

**NOISE IMPACT ANALYSIS**  
**VALLEY BOULEVARD MULTI-FAMILY RESIDENTIAL PROJECT**  
**CITY OF EL MONTE, CALIFORNIA**

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Date:

April 24, 2019

Project No.: P18-038 N

## NOISE SETTING

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally considered to be unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The decibel (dB) scale is used to quantify sound pressure levels. Although decibels are most commonly associated with sound, "dB" is a generic descriptor that is equal to ten times the logarithmic ratio of any physical parameter versus some reference quantity. For sound, the reference level is the faintest sound detectable by a young person with good auditory acuity.

Since the human ear is not equally sensitive to all sound frequencies within the entire auditory spectrum, human response is factored into sound descriptions by weighting sounds within the range of maximum human sensitivity more heavily in a process called "A-weighting," written as dB(A). Any further reference in this discussion to decibels written as "dB" should be understood to be A-weighted.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called LEQ), or alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Ldn (day-night) or the Community Noise Equivalent Level (CNEL). The CNEL metric has gradually replaced the Ldn factor, but the two descriptors are essentially identical.

CNEL-based standards are generally applied to transportation-related sources because local jurisdictions are pre-empted from exercising direct noise control over vehicles on public streets, aircraft, trains, etc. The City of El Monte therefore regulates the noise exposure of the receiving property through land use controls.

For "stationary" noise sources, or noise sources emanating from private property, such as a parking structure, the City does have legal authority to establish noise performance standards designed to not adversely impact adjoining uses. These standards are typically articulated in the jurisdictional Municipal Code. These standards recognize the varying noise sensitivity of both transmitting and receiving land uses. The property line noise performance standards are normally structured according to land use and time-of-day.

## **NOISE COMPATIBILITY GUIDELINES**

### **Noise Compatibility Guidelines**

The City of El Monte considers noise compatibility standards in evaluating land use projects. A proposed land use must be shown to be compatible with the ambient noise environment, particularly for noise sources over which direct City control is preempted by other agencies. Such sources include vehicle traffic on public streets, aircraft or trains. Since the City cannot regulate the noise level from the source, it exercises its land use decision authority to ensure that noise/land use incompatibility is minimized.

As shown in Figure 1, community noise exposures are recommended as normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable for various classes of land use sensitivity. The City of El Monte guidelines consider an exterior noise exposure of less than 60 dB CNEL in usable outdoor space for residential uses as “normally acceptable” and noise levels of up to 70 dB CNEL are considered “conditionally acceptable” and may be permitted if noise mitigation is included in the design. CNEL-based standards apply to usable outdoor recreational space at backyards, patios or balconies. Interior exposures of noise-sensitive uses are controlled through adequate structural attenuation.

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) for multiple family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in any residential use, included single-family dwelling units. Since normal noise attenuation within commercial structures with closed dual paned windows is 30 dB, an exterior noise exposure of 75 dB CNEL allows the interior standard to be met without any specialized structural attenuation, but with closed windows and fresh air supply systems or air conditioning in order to maintain a comfortable living environment.

**Figure 1**  
**City of El Monte Noise Compatibility Guidelines**

| Land Use                                                  | Community Noise Exposure (Ldn or CNEL) |    |    |    |    |    |
|-----------------------------------------------------------|----------------------------------------|----|----|----|----|----|
|                                                           | 55                                     | 60 | 65 | 70 | 75 | 80 |
| Residential                                               |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Transient Lodging – Motel, Hotel                          |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Schools, Libraries, Churches, Hospitals, Nursing Homes    |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Auditoriums, Concert Halls, Amphitheaters <sup>1</sup>    |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Sports Arena, Outdoor Spectator Sports <sup>1</sup>       |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Playgrounds, Parks                                        |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Golf Course, Riding Stables, Water Recreation, Cemeteries |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Office Buildings, Business Commercial, and Professional   |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
| Industrial, Manufacturing, Utilities, Agriculture         |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |
|                                                           |                                        |    |    |    |    |    |

Source: Modified by Cotton/Bridges/Associates from 1998 State of California General Plan Guidelines.



**Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.



**Conditionally Acceptable:** New construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the project design.



**Normally Unacceptable:** New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.



**Clearly Unacceptable:** New construction or development clearly should not be undertaken.

## NOISE STANDARDS

For noise generated on one property affecting an adjacent use, the City of El Monte limits the amount of noise crossing the boundary between the two uses. For regulated on-site sources of noise generation, the El Monte noise ordinance prescribes limits that are considered an acceptable exposure for residential uses in proximity to regulated noise sources. The  $L_{50}$  metric used in the El Monte noise ordinance is the level exceeded 50% of the measurement period of thirty minutes in an hour. One-half of all readings may exceed this average standard with larger excursions from the average allowed for progressively shorter periods. The larger the deviation, the shorter the allowed duration up to a never-to-exceed 20 dB increase above the 50<sup>th</sup> percentile standard. Nighttime noise levels limits are reduced by 5 dB to reflect the increased sensitivity to noise occurring during that time period.

The City  $L_{50}$  noise standard is 65 dB during the day (7 a.m. – 10 p.m.), and 60 dB at night (10 p.m. – 7 a.m.). These noise standards are shown in Table 1. The Municipal Code also states that if a residential use is located within a commercial or industrial zone, the ambient noise level shall not exceed fifty (50) dBA between the hours of ten p.m. and seven a.m. For this project the neighboring uses such as the McDonalds restaurant will be held to more stringent standards for residential uses at the project site.

Development of the project parcel places potential noise limits upon remaining commercial uses. However, freeway proximity and background noise levels could be higher than the noise standards. However, a determination of the McDonalds restaurant as an offending noise source is likely not possible. As subsequently discussed, this “new” constraint is not anticipated to be a significant source of impact.

Jurisdictions typically allow for a relaxation of standards if baseline noise levels already exceed the Table 1 values. If the ambient noise level is greater than the identified noise standards, the noise standard becomes the ambient noise level without the offending noise.

The Ordinance also restricts hours of construction to hours of lesser noise sensitivity with heavy equipment to operate only from 6 a.m. to 7 p.m. during the week and on 8 a.m. to 7 p.m. on Saturdays and Sundays. Construction is not permitted on Federal Holidays.

**Table 1**  
**EL MONTE NOISE ORDINANCE LIMITS**  
**(Exterior Noise Level not to be Exceeded)**

| Zone          | Day 7:00 a.m. to 10:00 p.m. | Night 10:00 p.m. to 7:00 a.m. |
|---------------|-----------------------------|-------------------------------|
| Single-family | 50 dBA                      | 45 dBA                        |
| Multifamily   | 55 dBA                      | 50 dBA                        |
| Commercial    | 65 dBA                      | 60 dBA                        |
| Industrial    | 70 dBA                      | 70 dBA                        |

Source: El Monte Municipal Code Section 8.36.040

The not to exceed value for these standards is as follows:

- 1) The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or
- 2) The noise standard plus five (5) dB(A) for a cumulative period of more than five (5) but less than fifteen (15) minutes in any hour; or
- 3) The noise standard plus ten (10) dB(A) for a cumulative period of more than one (1) but less than five (5) minutes in any hour; or
- 4) The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one (1) minute in any hour

## BASELINE NOISE LEVELS

A short-term on-site noise measurement was made in order to document the existing baseline level in the project area. This helps to serve as a basis for projecting future noise exposure from the project upon the surrounding community and noise from the community on the project. Noise measurements were made on Tuesday, April 23, 2019 at approximately 1:15 pm at the locations shown in Figure 1 and summarized below.

**Measured Noise Levels (dBA)**  
**April 23, 2019**

| Measured Noise Levels   | Leq | Lmax | Lmin |
|-------------------------|-----|------|------|
| Meter 1.-Near McDonalds | 57  | 74   | 51   |
| Meter 2-Near La Madera  | 55  | 65   | 45   |

Monitoring experience shows that 24-hour weighted CNELs can be reasonably well estimated from mid-afternoon hour noise readings. CNELs are approximately equal to afternoon hour Leq plus 2-3 dB (Caltrans Technical Noise Supplement, 2009).

