

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THIRD FLOOR PLAN

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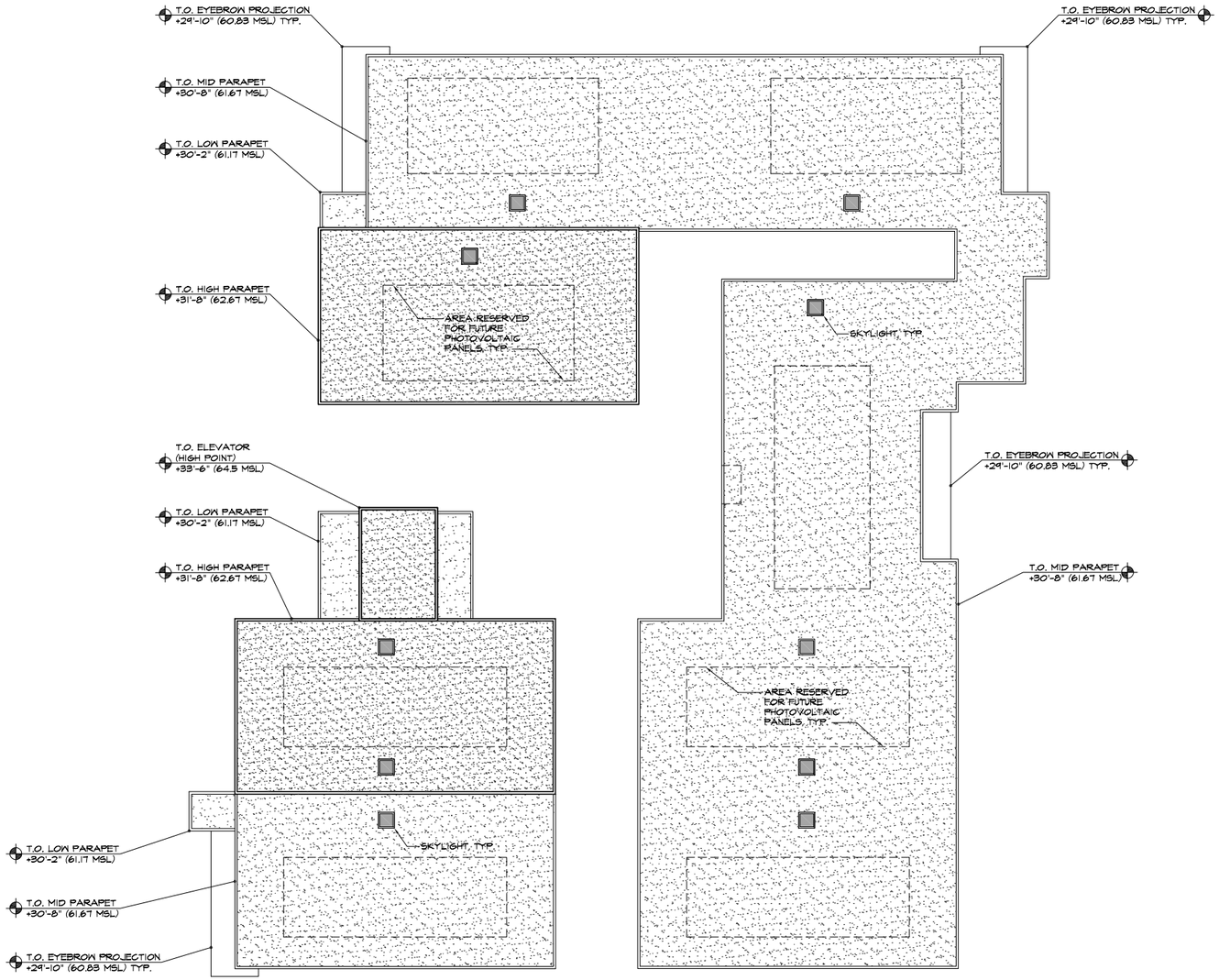
A 1.3

DATE: 01-04-21



NOTE:
THE HIGHEST POINT OF THE ROOF, EQUIPMENT, OR ANY VENT, PIPE, ANTENNA, OR OTHER PROJECTION SHALL NOT EXCEED 30'-0" ABOVE BASE OF MEASUREMENT (REFERENCE DATUM). [SDMC SECTION 132.0505]

NOTE:
ROOF DRAINAGE TO BE COLLECTED & DIRECTED TO A FILTERRA BIOFILTRATION UNIT. SEE ATTACHED CIVIL DRAWINGS FOR MORE INFORMATION.

ROOF PLAN

SCALE: 1/8"=1'-0"

SCALE: 1/8"=1'-0"

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ROOF PLAN

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PTS # 676545

REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-14788 Exp. 7-31-21 STATE OF CALIFORNIA

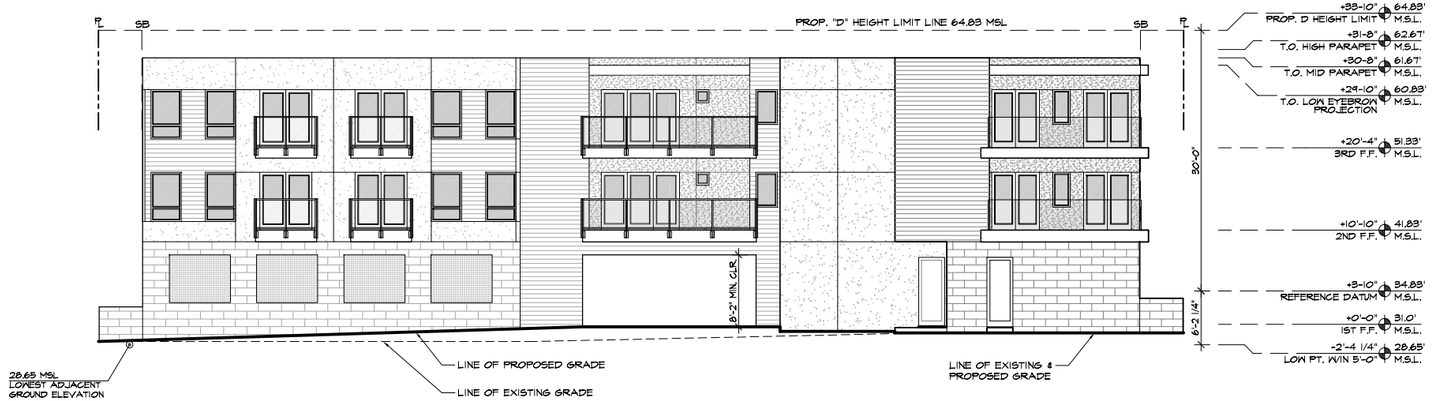
golba Inc

A1.4

DATE: 01-04-21

WEST (FRONT) ELEVATION

SCALE: 1/8"=1'-0"



