NOISE STUDY

IN-N-OUT BURGER RESTAURANT PROJECT

972 El Camino Real
South San Francisco, CA 94080

PREPARED FOR:

In-N-Out Burger
13502 Hamburger Lane
Baldwin Park, CA 91706

PREPARED BY:

Meridian Consultants

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EXECUTIVE SUMMARY

The purpose of this noise analysis is to provide an assessment of the impacts resulting from the In-N-Out Burger Restaurant (Project) and to identify any measures that may be necessary to reduce potentially significant impacts.

On-Site Construction Noise

Construction noise levels would be reduced via standard noise control strategies, which are existing requirements and reasonably anticipated standard conditions based on local, State, or federal regulations and laws that are frequently required independently of CEQA review and serve to offset or prevent specific impacts. These strategies are not included as mitigation measures in the environmental clearance document because the Project is required to comply with these control strategies through State and local regulations.

Construction noise sources are regulated within the City's Municipal Code Section 8.32.050, which prohibits construction between the hours of 8:00 PM and 8:00 AM Monday through Friday, 8:00 PM and 9:00 AM on Saturday and 6:00 PM to 10:00 AM on Sundays and holidays. Modeled construction noise levels with standard noise control strategies would further reduce noise levels to within acceptable limits. Noise reduction measures include but are not limited to optimal muffler systems, dampening materials, sound aprons and limiting simultaneous operations.

Off-Site Construction Noise

Construction of the Project would require worker, haul, and vendor truck trips to and from the site to work on the site, export soil, and deliver supplies to the site. Trucks traveling to and from the Project site would be required to travel along a haul route approved by the City. At the maximum, approximately 8 hauling trips per day would take place during the demolition phase based on construction schedule assumptions. Haul truck traffic would take the most direct route to the freeway ramp El Camino Real. The noise level increases from truck trips would be below the significance threshold of 5 dBA above ambient. As such, off-site construction noise impacts would not be considered significant.

Operational Noise

The nearest sensitive uses to the site include the multi-family residential uses to the north along El Camino Real, the Deluxe Inn Motel to the south and the residential uses along 1st Street, A Street, and Antionette Lane. The source noise levels from the Project site include parking activities from mobile vehicles, drive-through queuing, outdoor patio area and amplified speech from the speaker box. Additionally, truck deliveries would occur anytime between the hours of 2:00 AM and 9:00 AM. The proposed project would adhere to Section 8.32.030 of the City's Municipal Code and would not exceed the daytime exterior threshold of 60 dBA and nighttime exterior threshold of 55 dBA at nearby residential uses. Additionally, noise levels would not result in a 5 dBA increase above the measured ambient noise levels during both the daytime and nighttime period.

Construction Vibration

The forecasted vibration levels due to on-site construction activities would not exceed the building damage significance threshold of 0.5 PPV for reinforced-concrete, steel, or timber building at the adjacent residential uses.

PROJECT DESCRIPTION

The 65,493 square foot (1.504 acre) Project site is located at 972 and 934 El Camino Real in the City of South San Francisco (refer to **Figure 1: Project Site Location**). The Project site currently contains an operating one-story 3,000 square foot Burger King restaurant, consisting of 43 surface paved striped parking spaces with a 320-foot-long protected drive-thru lane and a 240-foot-long overflow vehicle stacked striped area. Additionally, the Project site contains an operating psychic boutique building with no striped parking spaces but with capacity to park vehicles on pavement and soil.

The Project would include removal of the existing uses for construction of a new 3,887-square foot In-N-Out Burger Restaurant with a drive-through lane. The restaurant would provide seating capacity of 112 people (84 seats indoor, 28 seats outdoor), a drive-through queuing lane with a capacity of up to 39 cars, landscaping, and parking spaces for up to 51 vehicles (refer to **Figure 2: Site Plan**).

This restaurant will be equipped with three burger grills. Two grills will operate at all times, and activation of the third grill will be done in response to high dine-in or, more typically, high drive-through demand as activating the third grill significantly increases the speed at which drive-through orders are delivered to customer vehicles. Standard store operating procedure requires that as soon as the drive-through queue reaches the 8th or 9th car (where the menu board/order speaker is located), In-N-Out associates are deployed outside to take orders using hand-held ordering tablets. The use of these tablets allows orders to funnel into the kitchen faster than ordering at the menu board resulting in the shortest possible drive-through vehicle queues. Awareness of the queue reaching the menu board (and deployment of associates with hand-held tablets) is enhanced with outdoor cameras and indoor monitors. There will be between 4 and 6 outdoor cameras on this site, with 3 or 4 of them specifically viewing the drive-through lane. These cameras display on multiple monitors located inside the restaurant including at the manager's office, above the grills, and at both the pay and pickup windows.

There is no delivery dock or designated delivery parking bay required on the premises as deliveries are made only by In-N-Out owned operated vehicles, after the restaurant is closed to the public between the hours of 2:00 AM and 9:00 AM. Delivery trucks operate after hours to allow the parking and queue management to be at its most effective throughout the day. Allowing trucks to deliver after-hours ensures that truck traffic is not on the road during either morning or evening peak hours. Site access for these delivery trucks would be from El Camino Real and would unload at the service entrance located adjacent to parking stalls #1 through #9.

The restaurant would operate seven days a week, from 10:00 AM to 1:00 AM Sunday through Thursday, and from 10:00 AM to 1:30 AM on Friday and Saturday. The restaurant, drive-through, and parking lot, as with all In-N-Out Burgers restaurants, would be well-lit and meticulously maintained. The restaurant would be staffed by approximately 10 to 12 associates per shift, with 3 shifts per day.

SOURCE: Google Earth - 2024

FIGURE **1**

Meridian Consultants

Project Site Location

121-013-24

LEGEND

- NEW 24"x36" CONCRETE DRAIN BOX INLET WITH A FLOGARD PLUS FOSSIL FILTER INSERT FOR THE PRE-TREATMENT OF STORMWATER RUNOFF.
- PROPOSED INOB INSTALLED AND MAINTAINED 22'-6" TALL FIXTURE HEIGHT LIGHT POLE ON TOP OF A 30" TALL 24" DIAMETER CONCRETE BASE FOR A TOTAL HEIGHT OF 25' TALL MAXIMUM.
- PROPOSED INOB INSTALLED AND MAINTAINED DROUGHT TOLERANT LANDSCAPED PLANTER AND IRRIGATION SYSTEM ONSITE, INCLUDING AREA UNDER BUILDING ROOF OVERHANG (ROH), CONSISTING OF APPROXIMATELY 19,338 S.F. (29.5%).
- BLACK TRUNCATED DOMES DETECTABLE WARNING STRIP.
- PROPERTY LINE.
- OUTDOOR SEATING PATIO TABLE WITH NO UMBRELLA (4 SEATS).
- 1 NEW 3' TALL 18"x24" LIT "DRIVE THRU" DIRECTIONAL SIGN.
- 2 NEW 3' TALL 18"x24" LIT "THANK YOU, DO NOT ENTER" DIRECTIONAL SIGN.
- 3 NEW PEDESTRIAN CROSSWALK SIGN.
- 4 NEW ACCESSIBILITY ENTRY SIGN.

INOB IN-N-OUT BURGER.

LL INOB LEASE PREMISES LINE.

CF CURB FACE.

(10Q)(11Q)(12Q) EASEMENT TO BE QUITCLAIMED.

(11P) PROPOSED EASEMENT.

2 PROPOSED HEIGHT OF INOB RETAINING/FREESTANDING WALL IN FEET.

PROPOSED 18" TO 27" TALL 22" WIDE STUCCO COVERED SEAT/SCREEN WALL PAINTED TO MATCH THE BUILDING WITH A CONCRETE CAP.

(E) BOUNDARY MONUMENT AND SURVEY CONTROL POINT DESCRIPTION SHOWN ON SHEET C3B.

(11) SIMPLIFIED PLOTTABLE EASEMENT DESCRIPTION SHOWN ON SHEET C3B.

DRIVE-THRU CATWALK CONCRETE PAD WITH UMBRELLA STAND.

24" WIDE MATTED INOB ASSOCIATE WALKWAY CONSISTING OF APPROXIMATELY 370 SQUARE FEET.

PROPOSED INOB INSTALLED AND MAINTAINED LANDSCAPED PLANTER AND IRRIGATION SYSTEM OFF-SITE IN EL CAMINO REAL CONSISTING OF APPROXIMATELY 736 SQUARE FEET.

PROPOSED TAN COLORED CMU BLOCK WALL WITH SPLIT-FACE TEXTURE ON BOTH SIDES WITH A 2"x8" PRECISION BLOCK CAP ON TOP.

VEHICLE DETECTOR LOOP.

LOC INOB LIMITS OF PROPOSED CONSTRUCTION.

VOH 2' VEHICLE OVERHANG WITH NO OBSTRUCTIONS INCLUDING LIGHT POLES, TREES AND SIGNAGE.

ADA ACCESSIBLE PATH OF TRAVEL. ACCESSIBLE PATH OF TRAVEL IS NOT LESS THAN 4 FEET WIDE, AND DOES NOT EXCEED A RUNNING SLOPE OF 1:20 (5%) OR A CROSS SLOPE IN EXCESS OF 1:50 (2%). REFER TO SHEET C FOR SPECIFIC SLOPES AND GRADES.

PM PG&E ELECTRIC PAD MOUNT TRANSFORMER WITH BOLLARDS.

TR PORTABLE TRASH RECEPTACLE ON A MINIMUM 24"x24"x4" CONCRETE PAD.

NEW CONCRETE SIDEWALK.

CPUE CITY PUBLIC UTILITY EASEMENT.

CSDE CITY STORM DRAIN EASEMENT.

CODE COUNTY DRAINAGE EASEMENT.

PSDE PRIVATE STORM DRAIN EASEMENT IN FAVOR OF PARCEL B OF LOT MERGER OVER PARCEL A OF LOT MERGER.

PWUE PRIVATE MUTUAL UTILITY LINE EASEMENT IN FAVOR OF PARCEL A OF LOT MERGER AND PARCEL MAP NO. 17-0004.

CAE CITY AIRCRAFT EASEMENT.

GPE GAS PIPE EASEMENT IN FAVOR OF PACIFIC GAS AND ELECTRIC COMPANY.

PSE PRIVATE SEWER EASEMENT IN FAVOR OF PARCEL A OF LOT MERGER OVER PARCEL MAP NO. 17-0004.

APN ASSESSOR'S PARCEL NUMBER.

R/W RIGHT OF WAY.

EVCS PROPOSED EVGO 8.6' TALL DUAL EV (ELECTRIC VEHICLE) DC CHARGER/HIGH POWER CHARGER 350/200kw (DCFC) STATION AND CLEAN FLOOR SPACE.