Noise Meter 1 is representative of noise levels along the project perimeter closest to Valley Boulevard, the I-10 freeway and the McDonalds restaurant. At approximately 100 feet from the Valley Boulevard centerline, existing noise levels are expected to be approximately 59-60 dBA CNEL. With limited additional traffic volume growth, future traffic noise levels may increase. However, decibels are a logarithmic progression. If all activity levels were to increase by +25%, future noise levels would only increase by +1 dB. Such an increase is imperceptible to human ears. Future project site noise levels will be almost indistinguishable from currently measured levels. Levels near 70 dB CNEL in any usable residential outdoor space would exceed General Plan Noise Element Standards but are readily mitigated by standard design features.

The project site is 550 feet from the I-10 centerline. The freeway is elevated and there are intervening structures between the freeway and the project site, such that on-site noise is well within thresholds for residential development.

**Figure 2**  
**Noise Meter Location**



# NOISE IMPACTS

## IMPACT SIGNIFICANCE CRITERIA

Noise impacts are considered significant if:

1. They create violations of noise standards, or,
2. They substantially worsen an already excessive noise environment, or,
3. They substantially increase an existing quiet environment even if noise standards are not violated by the proposed action.

Three characteristic noise sources are typically identified with land use intensification such as that proposed for the development of the Valley Boulevard Multi-Family Residential Project. Construction activities, especially heavy equipment, will create short-term noise increases near the project site. Such impacts would be important for any nearby noise-sensitive receptors, such as any existing residential uses. Upon completion, project-related traffic will cause an incremental increase in area-wide noise levels throughout the project area. Traffic noise impacts are generally analyzed both to ensure that the project does not adversely impact the acoustic environment of the surrounding community, as well as to ensure that the project site is not exposed to an unacceptable level of noise resulting from the ambient noise environment acting on the project. Finally, the project analysis needs to examine noise from the proposed uses upon sensitive uses.

According to the current CEQA Appendix G guidelines, noise impacts are considered potentially significant if they cause:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Noise levels exceeding the City of El Monte Noise Standards would be considered significant.
- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

CEQA Guidelines also identify potential impact significance due to aircraft noise. There are no airports in very close proximity to the site where aircraft noise would be an issue.

The term "substantial increase" is not defined by any responsible agency. The limits of perceptibility by ambient grade instrumentation (sound meters) or by humans in a laboratory environment is around

+1.5 dB. Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a +3 dB difference. A threshold of +3 dB is commonly used to define "substantial increase." An increase of +3 dBA CNEL in traffic noise would be consistent a significant impact.

## **SENSITIVE RECEPTORS**

The closest sensitive use to the project site is the residential uses to the south. The closest project structure will have a 15-foot setback to the southern property line. The setback will be comprised of paved surfaces. The closest existing residence (not including garages) is 25 feet south of the shared property line. Therefore, the closest sensitive use is 25 feet from paving activities and 40 feet from any building construction activities.

## **CONSTRUCTION NOISE IMPACTS**

Temporary construction noise impacts vary markedly because the noise strength of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated by large, earth-moving equipment sources for demolition and grading. During construction and paving, equipment is generally less noisy.

In 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model that includes a national database of construction equipment reference noise emissions levels. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power during a construction phase. The usage factor is a key input variable that is used to calculate the average Leq noise levels.

Table 2 identifies the highest (Lmax) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptor and the extent of equipment usage (usage factor), which is represented as Leq. The table is organized by construction activity and equipment associated with each activity

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (Leq) at distance D between the source and receiver (dBA):

$$Leq = L_{max} @ 50' - 20 \log (D/50') + 10 \log (U.F\%/100) - I.L.(bar)$$

Where:

Lmax @ 50' is the published reference noise level at 50 feet

U.F.% is the usage factor for full power operation per hour

I.L.(bar) is the insertion loss for intervening barriers

For a construction project such as the proposed project, the construction fleet could include equipment such as shown in Table 2. Table 2 describes the noise level for each individual piece of equipment.