EAST (BACK YARD) ELEVATION

SCALE: 1/8"=1'-0"

NOTE:
THE HIGHEST POINT OF THE ROOF, EQUIPMENT, OR ANY VENT, PIPE, ANTENNA, OR OTHER PROJECTION SHALL NOT EXCEED 30'-0" ABOVE BASE OF MEASUREMENT (REFERENCE DATUM). [SDMC SECTION 132.0505]

MATERIAL LEGEND

- STUCCO W/ 'SENERGY' COATING, COLOR #1 TBD.
- STUCCO W/ 'SENERGY' COATING, COLOR #2 TBD.
- PORCELAIN WOOD-LOOK TILE W/ GROUT SEALER
- STONE VENEER PER OWNER APPROVAL.
- LASER CUT DECORATIVE METAL PANELS, PATTERN PER OWNER APPROVAL.

SCALE: 1/8"=1'-0"

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Sheet Title:
EXTERIOR ELEVATIONS

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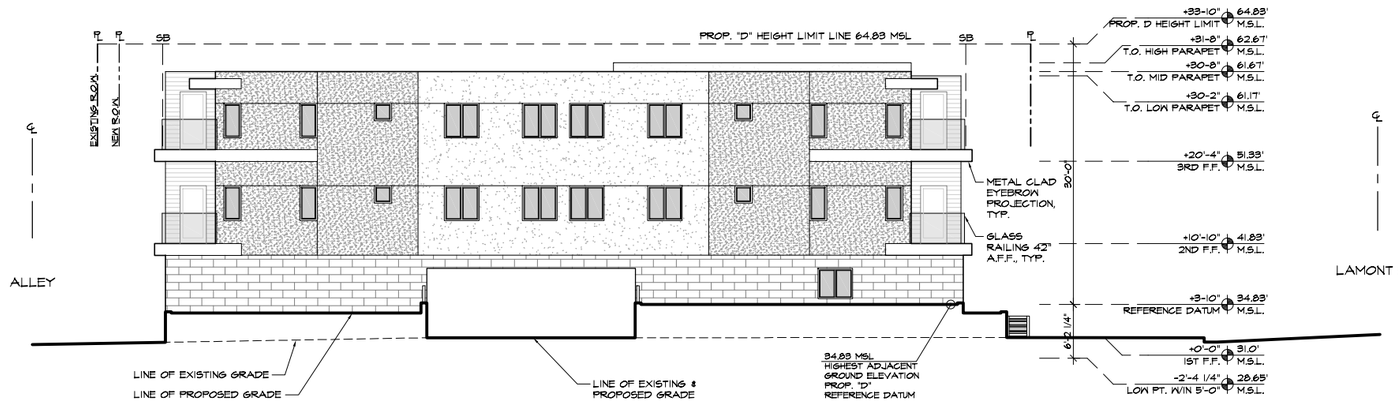
PTS # 676545

REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-14736 Exp. 7-31-21 STATE OF CALIFORNIA

A 2.0

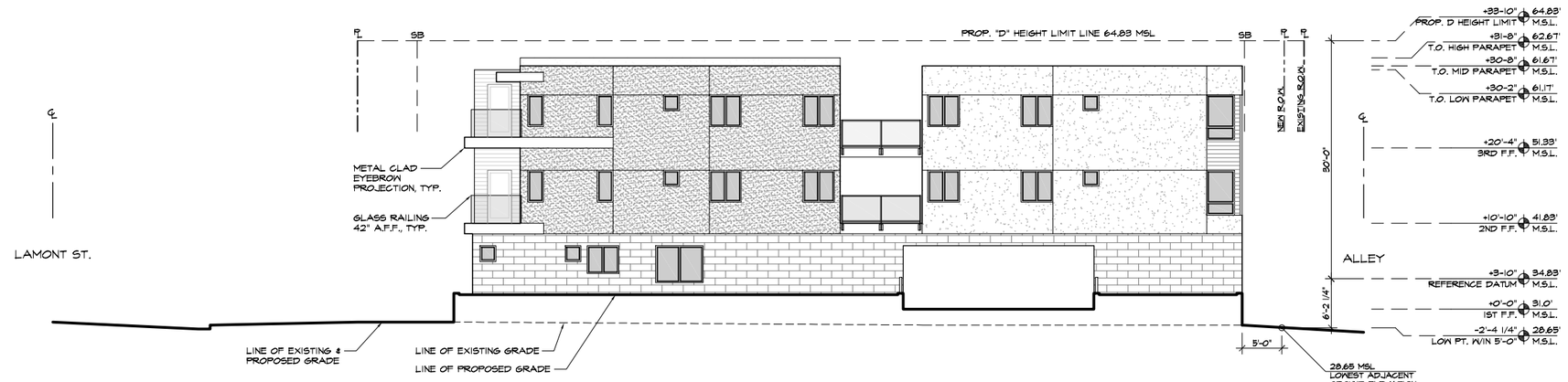
DATE: 01-04-21



NORTH (SIDE YARD) ELEVATION

SCALE: 1/8"=1'-0"

NOTE:
THE HIGHEST POINT OF THE ROOF, EQUIPMENT, OR ANY VENT, PIPE, ANTENNA, OR OTHER PROJECTION SHALL NOT EXCEED 30'-0" ABOVE BASE OF MEASUREMENT (REFERENCE DATUM). [SDMC SECTION 132.0505]



SOUTH (SIDE YARD) ELEVATION

SCALE: 1/8"=1'-0"

MATERIAL LEGEND

- STUCCO W/ 'SENERGY' COATING, COLOR #1 TBD.
- STUCCO W/ 'SENERGY' COATING, COLOR #2 TBD.
- PORCELAIN WOOD-LOOK TILE W/ GROUT SEALER
- STONE VENEER PER OWNER APPROVAL.
- LASER CUT DECORATIVE METAL PANELS, PATTERN PER OWNER APPROVAL.