0 25 50 100

APPROXIMATE SCALE IN FEET

SOURCE: MSL Engineering, Inc. - 6-27-2024

FIGURE **2**

Meridian Consultants

Site Plan

121-013-24

Ambient Noise Levels

As a center of industrial and commercial activity, the City of South San Francisco is surrounded by major street and highways including U.S. Highway 101, Interstate 280, State Route 82, State Route 35, and Interstate 380. The proximity of these local and regional arteries, and the large amount of truck traffic serving industrial, warehousing, and freight forwarding uses make the City of South San Francisco susceptible to traffic noise and vibration. Other primary sources of noise and vibration around the city include the San Francisco International (SFO) Airport and rail lines (BART and Caltrain).

Long-term (24-hour) sound monitoring was conducted at the Project site adjacent to the multi-family residential units to the north. Measurements were taken between March 19 – March 20, 2024 and provided in **Table 1: Ambient Noise Measurements**. **Figures 3: Noise Monitoring Location** depicts locations where ambient noise measurements were conducted. As shown in **Table 1**, noise levels ranged from 59.9 dBA (Leq-daytime) during the daytime period and 59.2 dBA (Leq-nighttime) during the nighttime period. Additionally, 24-hour noise levels were 66.0 dBA CNEL

TABLE 1: AMBIENT NOISE MEASUREMENTS

Location	Location Description	Daytime[1]	Nighttime[2]	CNEL[3]
1	972 El Camino Real	59.9	59.2	66.0

*Source: Refer to **Appendix A** for noise monitoring data sheets.*
Notes: dBA = A-weighted decibels; Leq = average equivalent sound level.
[1] Daytime = 7:00 AM – 10:00 PM.
[2] Nighttime = 10:00 PM – 7:00 AM.
[3] 5 dB adjustment between 7:00 PM and 10:00 PM and 10 dB adjustment between 10:00 PM and 7:00 AM.

Sensitive Uses

Some land uses are considered more sensitive to intrusive noise than others based on the types of activities typically involved at the receptor location. Land uses considered to be noise sensitive include residences, schools, hospitals, libraries, and parks. Residential land uses are considered especially noise sensitive because (1) considerable time is spent by individuals at home, (2) significant activities occur outdoors, and (3) sleep disturbance is most likely to occur in a residential area. The Federal Highway Administration (FHWA) considers uses where people normally sleep, such as residences, hotels, and motels, noise-sensitive land uses.[1]

The City currently has numerous sensitive land uses, in particular residences, schools, health care facilities, and playgrounds. These sensitive land uses will continue to exist, and new sensitive land uses will be established pursuant to General Plan policies. The Project site is within the Transect Zoning District (TSC) and is predominantly surrounded by commercial uses with multi-family residential uses located adjacent to the north along El Camino Real, the Deluxe Inn Motel to the south and the residential uses along 1st Street, A Street, and Antionette Lane (refer to **Figure 4: Sensitive Receptor Map**).

Vibration Conditions

Based on field observations, the primary source of existing ground-borne vibration in the vicinity of the Project site is vehicle traffic on local roadways. According to the Federal Transit Administration,[2] typical road traffic–induced vibration levels are unlikely to be perceptible by people. Trucks and buses typically generate ground-borne vibration velocity levels of approximately 63 VdB (at a 50-foot distance), and these levels could reach 72 VdB when trucks and buses pass over bumps in the road. A vibration level of 72 VdB is above the 60 VdB level of perceptibility.

1 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual,* p. 23, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed March 2024.

2 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, FTA report no. 0123 (September 2018), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed March 2024.

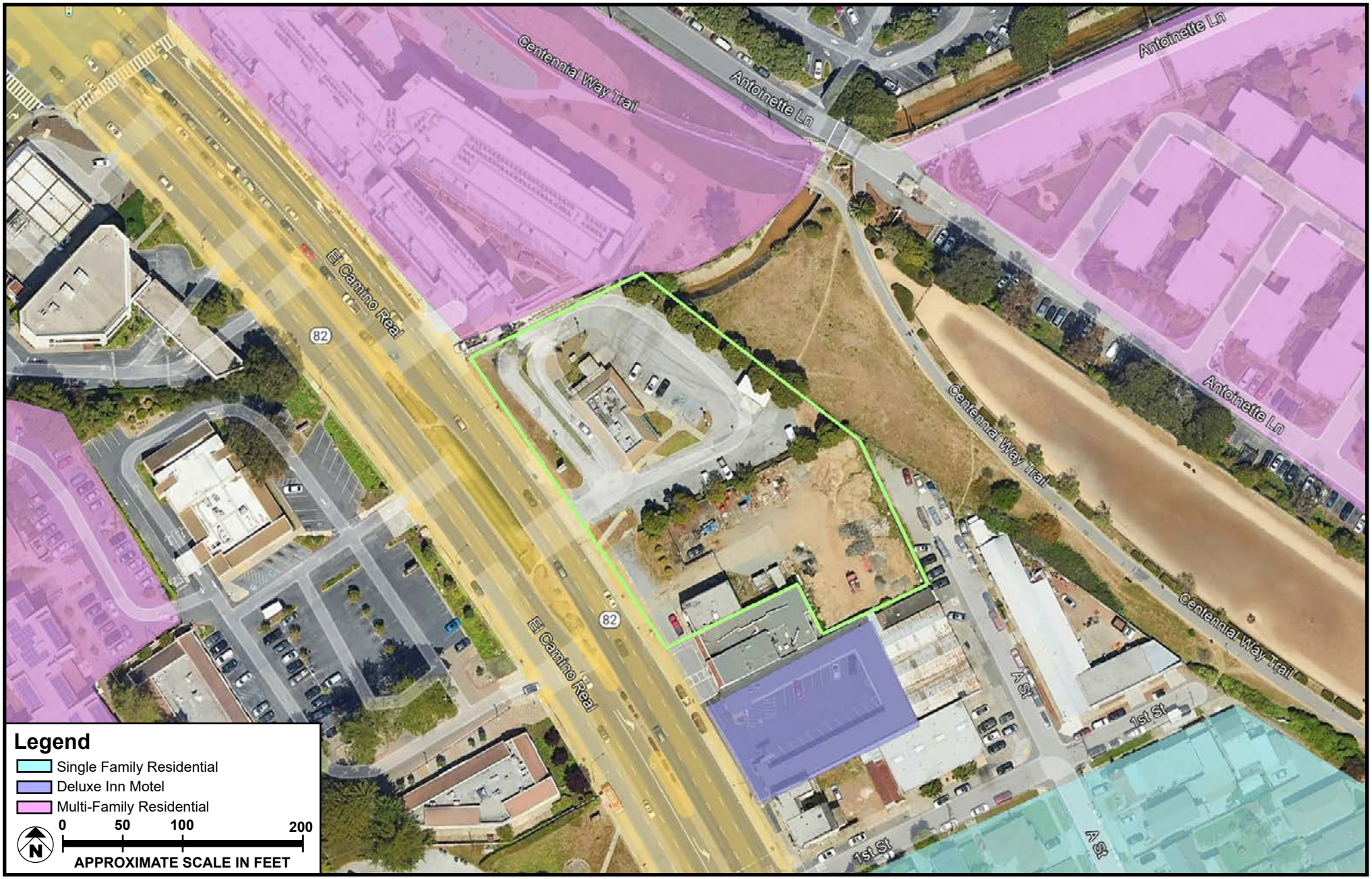
SOURCE: Google Earth - 2024

FIGURE **3**

Meridian Consultants

Noise Monitoring Location

121-013-24



SOURCE: Google Earth - 2024

FIGURE **4**

Meridian Consultants

Sensitive Receptor Map

121-013-24

METHODOLOGY

Ambient Noise Measurements

Noise-level monitoring was conducted by Meridian Consultants between March 19 – March 20, 2024, at the Project site adjacent to the multi-family residential uses to the north, as shown in **Figure 3**. Noise-level monitoring was conducted 24-hours using a Larson Davis Model 831 sound-level meter. This meter satisfies the American National Standards Institute (ANSI) standard for general environmental noise measurement instrumentation. The ANSI specifies several types of sound-level meters according to their precision. Types 1, 2, and 3 are referred to as "precision," "general-purpose," and "survey" meters, respectively. Most measurements carefully taken with a Type 1 sound-level meter will have a margin of error not exceeding 1 dB.

The Larson Davis Model 831 is a Type 1 precision sound-level meter. This meter meets all requirements of ANSI S1.4-1983 and ANSI1.43-1997 Type 1 standards, as well as International Electrotechnical Commission (IEC) IEC61672-1 Ed. 1.0, IEC60651 Ed 1.2, and IEC60804 Type 1, Group X standards. The sound-level meter was located approximately 5 feet above ground and was covered with a Larson Davis windscreen. The sound-level meter was field calibrated with an external calibrator prior to operation.

Construction

Future dates represent approximations based on the general Project timeline and are subject to change pending unpredictable circumstances that may arise. As such, for purposes of this analysis, project construction is assumed to begin August 2025 and is expected to last until March 2026. Construction would occur over the following phases: (1) demolition; (2) grading, (3) building construction, (4) paving, and (5) architectural coating.

Each phase of construction would result in varying levels of intensity and a number of construction personnel. The construction workforce would consist of approximately 10 worker trips per day and approximately 2 hauling trips per day during demolition; approximately 8 worker trips per day and approximately 7 hauling trips per day during grading; approximately 2 worker trips per day and approximately 1 vendor trips per day during building construction; approximately 18 worker trips per day during paving; and approximately 1 worker trips per day during architectural coating.

On-Site Construction Equipment

Construction activities typically generate noise from the operation of equipment within the Project Site that is required for the construction of various facilities. Noise impacts from on-site construction equipment as well as the on-site staging of construction trucks were evaluated by determining the noise levels generated by different types of construction activity and calculating the construction-related noise level at nearby noise-sensitive receptor locations. Actual construction noise levels would vary, depending upon the equipment type, model, the type of work activity being performed, and the condition of the equipment.

In order to calculate construction noise levels, hourly activity or utilization factors (i.e., the percentage of normal construction activity that would occur, or construction equipment that would be active, during each hour of the day) are estimated based on the temporal characteristics of other previous and current construction projects. The hourly activity factors express the percentage of time that construction activities would emit average noise levels. Typical noise levels for each type of construction equipment were obtained from the FHWA Roadway Construction Noise Model.[3]

An inventory of construction equipment, including the number and types of equipment, which would be operating simultaneously within the Project Site was identified for each phase/component of construction and shown in **Table 2: Construction Equipment by Phase**. It is highly unlikely that all pieces of construction equipment identified in Table 2 would operate simultaneously in any specific location during construction because equipment is generally operated only when needed and space constraints limit the equipment that can be used at any one time in a specific location. Therefore, this modeling is considered a conservative approach to calculate the maximum noise levels that would be generated.