**Table 2**  
**Construction Equipment Noise Levels**

| Phase Name            | Equipment      | Usage Factor <sup>1</sup> | Measured Noise @ 50 feet (dB) | Cumulative Noise Level @ 50 feet (dB)) |
|-----------------------|----------------|---------------------------|-------------------------------|----------------------------------------|
| Demolition            | Dozer          | 40%                       | 82                            | 78                                     |
|                       | Concrete Saw   | 20%                       | 90                            | 84                                     |
|                       | Loader/Backhoe | 37%                       | 78                            | 74                                     |
| Grading               | Grader         | 40%                       | 85                            | 81                                     |
|                       | Dozer          | 40%                       | 82                            | 78                                     |
|                       | Loader/Backhoe | 37%                       | 78                            | 74                                     |
| Building Construction | Forklift       | 20%                       | 75                            | 68                                     |
|                       | Gen Set        | 50%                       | 81                            | 78                                     |
|                       | Loader/Backhoe | 37%                       | 78                            | 74                                     |
|                       | Crane          | 16%                       | 81                            | 73                                     |
|                       | Welder         | 46%                       | 74                            | 71                                     |
| Paving                | Paver          | 50%                       | 77                            | 74                                     |
|                       | Paving Equip   | 40%                       | 76                            | 72                                     |
|                       | Roller         | 38%                       | 80                            | 76                                     |

Source: FHWA's Roadway Construction Noise Model, 2006

<sup>1</sup>Estimates the fraction of time each piece of equipment is operating at full power during a construction operation

The highest noise levels generated by project construction activities would typically range from about 75 to 90 dBA Lmax at a distance of 50 feet from the noise source. Typical hourly average construction generated noise levels are about 68 dBA to 84 dBA Leq measured at a distance of 50 feet from the source. Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors. The potential for construction-related noise to adversely affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors.

### **On-site Demolition**

There is little demolition involved for this project though demolition activities generally require use of the noisiest construction equipment. The probable equipment fleet is backhoes, a dozer, and a concrete saw. Demolition debris will be hauled off site. At a distance of 25 feet to the closest residential use the noisiest piece of demolition equipment, a concrete saw, could generate noise levels of 90 dBA Leq. However, only asphalt will be demolished close to any existing use and machinery will not operate for a significant length of time in proximity to any sensitive use.

### **On-Site Grading**

Grading is anticipated to occur over 6 days. After demolition and clearing, grading equipment will generate the most noise. Like demolition, operation of heavy equipment at the nearest property line could create noise levels of up to 90 dBA at the closest building façade. Interior noise levels would be approximately 25 dBA lower assuming closed windows. Although noise levels would be

noticeable, they would be temporary and occur only when heavy equipment operates at the closest property line.

### **Building Construction**

Construction activities would require smaller, less noisy equipment than demolition and grading but would require a longer duration. At the closest residents with a 40 foot setback distance construction noise levels could be as high as 80 dBA Leq.

Although construction activities will be noticeable at the closest sensitive use, construction activities would only occur during the day when most people are away from their home and end before the more sensitive evening and nighttime hours. In addition, most construction equipment will not operate at the closest property line and will decrease at a rate of 6 dBA per doubling of distance. If the proposed 6-foot block wall at the property line is installed prior to construction activities commence noise levels will be considerably less.

Construction noise is mitigated by construction by compliance to the allowable hours of operation of 6 a.m. to 7 p.m. during the week and on 8 a.m. to 7 p.m. on Saturdays and Sundays. Construction is not permitted on Federal Holidays. The temporary nature of construction noise and reasonable distance set-back from noisiest activities are expected to maintain short-term construction noise impacts at less-than-significant levels.

### **CONSTRUCTION ACTIVITY VIBRATION**

Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the “soft” sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

Vibration is most commonly expressed in terms of the root mean square (RMS) velocity of a vibrating object. RMS velocities are expressed in units of vibration decibels. The range of vibration decibels (VdB) is as follows:

|         |   |                                    |
|---------|---|------------------------------------|
| 65 VdB  | - | threshold of human perception      |
| 72 VdB  | - | annoyance due to frequent events   |
| 80 VdB  | - | annoyance due to infrequent events |
| 100 VdB | - | minor cosmetic damage              |

To determine potential impacts of the project’s construction activities, estimates of vibration levels induced by the construction equipment at various distances are presented below:

|                  | <b>Approximate Vibration Levels (VdB)*</b> |                |                |                 |
|------------------|--------------------------------------------|----------------|----------------|-----------------|
| <b>Equipment</b> | <b>25 feet</b>                             | <b>40 feet</b> | <b>50 feet</b> | <b>100 feet</b> |
| Large Bulldozer  | 87                                         | 83             | 81             | 75              |
| Loaded Truck     | 86                                         | 82             | 80             | 74              |
| Jackhammer       | 79                                         | 75             | 73             | 67              |
| Small Bulldozer  | 58                                         | 54             | 52             | 46              |

\* (FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, 1995)

The on-site construction equipment that will create the maximum potential vibration is a large bulldozer. The stated vibration source level in the FTA Handbook for such equipment is 87 VdB at 25 feet from the source. The closest residence is 25 feet from the shared property line. Although less than the damage threshold it is within the annoyance threshold.