SCALE: 1/8"=1'-0"

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EXTERIOR ELEVATIONS

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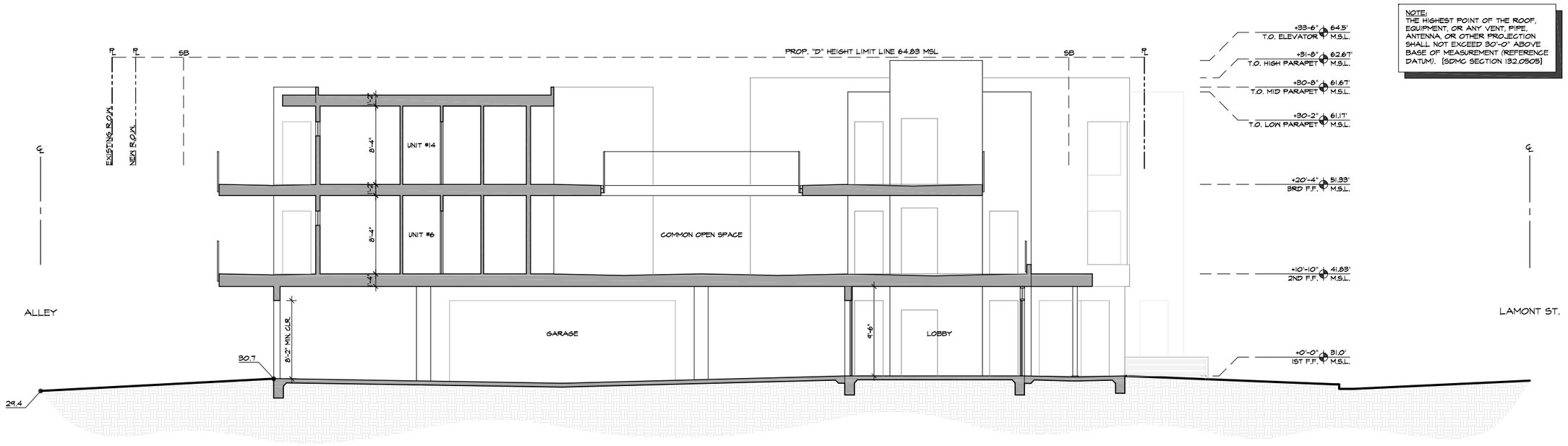
REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-14738 Exp. 7-31-21 STATE OF CALIFORNIA

golba inc

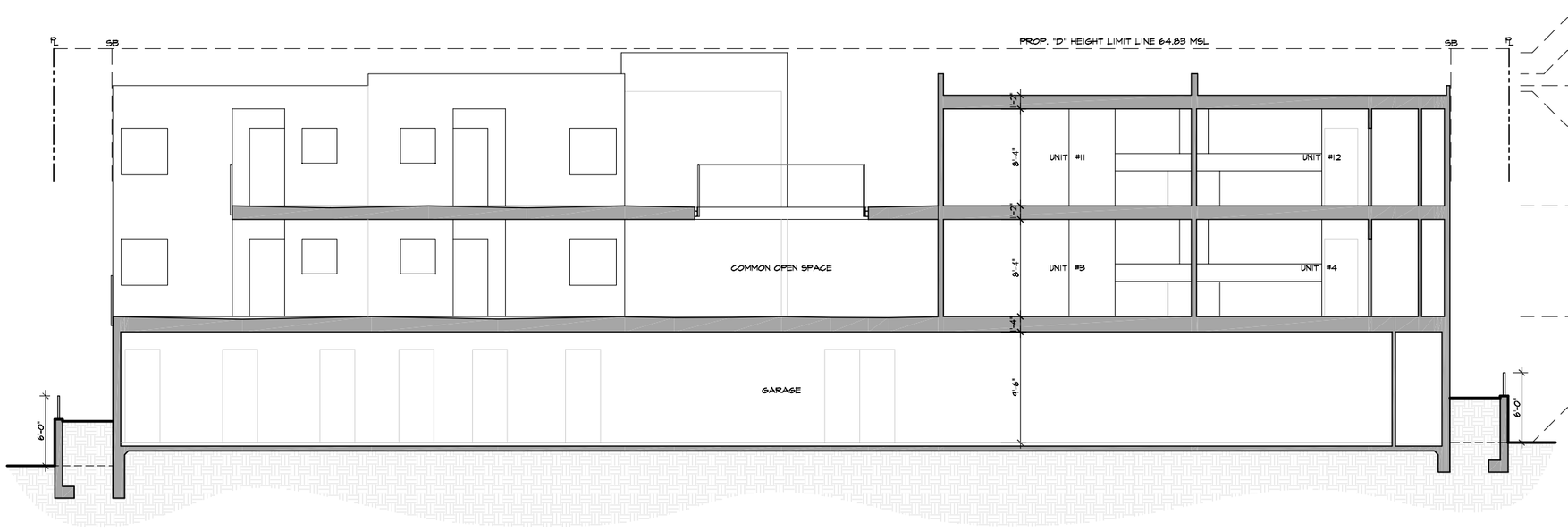
A 2.1

DATE: 01-04-21



NOTE:
THE HIGHEST POINT OF THE ROOF, EQUIPMENT, OR ANY VENT, PIPE, ANTENNA, OR OTHER PROJECTION SHALL NOT EXCEED 30'-0" ABOVE BASE OF MEASUREMENT (REFERENCE DATUM). [SDMC SECTION 132.0505]

A — SITE SECTION
SCALE: 3/16"=1'-0"



B — SITE SECTION
SCALE: 3/16"=1'-0"

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Sheet Title:
SITE SECTIONS

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PTS # 676545

REGISTERED ARCHITECT TIMOTHY J. GOLBA No. C-14738 Ren. 7-31-21 STATE OF CALIFORNIA

A 3.0

DATE: 01-04-21

Eilar Associates, Inc.
Acoustical and Environmental Consulting Services

Appendix B

Applicable Noise Regulations

NE-A.2. Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table NE-3) to minimize the effects on noise-sensitive land uses.

NE-A.3. Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.