TABLE 2: CONSTRUCTION EQUIPMENT BY PHASE

Construction Phase	Equipment Type	Quantity	Usage Hours (per day)	Noise Level at 25 feet (dBA Leq-1hour)	Calculated Average Noise Level (dBA Leq-1hour)
Demolition	Tractors/Loaders/Backhoes	2	6	89.1	92.5
	Rubber Tired Dozers	1	1	83.7	
	Concrete/Industrial Saws	1	8	88.6	
Grading	Graders	1	6	87.0	90.6
	Rubber Tired Dozers	1	6	83.7	
	Tractors/Loaders/Backhoes	1	7	86.0	
Building Construction	Forklifts	2	6	91.0	93.2
	Tractors/Loaders/Backhoes	2	8	89.1	
Paving	Cement and Mortar Mixers	4	6	86.9	90.3
	Pavers	1	7	80.2	
	Rollers	1	7	79.0	
	Tractors/Loaders/Backhoes	1	7	86.0	
Architectural Coating	Air Compressors	1	6	79.7	79.7

Source: FHWA Roadway Construction Noise Model (RCNM) version 1.1
*Refer to **Appendix B** for construction noise worksheets.*

3 U.S. Department of Transportation, FHWA Roadway Construction Noise Model Final Report, January 2006, accessed March 2024, https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

The calculated average noise levels provided in **Table 2** were inputted into the noise model SoundPLAN,[4] which generates computer simulations of noise propagation from sources such as construction noise. SoundPLAN forecasts noise levels at specific receptors using sound power data and three-dimensional topographical data.

Construction noise levels have been calculated at each of the analyzed sensitive receptors as follows: (1) construction noise levels generated during each of the three construction phases; and (2) construction noise levels during those periods when the three construction phases could potentially occur concurrently.

Noise levels generated by on-site construction equipment can be reduced via Regulatory Compliance Measures (RCMs), which are existing requirements and reasonably anticipated standard conditions based on local, State, or federal regulations and laws that are frequently required independently of CEQA review and serve to offset or prevent specific impacts. RCMs are not included as mitigation measures in the environmental clearance document because the Project is required to comply with RCMs through State and local regulations.

RCMs are specific noise control measures which include the following: (1) muffler requirements; (2) equipment modifications that reduce noise levels; and (3) maintenance and operational requirements. These noise control measures can be used separately or in combination in order to reduce the noise levels generated by on-site construction equipment.

Most on-site construction-related noise originates from equipment powered by either gasoline or diesel engines. A large part of the noise emitted is due to the intake and exhaust portions of the engine cycle. Reducing noise from this source can be achieved via muffler systems. This noise control strategy would include the replacement of worn mufflers and retrofitting on-site construction equipment where mufflers are not in use. Using muffler systems on on-site construction equipment reduces construction noise levels by 10 dBA or more.[5]

Another effective method of diminishing noise levels associated with individual pieces of construction equipment is by modifying the equipment. Modifications such as the dampening of metal surfaces is effective in reducing on-site construction equipment noise levels. These modifications are typically done by the manufacturer or with factory assistance. Noise reductions of up to 5 dBA are achieved using dampening materials.[6]

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4 SoundPLAN model is in compliance with ISO 9613-2 standards for assessing attenuation of sound propagating outdoors and general calculation method.

5 FHWA, Special Report—Measurement, Prediction, and Mitigation, updated June 2017, https://www.fhwa.dot.gov/Environment/noise/construction_noise/special_report/hcn04.cfm, Accessed March 2024.

6 FHWA, Special Report—Measurement, Prediction, and Mitigation, updated June 2017, accessed March 2024, https://www.fhwa.dot.gov/Environment/noise/construction_noise/special_report/hcn04.cfm.

Additionally, faulty or damaged mufflers, loose engine parts, rattling screws, bolts, or metal plates all contribute to increasing the noise level of on-site construction equipment. Regularly inspecting on-site construction equipment for these conditions and making adjustments to the equipment as necessary can also reduce noise levels generated by on-site construction equipment.

Construction Traffic Noise

The analysis of off-site construction traffic noise impacts focuses on: (1) identifying major roadways that may be used for construction worker commute routes or truck haul routes; (2) identifying the nature and location of noise-sensitive receptors along those routes; and (3) evaluating the traffic characteristics along those routes, specifically as related to existing traffic volumes.

Construction Equipment Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. While ground vibrations from construction activities do not often reach the levels that can damage structures, fragile buildings must receive special consideration.

Impacts due to construction activities were evaluated by identifying vibration sources (i.e., construction equipment), measuring the distance between vibration sources and surrounding structure locations, and making a significance determination.

For quantitative construction vibration assessments related to building damage and human annoyance, vibration source levels for construction equipment are taken from the FTA *Transit Noise and Vibration Impact Assessment Manual*.[7] Building damage would be assessed for each piece of equipment individually and assessed in terms of peak particle velocity.

The vibration source levels for various types of equipment are based on data provided by the FTA.

Operational Noise

Operational noise levels related to the drive-through, parking, amplified speech emanating from the speaker were calculated with the noise model SoundPLAN, a commercially available software that produces computer simulations of noise propagation from sources. The SoundPLAN modeling software accounts for large differences in topography, and the presence of intervening structures or landscaping that would block a direct line of sight between operation activities from the proposed Project Site and nearby sensitive receptors. The operational noise levels were calculated for sensitive-receptor locations using SoundPLAN. It was assumed operating hours would take place between 10:00 AM and 1:30 AM. The

7 FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018, accessed March 2024, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

SoundPLAN model includes real-world noise levels and contains noise data in a reference library. To quantify events related to the noise sources generated by the proposed use, the following assumptions were used:

- Cars entering and exiting the parking lot and queuing at the drive through, a line source was modeled with a sound power level[8] (LwA) of 47 dB/m, m^2, as referenced in the SoundPLAN noise library for cars driving on asphalt at less than 30 kilometers per hour (18.6 miles per hour);
- The menu board and speaker, a point source was modeled with a LwA of 65 dB, as referenced in the SoundPLAN noise library for speaking, normal voice; and
- The outdoor seating area, an area source was modeled with a LwA of 65 dB, as referenced in the SoundPLAN noise library for speaking, normal voice.
- Truck deliveries at any point between the hours of 2:00 AM and 9:00 AM, a line source was modeled with a LwA of 80 dB, as referenced in the SoundPLAN noise library for truck loading general cargo

It is important to note the trash compactor would be positioned behind a wall enclosure. Because of its placement, noise generated by the trash compactor will be attenuated by the wall.

Operational Vibration

The majority of the Project's operational-related vibration sources, such as mechanical and electrical equipment, would incorporate vibration attenuation mounts, as required by the particular equipment specifications. Therefore, operation of the Project would not increase the existing vibration levels in the immediate vicinity of the Project and, as such, vibration impacts associated with the Project would be minimal. Therefore, the ground borne vibration analysis is limited to Project-related construction activities.

8 The Sound Power Level represents the total sound energy produced by the source under the specified operating conditions. Sound Power Levels cannot be measured directly; instead they are computed from reference sound pressure level measurements

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the State CEQA Guidelines, a project would have a potentially significant impact related to noise and groundborne vibration if it would result in:

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

Appendix G of the State CEQA Guidelines also includes:

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

The Project site is not located within an airport land use plan and is not located within two miles of public airport or public use airport, nor is it within the vicinity of private airstrips. As such, the Project would result in no impacts to this screening criteria and no further analyses of this topic is necessary.

Construction Noise

As mentioned previously, Section 8.32.050 of the City's Municipal Code regulates construction noise and restricts construction activities to the hours of 8:00 AM to 8:00 PM on weekdays, 9:00 AM to 8:00 PM on Saturdays 10:00 AM to 6:00 PM on Sundays and holidays. Additionally, Section 8.32.050 restricts individual equipment to not exceed 90 dBA at a distance of 25 feet.

Operational Noise

Operational noise impacts are evaluated for on-site source noise from activities and equipment at the Project site. According to Policy NOI-1.1 of the City of South San Francisco General Plan Noise Element, all new development within the city shall comply with the Land Use/Noise Compatibility guidelines shown in **Table 3: Land Use/Noise Compatibility** guidelines.

TABLE 3: LAND USE/NOISE COMPATIBILITY GUIDELINES

Categories	Compatible Uses	CNEL	
Residential	Single-Family, Duplex, Multiple Family, Mobile Homes, Residence Care	45[1]	65[2]
Commercial	Hotel, Motel, Transient Lodging	45[3]	65
	Commercial, Retail, Bank, Restaurant, Health Clubs	55	--
	Office Buildings, Research and Development, Professional Office	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall, Movie Theater	50	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
Open Space	Parks, Neighborhood Parks, Playgrounds	--	65
Institutional/Public Facility	Hospital, Schools, Classrooms	45	65
	Churches, Libraries	45	--

Note:

[1] Interior environment excludes bathrooms, toilets, closets, and corridors.

[2] Outdoor environment limited to private yard of single-family residential; multifamily residential and mobile home park outdoor common space area; hospital patio; park picnic area; school playground; and hotel and motel recreation area.

[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to UBC requirements.

[4] Multifamily developments with private balconies that would not meet the 65 dB CNEL standard are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Table 4: Maximum Permissible Sound Levels specifies the maximum permissible sound levels to be generated by any property within the City, according to Section 8.32.030 of the City's Noise Ordinance. If any measured ambient level for any area is higher than the standard set in the South San Francisco Municipal code for a particular use, then the applicable threshold for that use is 5 dB above the measured ambient level. Not that, although these exact zoning district designations are no longer in effect, the City applies these guidelines generally to the corresponding current zoning districts.

TABLE 4: MAXIMUM PERMISSIBLE SOUND LEVELS

Land Use Category	Time Period	Noise Level (dB)[a]
R-E, R-1, and R-2 zones or any single-family or duplex residence in a specific plan district	10:00 PM – 7:00 AM	50
	7:00 AM – 10:00 PM	60
R-3 and D-C zones or any multi-family residence or mixed residential/commercial use in any specific plan district	10:00 PM – 7:00 AM	55
	7:00 AM – 10:00 PM	60
C-1, P-C, Gateway, and Oyster Point Marina specific plan districts or any commercial use in any specific plan district	10:00 PM – 7:00 AM	60
	7:00 AM – 10:00 PM	65
M-1, P-1	Anytime	70

Source: Table 8.32.030 of the South San Francisco Municipal Code.

[a] The noise level standard for each land use for a cumulative period of more than 30 minutes in any hour (L50). Standards increase for durations of less than 15 minutes per hour.

Groundborne Vibration

There are no adopted City standards or thresholds of significance for vibration. The evaluation of potential building damage impacts related to construction vibration levels is based on the published data in the FTA guidance.[9] While ground vibrations from construction activities do not often reach the levels that can damage structures, fragile buildings must receive special consideration. As such, the vibration damage criteria adopted by the FTA and applied in this analysis are listed below. Vibration impacts could be potentially significant if the vibration velocity exceeds the following:

- Reinforced-concrete, steel, or timber (no plaster) would exceed 0.5 PPV (inches per second);[10]
- Engineered concrete and masonry (no plaster) would exceed 0.3 PPV;
- Nonengineered timber and masonry buildings would exceed 0.2 PPV
- Buildings extremely susceptible to vibration damage would exceed 0.12 PPV.

9 FTA, Transit Noise and Vibration Impact Assessment Manual, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact assessment-manual-fta-report-no-0123_0.pdf. Accessed March 2024.