With typical vibrational energy spreading loss, the vibration annoyance standard second is met at 56 feet. Effects of vibration perception such as rattling windows could only occur at the nearest residential structures, though vibration resulting from project construction would not exceed cosmetic damage thresholds.

Large bulldozers will not likely operate directly at the shared property line with the perimeter homes. A landscape buffer followed by a parking area is planned closest to the south of the site adjacent to the residential uses. Regardless, any fine grading at the property line should be performed with small bulldozers which are seen above to have 30 VdB less vibration potential. Therefore, to ensure adequate vibration annoyance protection the following mitigation measure is recommended:

- Only small bulldozers shall be permitted to operate within 56 feet of the nearest residential structures.

Construction activity vibration impacts are judged as less-than-significant.

## **OFF-SITE PROJECT-RELATED VEHICULAR NOISE IMPACTS**

Long-term noise concerns from the residential and commercial uses at the project site can be derived from vehicular operations on project area roadways. These concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the Leq noise level for a reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

Table 3 summarizes the 24-hour CNEL level at 50 feet from the roadway centerline along area roadway segments. The noise analysis utilizes data from the project traffic analysis, prepared by the traffic consultant for this project. Two traffic years were evaluated; existing conditions (“with project” and “without project”), and future baseline year, (“with project” and “without project”).

As shown in Table 3, project implementation in the existing and baseline year does little to change the traffic noise environment. Because the area is mostly built out, addition of project traffic to area roadways does little to the traffic noise environment. The project area will experience limited traffic volume changes and the amount of traffic generated by the proposed project is diluted by significant background traffic volumes. The largest project related impact is +0.5 dBA CNEL at 50 feet from the La Madera Avenue centerline and most segments show no discernable impact. These increases are much less than the +3 dB significance threshold. Project only related traffic noise increases are less-than-significant.

**Table 3**  
**Traffic Noise Impact Analysis**  
**(dBA CNEL at 50 feet from centerline)**

| <b>Segment</b>                      | <b>Existing no Project</b> | <b>Existing with Project</b> | <b>Baseline no Project</b> | <b>Baseline with Project</b> |
|-------------------------------------|----------------------------|------------------------------|----------------------------|------------------------------|
| Valley Blvd/ Meeker Ave and Peck Rd | 69.1                       | 69.2                         | 69.4                       | 69.4                         |
| W of Site                           | 70.0                       | 70.1                         | 70.2                       | 70.3                         |
| E of Mountain View                  | 69.1                       | 69.1                         | 69.3                       | 69.3                         |
| Garvey Ave/ S of Meeker Ave         | 67.8                       | 67.8                         | 68.3                       | 68.3                         |
| N of Cogswell Rd                    | 66.6                       | 66.6                         | 67.1                       | 67.1                         |
| Mtn View Rd/ Garvey-Valley Blvd     | 64.4                       | 64.4                         | 64.6                       | 64.6                         |
| La Madera Ave/ Asher-Valley Blvd    | 55.5                       | 56.0                         | 55.7                       | 56.2                         |
| Peck Road/ Concert St-Meeker Ave    | 69.1                       | 69.1                         | 69.4                       | 69.4                         |
| N of Valley Blvd                    | 70.6                       | 70.6                         | 70.8                       | 70.8                         |