NE-A.4. Require an acoustical study consistent with Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the "compatible" noise level thresholds as indicated on the Land Use - Noise Compatibility Guidelines (Table NE-3), so that noise mitigation measures can be included in the project design to meet the noise guidelines.

NE-A.5. Prepare noise studies to address existing and future noise levels from noise sources that are specific to a community when updating community plans.

TABLE NE-3 Land Use - Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	60	65	70	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 **For uses affected by aircraft noise, refer to Policies NE-D.2. & NE-D.3.*		45	45*		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12Educational 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; Food, Beverages & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories			50	50	

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	60	65	70	75	
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					
Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal 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					
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. Refer to Section I.
		Outdoor Uses	Activities associated with the land use may be carried out.
45, 50	**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. Refer to Section I.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated t make the outdoor activities acceptable. Refer to Section I.
	Incompatible	**Indoor Uses**	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Article 9.5: Noise Abatement and Control

Division 4: Limits

("Noise Level Limits, Standards and Control" added 9–18–1973 by O–11122 N.S.) (Retitled to "Limits" on 9–22–1976 by O–11916 N.S.)

§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, at any location in the City of San Diego 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 OF APPLICABLE LIMITS

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
1. Single Family Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45 40
2. Multi-Family Residential (Up to a maximum density of 1/2000)	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50 45
3. All other Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55 50
4. Commercial	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	65 60 60
5. Industrial or Agricultural	any time	75

(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 Sections 59.5.0404 of this article.

(c) Fixed–location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of Part A. of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

(d) This section does not apply to firework displays authorized by permit from the Fire Department.

(e) This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit, nor to any roller coaster operated on City–owned parkland.

(Amended 9–11–1989 by O–17337 N.S.)
(Amended 11-28-2005 by O-19446 N.S.; effective 2-9-2006.)

§59.5.0402 Motor Vehicles

(a) Off–Highway

(1) Except as otherwise provided for in this article, it shall be unlawful to operate any motor vehicle of any type on any site, other than on a public street or highway as defined in the California Vehicle Code, in any manner so as to cause noise in excess of those noise levels permitted for on– highway motor vehicles as specified in the table for "45 mile– per–hour or less speed limits" contained in Section 23130 of the California Vehicle Code, and as corrected for distances set forth in subsection A.2. below.

(2) Corrections

The maximum noise level as the off–highway vehicle passes may be measured at a distance of other than fifty (50) feet from the center line of travel, provided the measurement is further adjusted by adding algebraically the applicable correction as follows:

Distance (Feet)	Correction (decibels)
25	-6
28	-5
32	-4
35	-3
40	-2
45	-1
50 (preferred distance)	0
56	+1
63	+2
70	+3
80	+4
90	+5
100	+6

(3) A measured noise level thus corrected shall be deemed in violation of this section if it exceeds the applicable noise–level limit as specified above.

(b) Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns.

("Motor Vehicles" renumbered from Sec. 59.5.0403 on 9–22–1976 by O–11916 N.S.)

§59.5.0403 Watercraft

Violations for excessive noise of watercraft operating in waters under the jurisdiction of The City of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code. Permits issued by The City of San Diego for the operation of watercraft not in compliance with noise criteria of the Harbors and Navigation Code shall be reviewed and approved by the Administrator prior to issuance.

("Watercraft" renumbered from Sec. 59.5.0407 and amended 9–22–1976 by O-11916 N.S.)

§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 21.0104 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 decibels 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.

(Amended 1–3–1984 by O–16100 N.S.)
(Amended 8-9-2019 by O-21114 N.S.; effective 9-8-2019.)

[Editors Note: Amendments as adopted by O-21114 N.S. will not apply within the Coastal Overlay Zone until the California Coastal Commission certifies it as a Local Coastal Program Amendment.
Click the link to view the Strikeout Ordinance highlighting changes to prior language http://docs.sandiego.gov/municode_strikeout_ord/O-21114-SO.pdf]

§59.5.0406 Refuse Vehicles and Parking Lot Sweepers

No person shall operate or permit to be operated a refuse compacting, processing, or collection vehicle between the hours of 7:00 p.m. to 6:00 a.m. or a parking lot sweeper between the hours of 7:00 p.m. to 7:00 a.m. in any residential area unless a permit has been applied for and granted by the Administrator.
("Refuse Vehicles" added 9–18–1973 by O–11122 N.S.; amended 9–22–1976 by O–11916 N.S.)
(Amended 6-9-2010 by O-19960 N.S.; effective 7-9-2010.)

Eilar Associates, Inc.
Acoustical and Environmental Consulting Services

Appendix C

CadnaA Analysis Data and Results

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 11 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
NML			57.6	-66.1	57.1	0.0				5.00	r	544.64	369.55	5.00

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			53.6	0.0	0.0			288.0	0.0	0.0	2.8	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 11 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			56.2	0.0	0.0			561.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 11 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			57.4	0.0	0.0			745.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

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Phone: (760) 738-5570
Date: 11 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
1-OU1			59.2	-66.3	65.0	0.0				3.50	r	560.76	354.64	3.50
1-OU2			59.0	-66.5	65.0	0.0				3.50	r	569.94	278.06	3.50
2-OU3			59.1	-66.7	65.0	0.0				14.33	r	566.12	360.77	14.33
2-OU4			33.7	-79.4	65.0	0.0				14.33	r	649.70	382.65	14.33
2-OU5			31.8	-79.7	65.0	0.0				14.33	r	653.24	336.03	14.33
2-OU6			58.9	-66.9	65.0	0.0				14.33	r	575.16	261.37	14.33
2-OU7			40.3	-79.0	65.0	0.0				14.33	r	609.74	321.20	14.33
3-OU3			58.8	-66.9	65.0	0.0				23.83	r	566.12	360.77	23.83
3-OU4			35.8	-78.9	65.0	0.0				23.83	r	649.70	382.65	23.83
3-OU5			36.6	-79.0	65.0	0.0				23.83	r	653.24	336.03	23.83
3-OU6			58.6	-67.1	65.0	0.0				23.83	r	575.16	261.37	23.83

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			57.4	0.0	0.0			745.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(ft)	
Floor 1				0		10.83	r
Floor 2 - Northeast				0			
Floor 2 - Southwest				0			