10 When assessing vibration source levels from construction equipment, vibration is generally assessed in terms of PPV. PPV is defined as the peak signal value of an oscillating vibration velocity waveform, expressed in inches per second.

Construction

On-Site Construction Noise

Noise from construction activities would be affected by the amount of construction equipment, the location of this equipment, the timing and duration of construction activities, and the relative distance to noise-sensitive receptors. Construction activities that would occur during the construction phases would generate both steady-state and episodic noise that would be heard both on and off the Project site. Each construction phase involves the use of different types of construction equipment and, therefore, has its own distinct noise characteristics. The Project would be constructed using typical construction techniques; no blasting or impact pile driving would be required.

The construction equipment reference noise levels provided in **Table 2** above, are based on measured noise data compiled by the FHWA and would occur when equipment is operating under full power conditions. However, equipment used on construction sites typically operate at less than full power. The acoustical usage factor is the percentage of time that each type of construction equipment is anticipated to be in full power operation during a typical construction day. These values are estimates and will vary based on the actual construction process and schedule.

Construction equipment operates at its noisiest levels for certain percentages of time during operation. As such, equipment would operate at different percentages over the course of an hour.[11] During a construction day, the highest noise levels would be generated when multiple pieces of construction equipment are operated concurrently.

To characterize construction-period noise levels, the average (hourly Leq) noise level associated with each construction stage was calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment operating simultaneously.

The estimated construction noise levels were calculated for each of the analyzed receptors (refer to **Figure 6**) during each of the construction phases. As mentioned previously, given the physical size of the Project site and logistical limitations, and with the noise equipment located at the construction area nearest to the affected receptors to present a conservative impact analysis. This is considered a worst-case evaluation because construction of the Project would typically use fewer pieces of equipment simultaneously at any given time as well as operating throughout the construction site (i.e., most of the time construction equipment would be operating at distances further away from the off-site receptors

11 Federal Highway Administration, Traffic Noise Model (2006).

than that assumed in the forecasting of Project construction noise levels). As such, Project construction would often generate lower noise levels than reported herein.

As mentioned previously, construction would be allowed during the daytime hours specified on the permit as long as noise from each individual piece of equipment is limited to 90 dBA at a distance of 25 feet or as long as combined construction noise at any point outside the property plane of the project does not exceed 90 dBA. **Table 5: Construction Maximum Noise Estimates** presents the maximum noise impacts that are forecasted to occur at the adjacent multi-family residential use. As shown, average noise levels at the adjacent multi-family residential units to the north during construction would not result in construction noise levels exceeding the 90 dBA threshold.

It is important to note, construction noise levels provided in **Table 5** do not include any reduction related to standard noise control strategies. As mentioned previously, using muffler systems on on-site construction equipment reduces construction noise levels by 10 dBA or more. Modifications such as dampening of metal surfaces or the redesign of a particular piece of equipment can achieve a noise reduction of up 5 dBA. Conservatively, these combined noise control strategies would further reduce construction noise levels presented in **Table 5** by 10 to 15 dBA. Compliance with the above practices would further ensure construction noise levels would be below the significance threshold; thus, construction noise levels would not be considered significant.

Table 5: **CONSTRUCTION MAXIMUM NOISE ESTIMATES**

Location	Calculated Noise Level (Leq-1hour) by Construction Phase					Significance Threshold	Exceeds Threshold?
	Demolition	Grading	Building Construction	Paving	Architectural Coating		
Multi-family residential units	76.3	85.3	78.1	82.7	64.6	90.0	**NO**

*Refer to **Appendix B** for Construction Noise Worksheets.*

Off-Site Construction Noise

Construction of the Project would require worker, haul, and vendor truck trips to and from the site to work on the site, export soil, and deliver supplies to the site. Trucks traveling to and from the Project site would be required to travel along a haul route approved by the City. At the maximum, approximately 7 hauling trips per day would take place during the grading phase based on construction schedule assumptions. Haul truck traffic would take the most direct route to the freeway ramp along El Camino Real.

Noise associated with construction truck trips were estimated using the Caltrans FHWA Traffic Noise Model based on the maximum number of truck trips in a day. Project haul truck trips, which includes medium- and heavy-duty trucks, would generate noise levels of approximately 40.8 to 45.7 dBA, respectively, measured at a distance of 25 feet from the adjacent sensitive receptor. As shown in **Table 1**, existing noise levels at the Project site adjacent to El Camino Real was 59.9 dBA (Leq-daytime). The noise level increases from truck trips would be below the significance threshold of 5 dBA. As such, off-site construction noise impacts would not be considered significant.

Construction Vibration

As mentioned previously, the nearest off-site structure include the multi-family residential uses to the north. As shown in **Table 6: On-Site Construction Vibration Impacts-Building Damage**, the forecasted vibration levels due to on-site construction activities would not exceed the building damage significance threshold of 0.5 PPV for reinforced-concrete, steel, or timber building at the adjacent multi-family residential use. Temporary vibration levels associated with project construction would not be considered significant.

TABLE 6: ON-SITE CONSTRUCTION VIBRATION IMPACTS – BUILDING DAMAGE

Site	Nearest Off-Site Building Structures	Estimated Vibration Velocity Levels at the Nearest Off-Site Structures from the Project Construction Equipment				Significance Threshold (PPV ips)
		Vibratory Roller	Loaded Trucks	Jackhammer	Small bulldozer	
1	Multi-family Residential	0.210	0.076	0.035	0.003	0.5

Source: US Department of Transportation, Federal Transportation Authority, Transit Noise and Vibration Impact Assessment.
*Refer to **Appendix C** for construction vibration worksheets.*

Operation

The nearest sensitive uses to the site include the multi-family residential uses to the north. The proposed project would include a CMU block screen wall surrounding the property. The development would also include a landscaped planter approximately 6 feet wide.

Source contributed noise levels throughout the daytime and nighttime periods from operation of the proposed project are shown in **Table 7: Modeled Exterior Noise Levels from Operational Sources**. For illustrative purposes, daytime and nighttime noise levels within the Project vicinity are shown graphically in **Figure 7: Operational Noise Level Contour Map (Daytime)** and **Figure 8: Operational Noise Level Contour Map (Nighttime)**. Other sensitive receptors shown graphically include the Deluxe Inn Motel to the south and the residential uses along 1st Street, A Street, and Antionette Lane. The source noise levels from the Project site include parking activities from mobile vehicles, drive-through queuing, outdoor seating area and amplified speech from the speaker box.

Table 7 compares the modeled exterior noise levels from the Project-related noise sources that operate on a daily basis to the exterior noise standards identified in the City's Municipal Code. As shown in **Table 7**, daytime exterior noise levels at the adjacent multi-family residential use from operation of the proposed project would range from 29.1 dBA during the daytime period and 26.0 dBA during the nighttime period. Noise levels would not exceed the daytime exterior threshold of 60 dBA and nighttime exterior threshold of 55 dBA at nearby residential uses. Additionally, noise levels would not result in a 5 dBA increase above the measured ambient of 59.9 dBA (Leq-daytime) during the daytime and 59.2 dBA (Leq-nighttime) during the nighttime (refer to **Table 1**).

TABLE 7: MODELED EXTERIOR NOISE LEVELS FROM OPERATIONAL SOURCES

Monitoring Site	Time Period	Modeled Noise Levels, Leq dBA	Residential Exterior Noise Standard[1], dBA	Exceeds Standard?
1	Daytime	29.1	60	**No**
	Nighttime	26.0	55	**No**

Note:

[1] Section 8.32.050 Maximum Permissible Sound Levels. Daytime = 60 dBA between 7:00 AM - 10:00 PM; Nighttime = 55 dBA between 10:00 PM - 7:00 AM.

*Source: Refer to **Appendix D** for SoundPLAN Output Sheets.*

Truck deliveries

As mentioned previously, truck deliveries would take place no more than once daily between the hours of 2:00 AM to 9:00 AM lasting less than an hour. Site access for these delivery trucks would be from El Camino Real and would unload at the service entrance located adjacent to parking stalls #1 through #9, shielded by the CMU block screen wall surrounding the Project site.

Table 8: Modeled Exterior Noise Levels from Truck Deliveries, provides the exterior noise levels at the adjacent the multi-family residential uses to the north along El Camino Real. As shown, noise levels from truck deliveries would not exceed the daytime exterior threshold of 60 dBA and nighttime exterior threshold of 55 dBA at nearby residential uses.

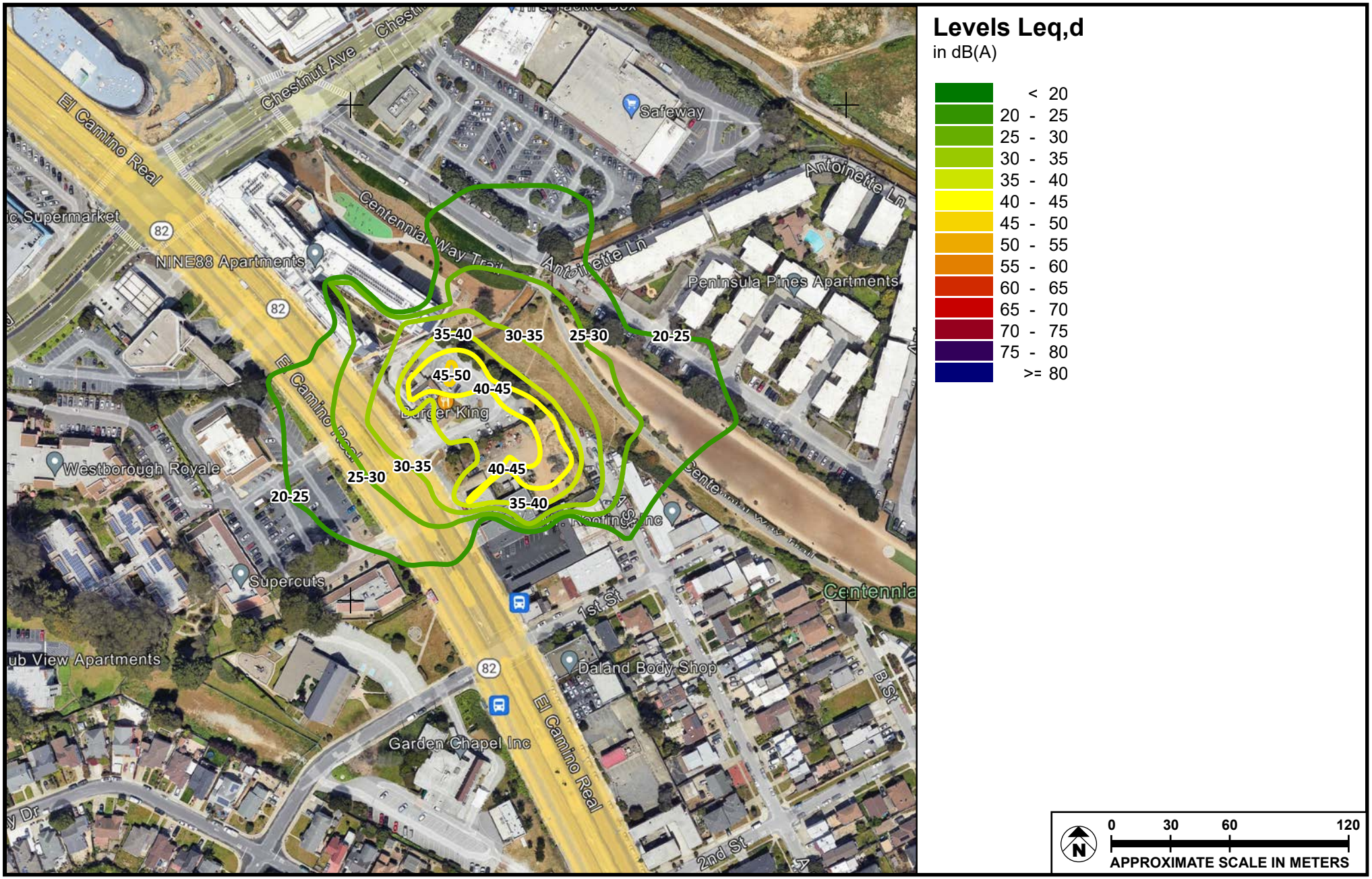
TABLE 8: MODELED EXTERIOR NOISE LEVELS FROM TRUCK DELIVERIES

Monitoring Site	Time Period	Modeled Noise Levels, Leq dBA	Residential Exterior Noise Standard[1], dBA	Exceeds Standard?
1	Daytime	17.4	60	**No**
	Nighttime	23.6	55	**No**