**Project Impact**  
**(dBA CNEL at 50 feet from centerline)**

| <b>Segment</b>                      | <b>Project Impact Existing</b> | <b>Project Impact Baseline Year</b> |
|-------------------------------------|--------------------------------|-------------------------------------|
| Valley Blvd/ Meeker Ave and Peck Rd | 0.1                            | 0.0                                 |
| W of Site                           | 0.1                            | 0.1                                 |
| E of Mountain View                  | 0.0                            | 0.0                                 |
| Garvey Ave/ S of Meeker Ave         | 0.0                            | 0.0                                 |
| N of Cogswell Rd                    | 0.0                            | 0.0                                 |
| Mtn View Rd/ Garvey-Valley Blvd     | 0.0                            | 0.0                                 |
| La Madera Ave/ Asher-Valley Blvd    | 0.5                            | 0.5                                 |
| Peck Road/ Concert St-Meeker Ave    | 0.0                            | 0.0                                 |
| N of Valley Blvd                    | 0.0                            | 0.0                                 |

## ON-SITE VEHICULAR NOISE IMPACTS

Although the City of El Monte guidelines allows exterior noise levels of up to 70 dB CNEL, a noise level of 65 dB is the level at which ambient noise begins to interfere with one's ability to carry on a normal conversation at reasonable separation without raising one's voice. A noise exposure of 65 dB

CNEL is often the exterior noise land use compatibility guideline for new residential dwellings in California.

Valley Boulevard abuts the project site on the northeast. The future with project traffic noise along Valley Boulevard is expected to be less than 70 dB CNEL at 50 feet from centerline such that proximity is not considered a siting constraint for residential use. There are balconies facing Valley Boulevard. However, the balconies are recessed into the buildings such that both sides are blocked by the building itself. Because the directional traffic noise at the balconies is reduced, a -3 dBA CNEL reduction can be taken for the design.

The closest Valley Boulevard building façade has a 55-60 foot setback from the Valley Boulevard centerline. Noise levels for balcony use are expected to be around 61 dB CNEL at build out without taking into account the -3 dBA reduction for side shielding. No mitigation to meet the exterior noise compatibility threshold is required.

Recreational uses at the project site may be also considered to be common space. These common areas are located either indoors or interior to the complex such as the garden, tot-lot, clubhouse, theater and spa. Most jurisdictions do not require noise protection for individual recreational space if noise-protected common space is provided, which is the case with this project.

The interior residential noise standard is 45 dB CNEL. For typical wood-framed construction with stucco and gypsum board wall assemblies, the exterior to interior noise level reduction is as follows:

Partly open windows – 12 dB

Closed single-paned windows – 20 dB

Closed dual-paned windows – 30 dB

Use of dual-paned windows is required by the California Building Code (CBC) for energy conservation in new residential construction.

Interior standards will be met as long as residents have the option to close their windows. Where window closure is needed to shut out noise, supplemental ventilation is required by the CBC with some specified gradation of fresh air. Central air conditioning or a fresh air inlet on a whole house fan would meet this requirement.

## CONCLUSIONS

Project-related off-site traffic noise changes on existing streets are less than significant.

Traffic noise from Valley Boulevard will not exceed City standards for outdoor recreational balcony/deck space fronting the roadway. Balconies are recessed so that they are noise protected on three sides. Recreational space may be also be common outdoor space (the garden, tot lot, clubhouse and podium deck) sited in the interior of the complex. This area is noise protected by the perimeter structures such that noise levels are expected to be well within the 65 dB CNEL contour.

Habitable residential interior space will be adequately noise protected to achieve 45 dB with only the ability to close windows at perimeter units. Where window closure is needed for policy compliance, supplemental fresh air ventilation will be provided at rates specified in the California Building Code.

Short-term construction noise intrusion shall be mitigated by compliance with the City of El Monte Noise Ordinance. The allowed hours of construction are from 6 a.m. to 7 p.m. Monday through Friday and 8 a.m. to 7 p.m. on Saturdays and Sundays. Construction nuisance noise at the nearest sensitive use is nevertheless minimized by the following suggested conditions:

- All equipment shall be equipped with properly operating and maintained mufflers.
- Equipment and materials shall be staged in areas that will create the greatest distance between construction-related noise sources and the noise-sensitive receptors nearest the project site during all project construction.
- All construction-related activities shall be restricted to the construction hours outlined in the City's Noise Ordinance.

To ensure adequate vibration annoyance protection the following mitigation measure is recommended:

- Only small bulldozers shall be permitted to operate within 56 feet of the nearest project structures.