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
Floor 1				0		10.83	r	561.19	368.21	10.83	0.00
								565.76	351.49	10.83	0.00
								572.86	325.49	10.83	0.00
								576.42	312.48	10.83	0.00
								580.15	298.83	10.83	0.00
								569.74	295.99	10.83	0.00
								574.95	275.32	10.83	0.00
								569.00	273.74	10.83	0.00
								570.19	269.14	10.83	0.00
								574.54	252.04	10.83	0.00
								580.34	253.62	10.83	0.00
								619.43	263.83	10.83	0.00
								629.44	266.46	10.83	0.00
								668.53	276.73	10.83	0.00
								655.39	326.72	10.83	0.00
								650.66	344.78	10.83	0.00
								649.80	348.14	10.83	0.00
								658.04	350.36	10.83	0.00
								654.67	363.16	10.83	0.00
								653.11	369.18	10.83	0.00
								655.99	369.82	10.83	0.00
								654.74	374.59	10.83	0.00
								650.29	391.57	10.83	0.00
								644.62	390.08	10.83	0.00
								566.99	369.73	10.83	0.00
Floor 2 - Northeast				0				572.86	325.49	30.67	10.83
								611.56	335.51	30.67	10.83
								605.92	356.70	30.67	10.83
								644.37	366.70	30.67	10.83
								645.83	360.95	30.67	10.83
								617.47	353.46	30.67	10.83
								623.20	331.61	30.67	10.83
								625.61	332.26	30.67	10.83
								627.05	326.54	30.67	10.83
								624.75	325.97	30.67	10.83

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
						Begin	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)
							628.32	311.86	30.67	10.83
							618.15	309.21	30.67	10.83
							629.44	266.46	30.67	10.83
							668.53	276.73	30.67	10.83
							655.39	326.72	30.67	10.83
							651.15	325.76	30.67	10.83
							646.41	343.69	30.67	10.83
							650.66	344.78	30.67	10.83
							649.80	348.14	30.67	10.83
							658.04	350.36	30.67	10.83
							654.67	363.16	30.67	10.83
							657.60	363.93	30.67	10.83
							655.99	369.82	30.67	10.83
							654.74	374.59	30.67	10.83
							649.10	373.25	30.67	10.83
							644.62	390.08	30.67	10.83
							566.99	369.73	30.67	10.83
							571.25	352.93	30.67	10.83
							565.76	351.49	30.67	10.83
Floor 2 - Southwest				0			580.34	253.62	30.67	10.83
							575.86	270.55	30.67	10.83
							570.19	269.14	30.67	10.83
							569.00	273.74	30.67	10.83
							574.95	275.32	30.67	10.83
							569.74	295.99	30.67	10.83
							580.15	298.83	30.67	10.83
							576.42	312.48	30.67	10.83
							594.76	317.26	30.67	10.83
							598.10	304.12	30.67	10.83
							608.28	306.65	30.67	10.83
							619.43	263.83	30.67	10.83

Eilar Associates, Inc.
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Date: 11 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
1-F1			59.4	-66.2	0.0	0.0		x	Total	5.00	r	560.75	352.40	5.00
1-F2			58.9	-66.6	0.0	0.0		x	Total	5.00	r	569.54	316.39	5.00
1-F3			59.7	-65.9	0.0	0.0		x	Total	5.00	r	566.95	264.00	5.00
1-F4			55.1	-69.8	0.0	0.0		x	Total	5.00	r	597.27	255.09	5.00
1-F5			51.4	-72.3	0.0	0.0		x	Total	5.00	r	651.22	269.21	5.00
1-F6			49.9	-73.2	0.0	0.0		x	Total	5.00	r	668.27	289.88	5.00
1-F7			43.1	-77.6	0.0	0.0		x	Total	5.00	r	655.11	341.54	5.00
1-F8			44.1	-77.1	0.0	0.0		x	Total	5.00	r	657.71	376.71	5.00
1-F9			51.6	-72.3	0.0	0.0		x	Total	5.00	r	630.47	388.33	5.00
1-F10			55.0	-69.9	0.0	0.0		x	Total	5.00	r	579.34	375.41	5.00
2-F1			59.8	-66.0	0.0	0.0		x	Total	15.83	r	560.75	352.40	15.83
2-F2			59.4	-66.4	0.0	0.0		x	Total	15.83	r	569.54	316.39	15.83
2-F3			60.0	-65.8	0.0	0.0		x	Total	15.83	r	566.95	264.00	15.83
2-F4			56.3	-69.2	0.0	0.0		x	Total	15.83	r	597.27	255.09	15.83
2-F5			53.0	-72.0	0.0	0.0		x	Total	15.83	r	651.22	269.21	15.83
2-F6			51.6	-73.0	0.0	0.0		x	Total	15.83	r	668.27	289.88	15.83
2-F7			44.1	-77.5	0.0	0.0		x	Total	15.83	r	655.11	341.54	15.83
2-F8			46.2	-76.5	0.0	0.0		x	Total	15.83	r	657.71	376.71	15.83
2-F9			53.0	-72.0	0.0	0.0		x	Total	15.83	r	630.47	388.33	15.83
2-F10			56.3	-69.3	0.0	0.0		x	Total	15.83	r	579.34	375.41	15.83
2-F11			52.2	-73.0	0.0	0.0		x	Total	15.83	r	591.53	326.68	15.83
2-F12			39.6	-79.1	0.0	0.0		x	Total	15.83	r	620.99	330.30	15.83
2-F13			32.1	-79.7	0.0	0.0		x	Total	15.83	r	621.16	278.26	15.83
3-F1			59.3	-66.4	0.0	0.0		x	Total	25.33	r	560.75	352.40	25.33
3-F2			59.1	-66.6	0.0	0.0		x	Total	25.33	r	569.54	316.39	25.33
3-F3			59.5	-66.2	0.0	0.0		x	Total	25.33	r	566.95	264.00	25.33
3-F4			56.6	-69.1	0.0	0.0		x	Total	25.33	r	597.27	255.09	25.33
3-F5			53.6	-71.7	0.0	0.0		x	Total	25.33	r	651.22	269.21	25.33
3-F6			52.4	-72.7	0.0	0.0		x	Total	25.33	r	668.27	289.88	25.33
3-F7			45.8	-76.8	0.0	0.0		x	Total	25.33	r	655.11	341.54	25.33
3-F8			47.2	-76.1	0.0	0.0		x	Total	25.33	r	657.71	376.71	25.33
3-F9			53.6	-71.7	0.0	0.0		x	Total	25.33	r	630.47	388.33	25.33
3-F10			56.3	-69.3	0.0	0.0		x	Total	25.33	r	579.34	375.41	25.33
3-F11			52.1	-72.8	0.0	0.0		x	Total	25.33	r	591.53	326.68	25.33
3-F12			47.3	-75.9	0.0	0.0		x	Total	25.33	r	620.99	330.30	25.33
3-F13			38.0	-78.6	0.0	0.0		x	Total	25.33	r	621.16	278.26	25.33