Note:

[1] Section 8.32.050 Maximum Permissible Sound Levels. Daytime = 60 dBA between 7:00 AM - 10:00 PM; Nighttime = 55 dBA between 10:00 PM - 7:00 AM.

*Source: Refer to **Appendix D** for SoundPLAN Output Sheets.*



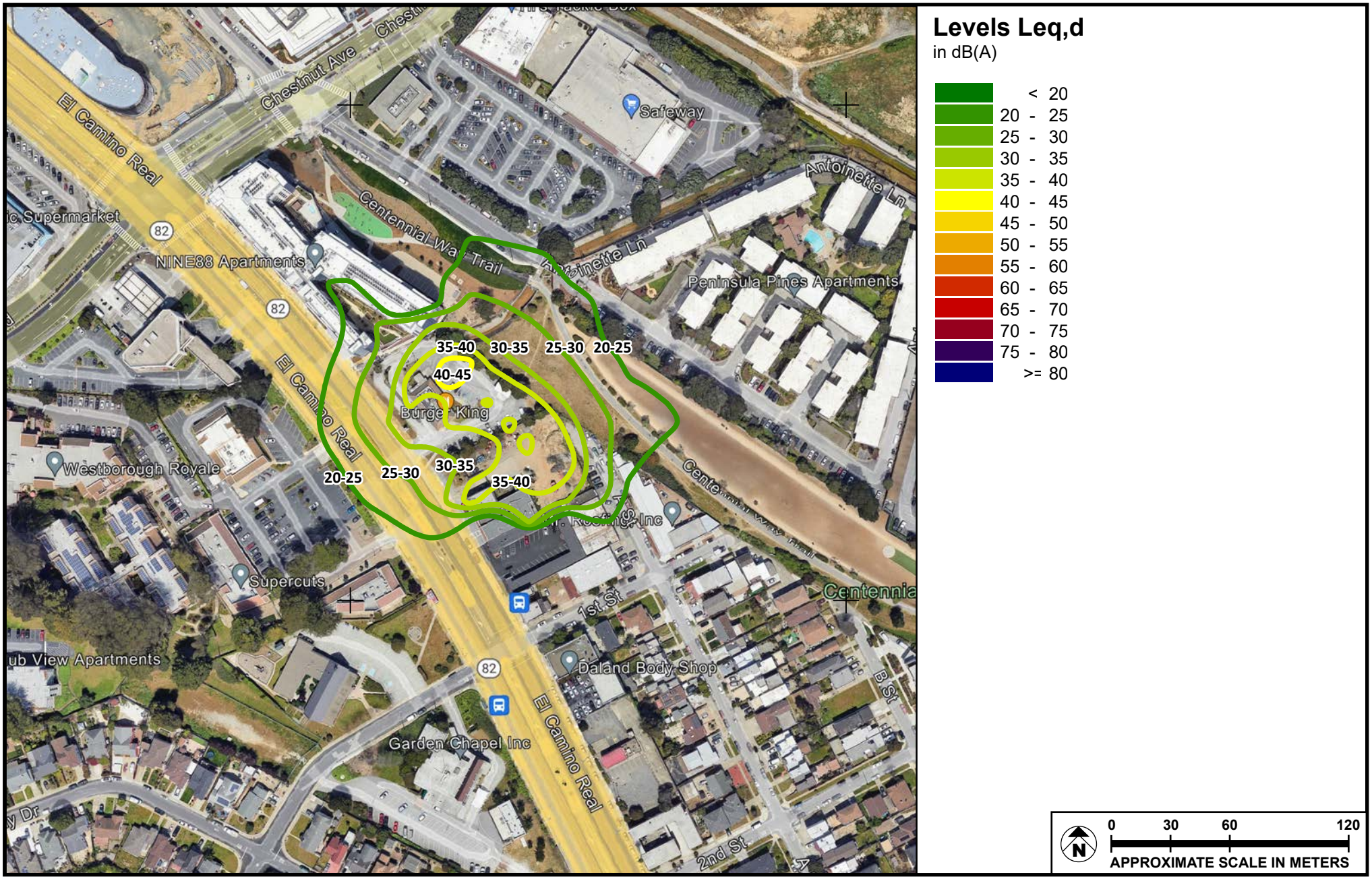
SOURCE: Google Earth - 2024

FIGURE **5**

Meridian Consultants

Operational Noise Level Contour Map (Daytime)

121-013-24



SOURCE: Google Earth - 2024

FIGURE **6**

Meridian Consultants

Operational Noise Level Contour Map (Nighttime)

121-013-24

Cumulative

For purposes of this analysis, development of the related projects will be considered to contribute to cumulative noise impacts. Noise, by definition, is a localized phenomenon and drastically reduces as distance from the source increases. As a result, only related projects and growth in the general area of the Project site (within 500 feet) would contribute to cumulative noise impacts. Cumulative construction-noise impacts have the potential to occur when multiple construction projects in the local area generate noise within the same time frame and contribute to the local ambient noise environment. It is expected that, as with the Project, related projects would implement noise reduction techniques such as mufflers, shields, sound barriers, which would minimize any noise-related nuisances during construction. In addition, distance attenuation and intervening structures would further reduce construction noise levels and not result in noticeable increases. Therefore, the combined construction-noise impacts of related projects within 500 feet and the Project's contribution would not cause a significant cumulative impact.

With regard to stationary sources, cumulative significant noise impacts may result from cumulative development. Stationary sources of noise that could be introduced in the area by cumulative projects could include mechanical equipment, loading docks, and parking lots. Given that these projects would be required to adhere to the City's noise standards, all stationary sources would be required to have shielding or other noise-abatement measures so as not to cause a substantial increase in ambient noise levels. Moreover, due to distance, it is unlikely that noise from multiple cumulative projects would interact to create a significant combined noise impact. As such, it is not anticipated that a significant cumulative increase in permanent ambient noise levels would occur.

CERTIFICATION

The contents of this noise study represent an accurate depiction of the noise environment and impacts associated with the proposed In-N-Out Burger Restaurant Project. The information contained in this noise study is based on the best available information at the time of preparation. If you have any questions, please contact me directly at (818) 415-7274.

Sincerely,

Christ Kirikian, INCE
Principal | Director of Air Quality & Acoustics
ckirikian@meridianconsultantsllc.com

APPENDIX A

Noise Monitoring Data Spreadsheets

Monitoring Location: Site 1
Date: March 20 - 21, 2024

Time: Start 12:00 PM

	Monitoring Period		Monitored Leq	Logarithmic Equivalent	Evening/Night Adjustments 10 dB	5 dB
Midnight		0 / 24	63.4	2187762	21877616	6918310
am	1:00	100	62.3	1698244	16982437	5370318
	2:00	200	55.8	380189	3801894	1202264
	3:00	300	56.1	407380	4073803	1288250
	4:00	400	50.6	114815	1148154	363078
	5:00	500	58.1	645654	6456542	2041738
	6:00	600	54.5	281838	2818383	891251
	7:00	700	56.5	446684	4466836	1412538
	8:00	800	56.6	457088	4570882	1445440
	9:00	900	57.2	524807	5248075	1659587
	10:00	1000	60.5	1122018	11220185	3548134
	11:00	1100	59.5	891251	8912509	2818383
	12:00	1200	63.5	2238721	22387211	7079458
pm	1:00	1300	60.8	1202264	12022644	3801894
	2:00	1400	58.1	645654	6456542	2041738
	3:00	1500	61.4	1380384	13803843	4365158
	4:00	1600	59.1	812831	8128305	2570396
	5:00	1700	60.3	1071519	10715193	3388442
	6:00	1800	60.7	1174898	11748976	3715352
	7:00	1900	56.8	478630	4786301	1513561
	8:00	2000	61.6	1445440	14454398	4570882
	9:00	2100	58.5	707946	7079458	2238721
	10:00	2200	59	794328	7943282	2511886
pm	11:00	2300	60.2	1047129	10471285	3311311

Leq Morning Peak Hour 7:00-10:00 a.m.
57 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.
59 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not adjusted)
59.2 dBA

Leq Daytime 7:00 am-10:00 p.m.
59.9 dBA

Leq 24-Hour
60 dBA

Ldn: 10 dB adjustment between 10:00 p.m. & 7:00 a.m.
66 dBA

CNEL: 5 dB adjustment between 7:00p.m. & 10:00 p.m., & 10 dB
66.0 dBA **adjustment between 10:00 p.m. & 7:00 a.m.**

Difference between CNEL and Ldn
CNEL - Ldn 0.26579549

APPENDIX B

Construction Noise Data Spreadsheets

Mean propagation Leq - Demolition

Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	DO dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB(A)	Ls dB(A)	Cmet dB	dLw dB	ZR dB	Lr dB(A)
Receiver Deluxe Inn Motel Fl G Leq-1hour dB(A) Leq-1hour 53.7 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	98.59	-50.9	-4.5	-13.1	-0.2		0.0	1.9	53.7	0.0	0.0	0.0	53.7
Receiver Fairway Apartments Fl G Leq-1hour dB(A) Leq-1hour 53.2 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	152.60	-54.7	-4.4	-8.4	-0.3		0.0	0.6	53.2	0.0	0.0	0.0	53.2
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Leq-1hour dB(A) Leq-1hour 73.8 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	43.52	-43.8	-3.0	0.0	-0.1		0.0	0.2	73.8	0.0	0.0	0.0	73.8
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Leq-1hour dB(A) Leq-1hour 75.3 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	43.79	-43.8	-1.3	0.0	-0.1		0.0	0.1	75.3	0.0	0.0	0.0	75.3
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Leq-1hour dB(A) Leq-1hour 76.1 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	44.24	-43.9	-0.3	0.0	-0.1		0.0	0.0	76.1	0.0	0.0	0.0	76.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Leq-1hour dB(A) Leq-1hour 76.3 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	44.88	-44.0	0.0	0.0	-0.1		0.0	0.0	76.3	0.0	0.0	0.0	76.3
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Leq-1hour dB(A) Leq-1hour 76.1 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	45.69	-44.2	0.0	0.0	-0.1		0.0	0.0	76.1	0.0	0.0	0.0	76.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Leq-1hour dB(A) Leq-1hour 75.9 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	46.67	-44.4	0.0	0.0	-0.1		0.0	0.0	75.9	0.0	0.0	0.0	75.9
Receiver Peninsula Pines Apartments Fl G Leq-1hour dB(A) Leq-1hour 62.2 dB(A)																						
Area	Leq-1hour			92.5	117.4	307.5	0.0	0.0	3	134.30	-53.6	-4.4	0.0	-0.3		0.0	0.0	62.2	0.0	0.0	0.0	62.2

Mean propagation Leq - Grading

Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	DO dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB(A)	Ls dB(A)	Cmet dB	dLw dB	ZR dB	Lr dB(A)
Receiver Deluxe Inn Motel Fl G Leq-1hour dB(A) Leq-1hour 65.9 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	68.14	-47.7	-4.0	-15.4	-0.1		0.0	1.9	65.9	0.0	0.0	0.0	65.9
Receiver Fairway Apartments Fl G Leq-1hour dB(A) Leq-1hour 65.7 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	167.11	-55.5	-4.4	-7.0	-0.3		0.0	1.8	65.7	0.0	0.0	0.0	65.7
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Leq-1hour dB(A) Leq-1hour 84.0 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	48.97	-44.8	-2.1	-0.4	-0.1		0.0	0.3	84.0	0.0	0.0	0.0	84.0
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Leq-1hour dB(A) Leq-1hour 85.0 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	49.60	-44.9	-1.0	-0.4	-0.1		0.0	0.3	85.0	0.0	0.0	0.0	85.0
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Leq-1hour dB(A) Leq-1hour 85.3 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	50.58	-45.1	-0.6	-0.3	-0.1		0.0	0.2	85.3	0.0	0.0	0.0	85.3
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Leq-1hour dB(A) Leq-1hour 85.2 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	51.85	-45.3	-0.4	-0.3	-0.1		0.0	0.1	85.2	0.0	0.0	0.0	85.2
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Leq-1hour dB(A) Leq-1hour 85.2 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	53.33	-45.5	-0.2	-0.2	-0.1		0.0	0.1	85.2	0.0	0.0	0.0	85.2
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Leq-1hour dB(A) Leq-1hour 85.1 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	54.98	-45.8	-0.1	-0.1	-0.1		0.0	0.1	85.1	0.0	0.0	0.0	85.1
Receiver Peninsula Pines Apartments Fl G Leq-1hour dB(A) Leq-1hour 74.7 dB(A)																						
Area	Leq-1hour			90.6	128.1	5617.2	0.0	0.0	3	116.40	-52.3	-4.2	0.0	-0.2		0.0	0.4	74.7	0.0	0.0	0.0	74.7

Mean propagation Leq - Building Construction

Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	DO dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB(A)	Ls dB(A)	Cmet dB	dLw dB	ZR dB	Lr dB(A)
Receiver Deluxe Inn Motel Fl G Leq-1hour dB(A) Leq-1hour 54.5 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	103.92	-51.3	-4.5	-12.8	-0.2		0.0	1.9	54.5	0.0	0.0	0.0	54.5
Receiver Fairway Apartments Fl G Leq-1hour dB(A) Leq-1hour 56.1 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	152.34	-54.6	-4.4	-7.2	-0.3		0.0	1.2	56.1	0.0	0.0	0.0	56.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Leq-1hour dB(A) Leq-1hour 75.9 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	39.62	-43.0	-2.8	0.0	-0.1		0.0	0.3	75.9	0.0	0.0	0.0	75.9
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Leq-1hour dB(A) Leq-1hour 77.5 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	39.92	-43.0	-1.0	0.0	-0.1		0.0	0.2	77.5	0.0	0.0	0.0	77.5
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Leq-1hour dB(A) Leq-1hour 78.1 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	40.41	-43.1	-0.1	0.0	-0.1		0.0	0.0	78.1	0.0	0.0	0.0	78.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Leq-1hour dB(A) Leq-1hour 78.1 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	41.10	-43.3	0.0	0.0	-0.1		0.0	0.0	78.1	0.0	0.0	0.0	78.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Leq-1hour dB(A) Leq-1hour 77.9 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	41.96	-43.4	0.0	0.0	-0.1		0.0	0.0	77.9	0.0	0.0	0.0	77.9
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Leq-1hour dB(A) Leq-1hour 77.7 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	43.00	-43.7	0.0	0.0	-0.1		0.0	0.0	77.7	0.0	0.0	0.0	77.7
Receiver Peninsula Pines Apartments Fl G Leq-1hour dB(A) Leq-1hour 63.4 dB(A)																						
Area	Leq-1hour			93.2	118.4	332.6	0.0	0.0	3	134.73	-53.6	-4.4	0.0	-0.3		0.0	0.2	63.4	0.0	0.0	0.0	63.4

Mean propagation Leq - Paving

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr	
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)	
Receiver Deluxe Inn Motel Fl G Leq-1hour dB(A) Leq-1hour 64.0 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	65.55	-47.3	-4.1	-15.5	-0.1		0.0	2.5	63.9	0.0	0.0	0.0	63.9	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	123.37	-52.8	-4.6	-15.6	-0.2		0.0	1.9	47.5	0.0	0.0	0.0	47.5	
Receiver Fairway Apartments Fl G Leq-1hour dB(A) Leq-1hour 63.6 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	168.82	-55.5	-4.4	-10.2	-0.3		0.0	3.1	61.0	0.0	0.0	0.0	61.0	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	151.92	-54.6	-4.4	-0.1	-0.3		0.0	0.7	60.1	0.0	0.0	0.0	60.1	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Leq-1hour dB(A) Leq-1hour 81.3 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	66.86	-47.5	-3.4	-3.1	-0.1		0.0	1.0	75.3	0.0	0.0	0.0	75.3	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	23.20	-38.3	-0.8	-0.2	0.0		0.0	0.6	80.0	0.0	0.0	0.0	80.0	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Leq-1hour dB(A) Leq-1hour 82.2 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	67.16	-47.5	-2.2	-2.7	-0.1		0.0	1.0	77.0	0.0	0.0	0.0	77.0	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	23.77	-38.5	0.0	-0.2	0.0		0.0	0.7	80.7	0.0	0.0	0.0	80.7	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Leq-1hour dB(A) Leq-1hour 82.4 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	67.66	-47.6	-1.5	-2.3	-0.1		0.0	1.0	77.9	0.0	0.0	0.0	77.9	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	24.66	-38.8	0.0	-0.2	0.0		0.0	0.9	80.6	0.0	0.0	0.0	80.6	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Leq-1hour dB(A) Leq-1hour 82.2 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	68.32	-47.7	-0.9	-2.2	-0.1		0.0	0.8	78.3	0.0	0.0	0.0	78.3	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	25.84	-39.2	0.0	-0.2	0.0		0.0	0.7	80.0	0.0	0.0	0.0	80.0	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Leq-1hour dB(A) Leq-1hour 82.2 dB(A)																							

Mean propagation Leq - Architectural Coating

Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	DO dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB(A)	Ls dB(A)	Cmet dB	dLw dB	ZR dB	Lr dB(A)
Receiver Deluxe Inn Motel Fl G Leq-1hour dB(A) Leq-1hour 41.0 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	103.92	-51.3	-4.5	-12.8	-0.2		0.0	1.9	41.0	0.0	0.0	0.0	41.0
Receiver Fairway Apartments Fl G Leq-1hour dB(A) Leq-1hour 42.6 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	152.34	-54.6	-4.4	-7.2	-0.3		0.0	1.2	42.6	0.0	0.0	0.0	42.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Leq-1hour dB(A) Leq-1hour 62.4 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	39.62	-43.0	-2.8	0.0	-0.1		0.0	0.3	62.4	0.0	0.0	0.0	62.4
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Leq-1hour dB(A) Leq-1hour 64.0 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	39.92	-43.0	-1.0	0.0	-0.1		0.0	0.2	64.0	0.0	0.0	0.0	64.0
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Leq-1hour dB(A) Leq-1hour 64.6 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	40.41	-43.1	-0.1	0.0	-0.1		0.0	0.0	64.6	0.0	0.0	0.0	64.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Leq-1hour dB(A) Leq-1hour 64.6 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	41.10	-43.3	0.0	0.0	-0.1		0.0	0.0	64.6	0.0	0.0	0.0	64.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Leq-1hour dB(A) Leq-1hour 64.4 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	41.96	-43.4	0.0	0.0	-0.1		0.0	0.0	64.4	0.0	0.0	0.0	64.4
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Leq-1hour dB(A) Leq-1hour 64.2 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	43.00	-43.7	0.0	0.0	-0.1		0.0	0.0	64.2	0.0	0.0	0.0	64.2
Receiver Peninsula Pines Apartments Fl G Leq-1hour dB(A) Leq-1hour 49.9 dB(A)																						
Area	Leq-1hour			79.7	104.9	332.6	0.0	0.0	3	134.73	-53.6	-4.4	0.0	-0.3		0.0	0.2	49.9	0.0	0.0	0.0	49.9

Mean propagation Leq - Paving

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr	
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)	
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	69.16	-47.8	-0.5	-2.0	-0.1		0.0	0.8	78.9	0.0	0.0	0.0	78.9	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	27.27	-39.7	0.0	-0.2	-0.1		0.0	0.7	79.5	0.0	0.0	0.0	79.5	
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Leq-1hour dB(A) Leq-1hour 82.2 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	70.13	-47.9	-0.3	-1.6	-0.1		0.0	0.8	79.3	0.0	0.0	0.0	79.3	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	28.89	-40.2	0.0	-0.2	-0.1		0.0	0.7	79.1	0.0	0.0	0.0	79.1	
Receiver Peninsula Pines Apartments Fl G Leq-1hour dB(A) Leq-1hour 72.2 dB(A)																							
Area	Leq-1hour			90.3	125.5	3278.7	0.0	0.0	3	114.85	-52.2	-4.2	-0.1	-0.2		0.0	0.2	71.9	0.0	0.0	0.0	71.9	
Area	Leq-1hour			90.3	115.8	353.3	0.0	0.0	3	140.32	-53.9	-4.4	-0.1	-0.3		0.0	0.6	60.7	0.0	0.0	0.0	60.7	