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			57.4	0.0	0.0			745.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(ft)	
Floor 1				0		10.83	r
Floor 2 - Northeast				0			
Floor 2 - Southwest				0			

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
Floor 1				0		10.83	r	561.19	368.21	10.83	0.00
								565.76	351.49	10.83	0.00
								572.86	325.49	10.83	0.00
								576.42	312.48	10.83	0.00
								580.15	298.83	10.83	0.00
								569.74	295.99	10.83	0.00
								574.95	275.32	10.83	0.00
								569.00	273.74	10.83	0.00
								570.19	269.14	10.83	0.00
								574.54	252.04	10.83	0.00
								580.34	253.62	10.83	0.00
								619.43	263.83	10.83	0.00
								629.44	266.46	10.83	0.00
								668.53	276.73	10.83	0.00
								655.39	326.72	10.83	0.00
								650.66	344.78	10.83	0.00
								649.80	348.14	10.83	0.00
								658.04	350.36	10.83	0.00
								654.67	363.16	10.83	0.00
								653.11	369.18	10.83	0.00
								655.99	369.82	10.83	0.00
								654.74	374.59	10.83	0.00
								650.29	391.57	10.83	0.00
								644.62	390.08	10.83	0.00
								566.99	369.73	10.83	0.00
Floor 2 - Northeast				0				572.86	325.49	30.67	10.83
								611.56	335.51	30.67	10.83
								605.92	356.70	30.67	10.83
								644.37	366.70	30.67	10.83
								645.83	360.95	30.67	10.83
								617.47	353.46	30.67	10.83
								623.20	331.61	30.67	10.83
								625.61	332.26	30.67	10.83
								627.05	326.54	30.67	10.83
								624.75	325.97	30.67	10.83

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
						Begin	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)
							628.32	311.86	30.67	10.83
							618.15	309.21	30.67	10.83
							629.44	266.46	30.67	10.83
							668.53	276.73	30.67	10.83
							655.39	326.72	30.67	10.83
							651.15	325.76	30.67	10.83
							646.41	343.69	30.67	10.83
							650.66	344.78	30.67	10.83
							649.80	348.14	30.67	10.83
							658.04	350.36	30.67	10.83
							654.67	363.16	30.67	10.83
							657.60	363.93	30.67	10.83
							655.99	369.82	30.67	10.83
							654.74	374.59	30.67	10.83
							649.10	373.25	30.67	10.83
							644.62	390.08	30.67	10.83
							566.99	369.73	30.67	10.83
							571.25	352.93	30.67	10.83
							565.76	351.49	30.67	10.83
Floor 2 - Southwest				0			580.34	253.62	30.67	10.83
							575.86	270.55	30.67	10.83
							570.19	269.14	30.67	10.83
							569.00	273.74	30.67	10.83
							574.95	275.32	30.67	10.83
							569.74	295.99	30.67	10.83
							580.15	298.83	30.67	10.83
							576.42	312.48	30.67	10.83
							594.76	317.26	30.67	10.83
							598.10	304.12	30.67	10.83
							608.28	306.65	30.67	10.83
							619.43	263.83	30.67	10.83

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 15 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
1-R1			29.9	29.9	50.0	0.0				5.00	r	594.56	386.23	5.00
1-R2			26.1	26.1	45.0	0.0				5.00	r	670.52	402.29	5.00
1-R3			28.8	28.8	47.5	0.0				5.00	r	682.77	352.93	5.00
1-R4			27.2	27.2	45.0	0.0				5.00	r	688.31	302.46	5.00
1-R5			31.1	31.1	50.0	0.0				5.00	r	621.43	258.24	5.00
2-R1			32.9	32.9	50.0	0.0				15.00	r	594.56	386.23	15.00
2-R3			33.4	33.4	47.5	0.0				15.00	r	682.77	352.93	15.00
2-R4			31.2	31.2	45.0	0.0				15.00	r	688.31	302.46	15.00
2-R5			37.0	37.0	50.0	0.0				15.00	r	621.43	258.24	15.00
3-R1			41.4	41.4	50.0	0.0				25.00	r	594.56	386.23	25.00
3-R4			38.9	38.9	45.0	0.0				25.00	r	688.31	302.46	25.00

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		(ft)		(ft)	(ft)	(ft)
AC-C1			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	580.81	340.72	33.67
AC-C2			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	595.72	293.45	33.67
AC-CL			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	585.93	342.02	33.67
AC1			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	588.48	364.36	33.67
AC2			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	600.23	278.10	33.67
AC3			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	591.74	343.73	33.67
AC4			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	595.69	366.19	33.67
AC5			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	615.95	371.17	33.67
AC6			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	638.47	337.23	33.67
AC7			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	632.98	292.45	33.67
AC8			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	637.38	275.94	33.67
AC9			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	602.94	267.21	33.67
AC10			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	597.32	288.29	33.67
AC11			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	597.69	345.17	33.67
AC12			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	601.98	367.83	33.67
AC13			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	608.36	369.36	33.67
AC14			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	633.00	336.00	33.67
AC15			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	634.67	286.71	33.67
AC16			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	635.83	281.38	33.67
AC17			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	601.47	272.45	33.67
AC18			71.0	71.0	71.0	Lw	AC1		0.0	0.0	0.0							0.0		(none)	3.00	g	598.69	283.41	33.67

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(ft)	
Floor 1				0		10.83	r
Floor 2 - Northeast				0			
Floor 2 - Southwest				0			