APPENDIX C

Construction Vibration Data Spreadsheets

Meridian Consultants LLC

INOB: South San Francisco
Construction Vibration Model
(Site 1)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Caisson drilling		1	0.089	25	0.089	0.022	87
Jackhammer		1	0.035	25	0.035	0.009	79
Large bulldozer		1	0.089	25	0.089	0.022	87
Loaded trucks		1	0.076	25	0.076	0.019	86
Pile Drive (impact)		1	0.644	25	0.644	0.161	104
Vibratory Roller		1	0.210	25	0.210	0.053	94
Small bulldozer		1	0.003	25	0.003	0.001	58

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment**

APPENDIX D

SoundPLAN Output Sheets (Operational)

Mean propagation Leq - Operational

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)
Receiver Deluxe Inn Motel Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 11.8 dB(A) Leq,n 8.7 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	71.85	-48.1	-2.5	-15.9	-0.2		0.0	1.5	8.1	0.0	-1.0	0.0	7.1
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	71.85	-48.1	-2.5	-15.9	-0.2		0.0	1.5	8.1	0.0	-4.1	0.0	4.0
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	61.53	-46.8	-2.5	-15.4	-0.1		0.0	1.7	6.1	0.0	-1.0	0.0	5.1
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	61.53	-46.8	-2.5	-15.4	-0.1		0.0	1.7	6.1	0.0	-4.1	0.0	2.0
Point	Leq,d			65.0	65.0		0.0	0.0	3	109.77	-51.8	-4.5	-12.6	-0.2		0.0	2.3	1.3	0.0	-1.0	0.0	0.3
Point	Leq,n			65.0	65.0		0.0	0.0	3	109.77	-51.8	-4.5	-12.6	-0.2		0.0	2.3	1.3	0.0	-4.1	0.0	-2.8
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	64.36	-47.2	-2.5	-17.0	-0.2		0.0	4.4	4.5	0.0	-1.0	0.0	3.5
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	64.36	-47.2	-2.5	-17.0	-0.2		0.0	4.4	4.5	0.0	-4.1	0.0	0.4
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	63.54	-47.1	-2.5	-17.2	-0.2		0.0	3.9	4.6	0.0	-1.0	0.0	3.6
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	63.54	-47.1	-2.5	-17.2	-0.2		0.0	3.9	4.6	0.0	-4.1	0.0	0.5
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	102.17	-51.2	-4.5	-12.9	-0.2		0.0	2.2	1.5	0.0	-1.0	0.0	0.5
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	102.17	-51.2	-4.5	-12.9	-0.2		0.0	2.2	1.5	0.0	-4.1	0.0	-2.6
Receiver Fairway Apartments Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 7.9 dB(A) Leq,n 4.7 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	176.86	-55.9	-2.9	-8.8	-0.9		0.0	2.4	7.1	0.0	-1.0	0.0	6.2
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	176.86	-55.9	-2.9	-8.8	-0.9		0.0	2.4	7.1	0.0	-4.1	0.0	3.0
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	196.05	-56.8	-2.9	-12.6	-0.4		0.0	1.7	-1.8	0.0	-1.0	0.0	-2.8
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	196.05	-56.8	-2.9	-12.6	-0.4		0.0	1.7	-1.8	0.0	-4.1	0.0	-5.9
Point	Leq,d			65.0	65.0		0.0	0.0	3	175.71	-55.9	-4.5	-15.1	-0.3		0.0	1.2	-6.6	0.0	-1.0	0.0	-7.6
Point	Leq,n			65.0	65.0		0.0	0.0	3	175.71	-55.9	-4.5	-15.1	-0.3		0.0	1.2	-6.6	0.0	-4.1	0.0	-10.7
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	164.68	-55.3	-2.9	-12.0	-0.3		0.0	2.2	-1.5	0.0	-1.0	0.0	-2.4
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	164.68	-55.3	-2.9	-12.0	-0.3		0.0	2.2	-1.5	0.0	-4.1	0.0	-5.6
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	166.31	-55.4	-2.9	-12.0	-0.3		0.0	2.3	-0.7	0.0	-1.0	0.0	-1.7
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	166.31	-55.4	-2.9	-12.0	-0.3		0.0	2.3	-0.7	0.0	-4.1	0.0	-4.8
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	170.20	-55.6	-4.5	-19.5	-0.3		0.0	0.0	-11.9	0.0	-1.0	0.0	-12.8
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	170.20	-55.6	-4.5	-19.5	-0.3		0.0	0.0	-11.9	0.0	-4.1	0.0	-16.0
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 27.6 dB(A) Leq,n 24.5 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	49.10	-44.8	-2.1	-1.5	-0.4		0.0	1.4	25.9	0.0	-1.0	0.0	24.9
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	49.10	-44.8	-2.1	-1.5	-0.4		0.0	1.4	25.9	0.0	-4.1	0.0	21.8
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	90.69	-50.1	-2.7	-0.4	-1.0		0.0	0.0	15.0	0.0	-1.0	0.0	14.0
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	90.69	-50.1	-2.7	-0.4	-1.0		0.0	0.0	15.0	0.0	-4.1	0.0	10.9
Point	Leq,d			65.0	65.0		0.0	0.0	3	39.34	-42.9	-2.8	0.0	-0.1		0.0	0.0	22.3	0.0	-1.0	0.0	21.3

Mean propagation Leq - Truck Deliveries

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)
Receiver Deluxe Inn Motel Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 2.9 dB(A) Leq,n 9.1 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	89.62	-50.0	-1.2	-20.2	-0.9		0.0	4.0	11.7	0.0	-8.8	0.0	2.9
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	89.62	-50.0	-1.2	-20.2	-0.9		0.0	4.0	11.7	0.0	-2.6	0.0	9.1
Receiver Fairway Apartments Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d -2.7 dB(A) Leq,n 3.5 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	160.42	-55.1	-1.3	-17.0	-1.2		0.0	0.7	6.1	0.0	-8.8	0.0	-2.7
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	160.42	-55.1	-1.3	-17.0	-1.2		0.0	0.7	6.1	0.0	-2.6	0.0	3.5
Receiver Multi-family Residential to the North - NEW SSF Condos Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 15.0 dB(A) Leq,n 21.2 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	54.76	-45.8	-1.1	-8.0	-1.6		0.0	0.1	23.7	0.0	-8.8	0.0	15.0
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	54.76	-45.8	-1.1	-8.0	-1.6		0.0	0.1	23.7	0.0	-2.6	0.0	21.2
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Lr,lim dB(A) Lr,lim dB(A) Leq,d 15.2 dB(A) Leq,n 21.4 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	54.95	-45.8	-1.1	-7.9	-1.5		0.0	0.3	23.9	0.0	-8.8	0.0	15.2
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	54.95	-45.8	-1.1	-7.9	-1.5		0.0	0.3	23.9	0.0	-2.6	0.0	21.4
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Lr,lim dB(A) Lr,lim dB(A) Leq,d 16.2 dB(A) Leq,n 22.4 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	55.29	-45.8	-1.1	-7.7	-1.5		0.0	1.0	25.0	0.0	-8.8	0.0	16.2
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	55.29	-45.8	-1.1	-7.7	-1.5		0.0	1.0	25.0	0.0	-2.6	0.0	22.4
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Lr,lim dB(A) Lr,lim dB(A) Leq,d 16.9 dB(A) Leq,n 23.1 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	55.76	-45.9	-1.1	-7.6	-1.5		0.0	1.6	25.6	0.0	-8.8	0.0	16.9
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	55.76	-45.9	-1.1	-7.6	-1.5		0.0	1.6	25.6	0.0	-2.6	0.0	23.1
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Lr,lim dB(A) Lr,lim dB(A) Leq,d 17.4 dB(A) Leq,n 23.6 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	56.37	-46.0	-1.1	-7.3	-1.5		0.0	1.9	26.1	0.0	-8.8	0.0	17.4
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	56.37	-46.0	-1.1	-7.3	-1.5		0.0	1.9	26.1	0.0	-2.6	0.0	23.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Lr,lim dB(A) Lr,lim dB(A) Leq,d 17.3 dB(A) Leq,n 23.5 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	57.10	-46.1	-1.1	-6.6	-1.5		0.0	1.2	26.0	0.0	-8.8	0.0	17.3
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	57.10	-46.1	-1.1	-6.6	-1.5		0.0	1.2	26.0	0.0	-2.6	0.0	23.5
Receiver Peninsula Pines Apartments Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 14.8 dB(A) Leq,n 21.0 dB(A)																						
Line	Leq,d			65.6	80.0	27.9	0.0	0.0	0	123.96	-52.9	-1.3	0.0	-3.1		0.0	0.8	23.6	0.0	-8.8	0.0	14.8
Line	Leq,n			65.6	80.0	27.9	0.0	0.0	0	123.96	-52.9	-1.3	0.0	-3.1		0.0	0.8	23.6	0.0	-2.6	0.0	21.0