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
Floor 1				0		10.83	r	561.19	368.21	10.83	0.00
								565.76	351.49	10.83	0.00
								572.86	325.49	10.83	0.00
								576.42	312.48	10.83	0.00
								580.15	298.83	10.83	0.00
								569.74	295.99	10.83	0.00
								574.95	275.32	10.83	0.00
								569.00	273.74	10.83	0.00
								570.19	269.14	10.83	0.00
								574.54	252.04	10.83	0.00
								580.34	253.62	10.83	0.00
								619.43	263.83	10.83	0.00
								629.44	266.46	10.83	0.00
								668.53	276.73	10.83	0.00
								655.39	326.72	10.83	0.00
								650.66	344.78	10.83	0.00
								649.80	348.14	10.83	0.00
								658.04	350.36	10.83	0.00
								654.67	363.16	10.83	0.00
								653.11	369.18	10.83	0.00
								655.99	369.82	10.83	0.00
								654.74	374.59	10.83	0.00
								650.29	391.57	10.83	0.00
								644.62	390.08	10.83	0.00
								566.99	369.73	10.83	0.00
Floor 2 - Northeast				0				572.86	325.49	30.67	10.83
								611.56	335.51	30.67	10.83
								605.92	356.70	30.67	10.83
								644.37	366.70	30.67	10.83
								645.83	360.95	30.67	10.83
								617.47	353.46	30.67	10.83
								623.20	331.61	30.67	10.83
								625.61	332.26	30.67	10.83
								627.05	326.54	30.67	10.83
								624.75	325.97	30.67	10.83

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
						Begin	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)
							628.32	311.86	30.67	10.83
							618.15	309.21	30.67	10.83
							629.44	266.46	30.67	10.83
							668.53	276.73	30.67	10.83
							655.39	326.72	30.67	10.83
							651.15	325.76	30.67	10.83
							646.41	343.69	30.67	10.83
							650.66	344.78	30.67	10.83
							649.80	348.14	30.67	10.83
							658.04	350.36	30.67	10.83
							654.67	363.16	30.67	10.83
							657.60	363.93	30.67	10.83
							655.99	369.82	30.67	10.83
							654.74	374.59	30.67	10.83
							649.10	373.25	30.67	10.83
							644.62	390.08	30.67	10.83
							566.99	369.73	30.67	10.83
							571.25	352.93	30.67	10.83
							565.76	351.49	30.67	10.83
Floor 2 - Southwest				0			580.34	253.62	30.67	10.83
							575.86	270.55	30.67	10.83
							570.19	269.14	30.67	10.83
							569.00	273.74	30.67	10.83
							574.95	275.32	30.67	10.83
							569.74	295.99	30.67	10.83
							580.15	298.83	30.67	10.83
							576.42	312.48	30.67	10.83
							594.76	317.26	30.67	10.83
							598.10	304.12	30.67	10.83
							608.28	306.65	30.67	10.83
							619.43	263.83	30.67	10.83

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Carrier 25HBC5030	AC1	Lw				52.9	60.4	63.4	67.4	64.4	61.9	55.4	71.0	71.3	Manufacturer

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 16 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
Right of Way			62.6	-62.1	57.1	0.0				5.00	r	533.68	366.84	5.00

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			56.2	0.0	0.0			561.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

Eilar Associates, Inc.
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Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 16 Feb 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
Right of Way			62.6	-62.1	57.1	0.0				5.00	r	533.68	366.84	5.00

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)
Lamont Street			56.3	0.0	0.0			572.0	0.0	0.0	1.0	0.0	0.0	30		3.66	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		
Lamont Street	0.00	r			433.60	666.01	0.00	0.00		
					486.37	466.13	0.00	0.00		
					517.72	344.87	0.00	0.00		
					521.86	320.41	0.00	0.00		
					523.23	302.15	0.00	0.00		
					522.55	256.68	0.00	0.00		
					523.23	243.59	0.00	0.00		
					524.88	228.00	0.00	0.00		
					528.24	213.57	0.00	0.00		
					578.54	16.86	0.00	0.00		

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Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
C1			73.0	-80.2	75.0	0.0				5.00	r	594.56	386.23	5.00
C2			71.8	-80.2	75.0	0.0				5.00	r	684.19	335.45	5.00
C3			72.5	-80.2	75.0	0.0				5.00	r	621.43	258.24	5.00

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		(ft)		(ft)	(ft)	(ft)
Backhoe			99.9	99.9	99.9	Lw	C2		0.0	0.0	0.0				24.00	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00
Dump Truck			112.0	112.0	112.0	Lw	C4		0.0	0.0	0.0				24.00	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00
Excavator			100.6	100.6	100.6	Lw	C5		0.0	0.0	0.0				24.00	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Air Compressor	C1	Lw (c)			115.0	104.0	95.0	90.0	88.0	86.0	89.0	78.0	96.5	115.4	DEFRA
Backhoe	C2	Lw (c)			103.0	94.0	98.0	98.0	94.0	93.0	87.0	81.0	99.9	106.0	DEFRA
Crane	C3	Lw (c)			111.0	103.0	102.0	98.0	96.0	93.0	88.0	80.0	101.3	112.4	DEFRA
Dump Truck	C4	Lw (c)			121.0	118.0	108.0	110.0	106.0	104.0	98.0	94.0	112.0	123.3	DEFRA
Excavator	C5	Lw (c)			105.0	101.0	99.0	98.0	95.0	93.0	89.0	81.0	100.6	108.1	DEFRA
Forklift	C6	Lw (c)			116.0	110.0	100.0	98.0	95.0	93.0	87.0	78.0	101.5	117.2	DEFRA

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Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.40
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
C1			64.5	-80.2	75.0	0.0				5.00	r	594.56	386.23	5.00
C2			63.2	-80.2	75.0	0.0				5.00	r	684.19	335.45	5.00
C3			64.0	-80.2	75.0	0.0				5.00	r	621.43	258.24	5.00

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		(ft)		(ft)	(ft)	(ft)
Air Compressor			96.5	96.5	96.5	Lw	C1		0.0	0.0	0.0				24.00	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00
Crane			101.3	101.3	101.3	Lw	C3		0.0	0.0	0.0				9.60	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00
Forklift			101.5	101.5	101.5	Lw	C6		0.0	0.0	0.0				24.00	0.00	0.00	0.0		(none)	6.00	r	611.92	324.88	6.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Air Compressor	C1	Lw (c)			115.0	104.0	95.0	90.0	88.0	86.0	89.0	78.0	96.5	115.4	DEFRA
Backhoe	C2	Lw (c)			103.0	94.0	98.0	98.0	94.0	93.0	87.0	81.0	99.9	106.0	DEFRA
Crane	C3	Lw (c)			111.0	103.0	102.0	98.0	96.0	93.0	88.0	80.0	101.3	112.4	DEFRA
Dump Truck	C4	Lw (c)			121.0	118.0	108.0	110.0	106.0	104.0	98.0	94.0	112.0	123.3	DEFRA
Excavator	C5	Lw (c)			105.0	101.0	99.0	98.0	95.0	93.0	89.0	81.0	100.6	108.1	DEFRA
Forklift	C6	Lw (c)			116.0	110.0	100.0	98.0	95.0	93.0	87.0	78.0	101.5	117.2	DEFRA

Eilar Associates, Inc.
Acoustical and Environmental Consulting Services

Appendix D

Manufacturer Data Sheets

25HBC5
Comfort 15 Heat Pump with Puron® Refrigerant
1–1/2 to 5 Nominal Tons

Carrier
turn to the experts

Product Data

Puron™
the environmentally sound refrigerant

Carrier heat pumps with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 25HBC has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows consumers to make a responsible decision in the protection of the earth's ozone layer.

This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

NOTE: **Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.**

INDUSTRY LEADING FEATURES / BENEFITS

Efficiency

- 15 SEER/ 12.5 EER / 8.0 - 9.0 HSPF
- Microtube Technology™ refrigeration system
- Indoor air quality accessories available

Sound

- Sound level as low as 69 dBA
- Sound levels as low as 68 dBA with accessory sound blanket

Comfort

- System supports Edge® Thermidistat™ or standard thermostat controls

Reliability

- Puron® refrigerant - environmentally sound, won't deplete the ozone layer and low lifetime service cost.
- Scroll compressor
- Internal pressure relief valve
- Internal thermal overload
- High pressure switch
- Loss of charge switch
- Filter drier
- Balanced refrigeration system for maximum reliability

Durability

WeatherArmor™ protection package:

- Solid, durable sheet metal construction
- Dense wire coil guard standard
- Baked-on powder paint

Applications

- Long-line - up to 250 feet (76.20 m) total equivalent length, up to 200 feet (60.96 m) condenser above evaporator, or up to 80 ft. (24.38 m) evaporator above condenser (See Longline Guide for more information.)
- Low ambient cooling (down to -20°F/-28.9°C) with accessory kit

ELECTRICAL DATA

UNIT SIZE	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MIN WIRE SIZE†		MAX LENGTH ft (m))‡		MAX FUSE** or BRK AMPS
		MAX	MIN	LRA	RLA	FLA		60° C	75° C	60° C	75° C	
18–30	208/230/1	253	197	48.0	9.0	0.5	11.8	14	14	67 (20.4)	63 (19.2)	20
24–30				58.3	12.8	0.5	16.5	14	14	48 (14.6)	45 (13.7)	25
30–30				73.0	14.1	0.5	18.1	14	14	44 (13.4)	41 (12.5)	30
36–30				79.0	16.7	1.2	22.1	12	12	57 (17.4)	54 (16.5)	35
42–30				109.0	21.1	1.2	27.6	10	10	72 (21.9)	69 (21.0)	40
48–30				117.0	21.8	1.2	28.5	10	10	70 (21.3)	67 (20.4)	40
60–30				134.0	26.4	1.2	34.2	8	10	91 (27.7)	56 (17.1)	50

* Permissible limits of the voltage range at which the unit will operate satisfactorily

† If wire is applied at ambient greater than 30°C, consult table 310–16 of the NEC (NFPA 70). The ampacity of non–metallic–sheathed cable (NM), trade name ROMEX, shall be that of 60°C conditions, per the NEC (NFPA 70) Article 336–26. If other than uncoated (no–plated), 60 or 75°C insulation, copper wire (solid wire for 10 AWG or smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (NFPA 70).

‡ Length shown is as measured 1 way along wire path between unit and service panel for voltage drop not to exceed 2%.

** Time–Delay fuse.

FLA – Full Load Amps

LRA – Locked Rotor Amps

MCA – Minimum Circuit Amps

RLA – Rated Load Amps

NOTE: Control circuit is 24–V on all units and requires external power source. Copper wire must be used from service disconnect to unit.
All motors/compressors contain internal overload protection.
Complies with 2007 requirements of ASHRAE Standards 90.1

A-WEIGHTED SOUND POWER (dBA)

UNIT SIZE	STANDARD RATING dBA	TYPICAL OCTAVE BAND SPECTRUM (dBA, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
18–30	73	49.5	60.0	65.0	69.0	65.5	62.0	55.0
24–30	69	48.5	59.5	61.5	62.5	61.0	59.0	53.5
30–30	71	51.0	58.5	61.5	65.5	62.5	60.0	53.5
36–30	72	55.5	59.5	63.5	66.5	64.5	61.5	55.5
42–30	74	56.5	64.0	67.0	68.5	65.0	62.0	57.5
48–30	74	55.5	62.0	66.0	69.0	65.0	62.0	56.0
60–30	74	59.0	62.0	65.0	68.0	65.0	62.5	62.0

NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

A-WEIGHTED SOUND POWER (dBA) WITH SOUND SHIELD

UNIT SIZE	STANDARD RATING dBA	TYPICAL OCTAVE BAND SPECTRUM (dBA, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
18–30	72	50.5	60.0	65.0	67.5	64.5	61.5	53.5
24–30	68	49.5	58.5	61.5	62.0	61.0	58.5	51.5
30–30	69	50.5	58.5	61.5	64.0	61.5	58.5	51.5
36–30	70	54.5	57.5	63.0	66.0	64.0	61.0	54.0
42–30	72	56.5	64.5	66.5	66.5	64.5	61.0	54.5
48–30	72	55.5	62.5	66.0	68.0	64.0	60.0	53.0
60–30	73	58.5	62.5	65.0	67.0	64.0	61.0	56.5

NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE–SERIES	REQUIRED SUBCOOLING °F (°C)
18–30	12 (6.7)
24–30	14 (7.8)
30–30	10 (5.6)
36–30	8 (4.4)
42–30	10 (5.6)
48–30	11 (6.1)
60–30	10 (5.6)