Mean propagation Leq - Operational

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)
Point	Leq,n			65.0	65.0		0.0	0.0	3	39.34	-42.9	-2.8	0.0	-0.1		0.0	0.0	22.3	0.0	-4.1	0.0	18.2
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	73.87	-48.4	-2.6	-10.2	-0.4		0.0	0.4	5.7	0.0	-1.0	0.0	4.7
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	73.87	-48.4	-2.6	-10.2	-0.4		0.0	0.4	5.7	0.0	-4.1	0.0	1.6
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	72.78	-48.2	-2.6	-5.2	-0.7		0.0	0.1	11.0	0.0	-1.0	0.0	10.1
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	72.78	-48.2	-2.6	-5.2	-0.7		0.0	0.1	11.0	0.0	-4.1	0.0	6.9
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	43.40	-43.7	-3.1	-0.2	-0.1		0.0	0.0	20.9	0.0	-1.0	0.0	19.9
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	43.40	-43.7	-3.1	-0.2	-0.1		0.0	0.0	20.9	0.0	-4.1	0.0	16.8
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F2 Lr,lim dB(A) Lr,lim dB(A) Leq,d 28.4 dB(A) Leq,n 25.3 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	49.53	-44.9	-2.0	-1.4	-0.4		0.0	1.4	25.9	0.0	-1.0	0.0	24.9
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	49.53	-44.9	-2.0	-1.4	-0.4		0.0	1.4	25.9	0.0	-4.1	0.0	21.8
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	90.85	-50.2	-2.7	-0.3	-1.0		0.0	0.1	15.1	0.0	-1.0	0.0	14.1
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	90.85	-50.2	-2.7	-0.3	-1.0		0.0	0.1	15.1	0.0	-4.1	0.0	11.0
Point	Leq,d			65.0	65.0		0.0	0.0	3	39.64	-43.0	-1.0	0.0	-0.1		0.0	0.0	23.9	0.0	-1.0	0.0	23.0
Point	Leq,n			65.0	65.0		0.0	0.0	3	39.64	-43.0	-1.0	0.0	-0.1		0.0	0.0	23.9	0.0	-4.1	0.0	19.8
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	74.02	-48.4	-2.6	-9.2	-0.3		0.0	1.0	7.3	0.0	-1.0	0.0	6.3
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	74.02	-48.4	-2.6	-9.2	-0.3		0.0	1.0	7.3	0.0	-4.1	0.0	3.2
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	72.94	-48.3	-2.5	-4.7	-0.7		0.0	0.4	11.8	0.0	-1.0	0.0	10.8
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	72.94	-48.3	-2.5	-4.7	-0.7		0.0	0.4	11.8	0.0	-4.1	0.0	7.7
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	43.64	-43.8	-1.6	-0.2	-0.1		0.0	0.0	22.4	0.0	-1.0	0.0	21.4
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	43.64	-43.8	-1.6	-0.2	-0.1		0.0	0.0	22.4	0.0	-4.1	0.0	18.3
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F3 Lr,lim dB(A) Lr,lim dB(A) Leq,d 29.1 dB(A) Leq,n 25.9 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	50.24	-45.0	-2.0	-1.1	-0.4		0.0	1.2	26.0	0.0	-1.0	0.0	25.0
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	50.24	-45.0	-2.0	-1.1	-0.4		0.0	1.2	26.0	0.0	-4.1	0.0	21.9
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	91.10	-50.2	-2.6	-0.2	-0.9		0.0	0.4	15.6	0.0	-1.0	0.0	14.6
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	91.10	-50.2	-2.6	-0.2	-0.9		0.0	0.4	15.6	0.0	-4.1	0.0	11.5
Point	Leq,d			65.0	65.0		0.0	0.0	3	40.13	-43.1	0.0	0.0	-0.1		0.0	0.0	24.8	0.0	-1.0	0.0	23.9
Point	Leq,n			65.0	65.0		0.0	0.0	3	40.13	-43.1	0.0	0.0	-0.1		0.0	0.0	24.8	0.0	-4.1	0.0	20.7
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	74.29	-48.4	-2.5	-6.7	-0.4		0.0	1.8	10.6	0.0	-1.0	0.0	9.6
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	74.29	-48.4	-2.5	-6.7	-0.4		0.0	1.8	10.6	0.0	-4.1	0.0	6.5
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	73.23	-48.3	-2.5	-4.0	-0.6		0.0	1.0	13.1	0.0	-1.0	0.0	12.1
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	73.23	-48.3	-2.5	-4.0	-0.6		0.0	1.0	13.1	0.0	-4.1	0.0	9.0
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	44.13	-43.9	-0.2	-0.2	-0.1		0.0	0.0	23.7	0.0	-1.0	0.0	22.7

Mean propagation Leq - Operational

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	44.13	-43.9	-0.2	-0.2	-0.1		0.0	0.0	23.7	0.0	-4.1	0.0	19.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F4 Lr,lim dB(A) Lr,lim dB(A) Leq,d 29.1 dB(A) Leq,n 26.0 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	51.20	-45.2	-2.0	-0.6	-0.5		0.0	1.1	26.1	0.0	-1.0	0.0	25.2
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	51.20	-45.2	-2.0	-0.6	-0.5		0.0	1.1	26.1	0.0	-4.1	0.0	22.0
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	91.44	-50.2	-2.6	-0.2	-0.9		0.0	0.5	15.7	0.0	-1.0	0.0	14.8
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	91.44	-50.2	-2.6	-0.2	-0.9		0.0	0.5	15.7	0.0	-4.1	0.0	11.6
Point	Leq,d			65.0	65.0		0.0	0.0	3	40.81	-43.2	0.0	0.0	-0.1		0.0	0.0	24.7	0.0	-1.0	0.0	23.7
Point	Leq,n			65.0	65.0		0.0	0.0	3	40.81	-43.2	0.0	0.0	-0.1		0.0	0.0	24.7	0.0	-4.1	0.0	20.6
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	74.67	-48.5	-2.5	-4.9	-0.5		0.0	1.8	12.3	0.0	-1.0	0.0	11.4
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	74.67	-48.5	-2.5	-4.9	-0.5		0.0	1.8	12.3	0.0	-4.1	0.0	8.2
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	73.64	-48.3	-2.4	-3.4	-0.7		0.0	1.2	14.0	0.0	-1.0	0.0	13.0
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	73.64	-48.3	-2.4	-3.4	-0.7		0.0	1.2	14.0	0.0	-4.1	0.0	9.8
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	44.75	-44.0	0.0	-0.2	-0.1		0.0	0.0	23.7	0.0	-1.0	0.0	22.8
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	44.75	-44.0	0.0	-0.2	-0.1		0.0	0.0	23.7	0.0	-4.1	0.0	19.6
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F5 Lr,lim dB(A) Lr,lim dB(A) Leq,d 29.1 dB(A) Leq,n 26.0 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	52.39	-45.4	-2.0	-0.3	-0.5		0.0	1.0	26.2	0.0	-1.0	0.0	25.2
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	52.39	-45.4	-2.0	-0.3	-0.5		0.0	1.0	26.2	0.0	-4.1	0.0	22.1
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	91.88	-50.3	-2.6	0.0	-1.0		0.0	0.5	15.8	0.0	-1.0	0.0	14.9
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	91.88	-50.3	-2.6	0.0	-1.0		0.0	0.5	15.8	0.0	-4.1	0.0	11.7
Point	Leq,d			65.0	65.0		0.0	0.0	3	41.66	-43.4	0.0	0.0	-0.1		0.0	0.0	24.5	0.0	-1.0	0.0	23.5
Point	Leq,n			65.0	65.0		0.0	0.0	3	41.66	-43.4	0.0	0.0	-0.1		0.0	0.0	24.5	0.0	-4.1	0.0	20.4
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	75.17	-48.5	-2.5	-3.5	-0.7		0.0	1.7	13.4	0.0	-1.0	0.0	12.4
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	75.17	-48.5	-2.5	-3.5	-0.7		0.0	1.7	13.4	0.0	-4.1	0.0	9.3
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	74.17	-48.4	-2.4	-2.8	-0.8		0.0	1.3	14.5	0.0	-1.0	0.0	13.5
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	74.17	-48.4	-2.4	-2.8	-0.8		0.0	1.3	14.5	0.0	-4.1	0.0	10.4
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	45.55	-44.2	0.0	-0.2	-0.1		0.0	0.0	23.6	0.0	-1.0	0.0	22.6
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	45.55	-44.2	0.0	-0.2	-0.1		0.0	0.0	23.6	0.0	-4.1	0.0	19.5
Receiver Multi-family Residential to the North - NEW SSF Condos Fl F6 Lr,lim dB(A) Lr,lim dB(A) Leq,d 28.9 dB(A) Leq,n 25.8 dB(A)																						
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	53.78	-45.6	-2.0	-0.2	-0.5		0.0	1.0	25.9	0.0	-1.0	0.0	25.0
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	53.78	-45.6	-2.0	-0.2	-0.5		0.0	1.0	25.9	0.0	-4.1	0.0	21.8
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	92.40	-50.3	-2.6	0.0	-1.0		0.0	0.5	15.8	0.0	-1.0	0.0	14.8
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	92.40	-50.3	-2.6	0.0	-1.0		0.0	0.5	15.8	0.0	-4.1	0.0	11.6

INOB SF

Mean propagation Leq - Operational

Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	DO	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	Cmet	dLw	ZR	Lr	
		dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)	
Point	Leq,d			65.0	65.0		0.0	0.0	3	42.68	-43.6	0.0	0.0	-0.1		0.0	0.0	24.3	0.0	-1.0	0.0	23.3	
Point	Leq,n			65.0	65.0		0.0	0.0	3	42.68	-43.6	0.0	0.0	-0.1		0.0	0.0	24.3	0.0	-4.1	0.0	20.2	
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	75.77	-48.6	-2.5	-2.1	-0.8		0.0	1.2	14.1	0.0	-1.0	0.0	13.1	
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	75.77	-48.6	-2.5	-2.1	-0.8		0.0	1.2	14.1	0.0	-4.1	0.0	10.0	
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	74.80	-48.5	-2.4	-2.2	-0.8		0.0	1.1	14.8	0.0	-1.0	0.0	13.8	
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	74.80	-48.5	-2.4	-2.2	-0.8		0.0	1.1	14.8	0.0	-4.1	0.0	10.7	
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	46.50	-44.3	0.0	-0.2	-0.1		0.0	0.0	23.4	0.0	-1.0	0.0	22.4	
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	46.50	-44.3	0.0	-0.2	-0.1		0.0	0.0	23.4	0.0	-4.1	0.0	19.3	
Receiver Peninsula Pines Apartments Fl G Lr,lim dB(A) Lr,lim dB(A) Leq,d 20.9 dB(A) Leq,n 17.8 dB(A)																							
Line	Leq,d			51.0	73.3	167.6	0.0	0.0	0	104.89	-51.4	-2.8	-0.6	-1.0		0.0	0.3	17.7	0.0	-1.0	0.0	16.7	
Line	Leq,n			51.0	73.3	167.6	0.0	0.0	0	104.89	-51.4	-2.8	-0.6	-1.0		0.0	0.3	17.7	0.0	-4.1	0.0	13.6	
Line	Leq,d			51.0	69.1	64.9	0.0	0.0	0	95.35	-50.6	-2.8	0.0	-1.0		0.0	0.2	15.0	0.0	-1.0	0.0	14.0	
Line	Leq,n			51.0	69.1	64.9	0.0	0.0	0	95.35	-50.6	-2.8	0.0	-1.0		0.0	0.2	15.0	0.0	-4.1	0.0	10.9	
Point	Leq,d			65.0	65.0		0.0	0.0	3	114.06	-52.1	-4.2	0.0	-0.2		0.0	1.6	13.0	0.0	-1.0	0.0	12.1	
Point	Leq,n			65.0	65.0		0.0	0.0	3	114.06	-52.1	-4.2	0.0	-0.2		0.0	1.6	13.0	0.0	-4.1	0.0	8.9	
Line	Leq,d			47.0	66.9	96.9	0.0	0.0	0	122.17	-52.7	-2.8	-0.2	-1.2		0.0	0.9	10.7	0.0	-1.0	0.0	9.7	
Line	Leq,n			47.0	66.9	96.9	0.0	0.0	0	122.17	-52.7	-2.8	-0.2	-1.2		0.0	0.9	10.7	0.0	-4.1	0.0	6.6	
Line	Leq,d			47.0	67.6	114.0	0.0	0.0	0	120.40	-52.6	-2.8	-0.2	-1.2		0.0	0.9	11.6	0.0	-1.0	0.0	10.6	
Line	Leq,n			47.0	67.6	114.0	0.0	0.0	0	120.40	-52.6	-2.8	-0.2	-1.2		0.0	0.9	11.6	0.0	-4.1	0.0	7.5	
Area	Leq,d			47.6	65.0	55.5	0.0	0.0	3	117.54	-52.4	-4.3	0.0	-0.2		0.0	1.5	12.7	0.0	-1.0	0.0	11.7	
Area	Leq,n			47.6	65.0	55.5	0.0	0.0	3	117.54	-52.4	-4.3	0.0	-0.2		0.0	1.5	12.7	0.0	-4.1	0.0	8.6	