

1210 California Circle

Milpitas, California

Draft Environmental Noise Assessment

7 August 2014

Prepared For:

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CSA Project No. 14-0405

INTRODUCTION

This report summarizes our environmental noise assessment for the residential project located at 1210 California Circle in Milpitas, California. The purpose of this study is to quantify the noise environment at the site, compare it with City goals for indoor and outdoor noise, and propose preliminary noise mitigation measures as needed.

Following is a summary of our findings:

1. Incorporating sound-rated windows and doors into the exterior building facades of selected units will reduce interior noise levels to City standards. Preliminary estimates suggest that sound insulation ratings up to approximately STC 32 will be needed in residences along California Circle.
2. Since windows will need to be closed to meet the interior noise criterion, residences should include mechanical ventilation systems.
3. Estimated future traffic noise is in the range of DNL 61 to 65 dB in the two common open spaces in the eastern and southern portion of the site. This falls into the City's *normally acceptable* land use category for exterior noise levels in residential projects.
4. The Milpitas Municipal Code does not identify specific noise levels that are acceptable for mechanical equipment. If air conditioning systems or other outdoor mechanical equipment is used, noise levels should be considered when selecting and locating equipment.

DESCRIPTION

The project consists of 149, three-story attached residences (see Figure 1, attached). Outdoor use space will consist of two shared open space areas in the eastern portion of the site, and private decks. The 9.5-acre site is located east of Interstate 880 (I-880) and various commercial businesses across California Circle. It is south and west of existing residences across Penitencia Creek, and north of existing office buildings. Dixon Landing Road is approximately 1/2 mile to the north. The site is generally flat.

APPLICABLE CRITERIA

City of Milpitas General Plan

The Noise section of the Milpitas General Plan contains land use compatibility guidelines for environmental noise in the community. Noise levels are characterized in terms of Day/Night Average Sound Levels (DNL)¹. Table 1, below, summarizes these guidelines for multi-family residential land uses. The bulleted items summarize additional policies outlined in the General Plan.

¹ Day/Night Average Sound Level (DNL) — A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm - 7 am) to account for the increased sensitivity of people during sleeping hours.

Table 1: Summary of Table 6-1 – Land Use Compatibility for Community Noise Environments

Exterior DNL	Single-Family Detached Residential Compatibility Level
65 dB ² or less	<i>Normally Acceptable:</i> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
60 to 70 dB	<i>Conditionally Acceptable:</i> New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
70 to 75 dB	<i>Normally Unacceptable:</i> New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

- Policy 6-I-4 prompts the use of mitigation measures to reduce sound levels in rear yards and common open space to “acceptable” levels when environmental noise levels exceed the *normally acceptable* level.
- Policy 6-I-5 defines DNL 45 dB as the interior noise level criterion for residences, and requires the incorporation of mechanical ventilation where the “use of windows for ventilation will result in higher than DNL 45 dB interior noise levels”.

City of Milpitas Municipal Code

Chapter 213 of the Milpitas Municipal Code prohibits the generation of *disturbing noise* on residentially zoned properties during nighttime hours between 10:00pm and 7:00am. Disturbing noise is defined as “...any sound or vibration caused by sound which occurs with such intensity, frequency or in such a manner as to disturb the peace and quiet of any person.”

ENVIRONMENTAL NOISE

Noise from vehicle traffic on I-880 and California Circle dominate environmental noise at the site. To quantify the existing noise environment, three long-term monitors continuously measured noise levels between 15 and 17 July 2014. In addition, short-term “spot” measurements were conducted and compared with corresponding time periods of the long-term monitors to determine how noise levels vary at different elevations. Table 2 summarizes existing noise levels at the site. Figure 1, attached, shows the approximate measurement locations.

² A-Weighted Sound Level (dBA) — A term for the A-Weighted sound pressure level. The sound level is obtained by use of a standard sound level meter and is expressed in decibels.

Table 2: Existing Noise Environment

Site	Location	Date / Time	DNL
LT-1	Northwest Site Monitor Approx. 60' east of California Circle centerline Approx. 12' elevation	15 to 17 July 2014	67 dB ³
LT-2	Southeast Site Monitor Approx. 65' north of California Circle centerline Approx. 12' elevation		63 dB ³
LT-3	Northeast Site Monitor Approx. 720' east of California Circle centerline Approx. 12' elevation		59 dB
ST-1	Northwest Site Spot Approx. 60' east of California Circle centerline Approx. 5' / 15' elevation	14:45 to 15:30 17 July 2014	64 / 66 dB
ST-2	Southwest Site Spot Approx. 50' north of California Circle centerline Approx. 5' / 15' elevation	15:00 to 15:45 17 July 2014	63 / 65 dB

The Draft Traffic Impact Analysis for the project, prepared by Hexagon Transportation Consultants and dated 22 July 2014, provides existing peak hour volumes for vehicles along California Circle. In addition, it provides both existing and projected future volumes for Dixon Landing Road.⁴ Along Dixon Landing Road, peak hour traffic volumes are projected to increase by approximately 4-percent per year to the year 2030. This corresponds with less than a 2-decibel increase in traffic noise over the next ten years. In the absence of projected future traffic volumes for California Circle and I-880, this assessment assumes a similar increase in environmental noise across the site. Estimated future noise levels are summarized on Figure 1, attached.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

As shown in Figure 1 (attached), estimated future noise levels range from DNL 61 dB along the eastern edge of the site to DNL 69 dB at the westernmost residences along California Circle. These levels fall into the *normally acceptable* and *conditionally acceptable* categories for land use compatibility. The project should incorporate mitigation measures to reduce indoor noise to DNL 45 dB. No mitigation measures are needed to reduce outdoor environmental noise levels to the DNL 65 dB goal in common outdoor use spaces. Consider the following:

³ Existing DNL listed has been adjusted to exclude the influence of specific high noise level events identified as landscaping activities.

⁴ The Transportation Impact Analysis indicates that projected 2030 traffic volumes for Dixon Landing Road are based on a cumulative study area including planned transportation improvements to Calaveras Boulevard, Montague Expressway, and McCarthy Boulevard.

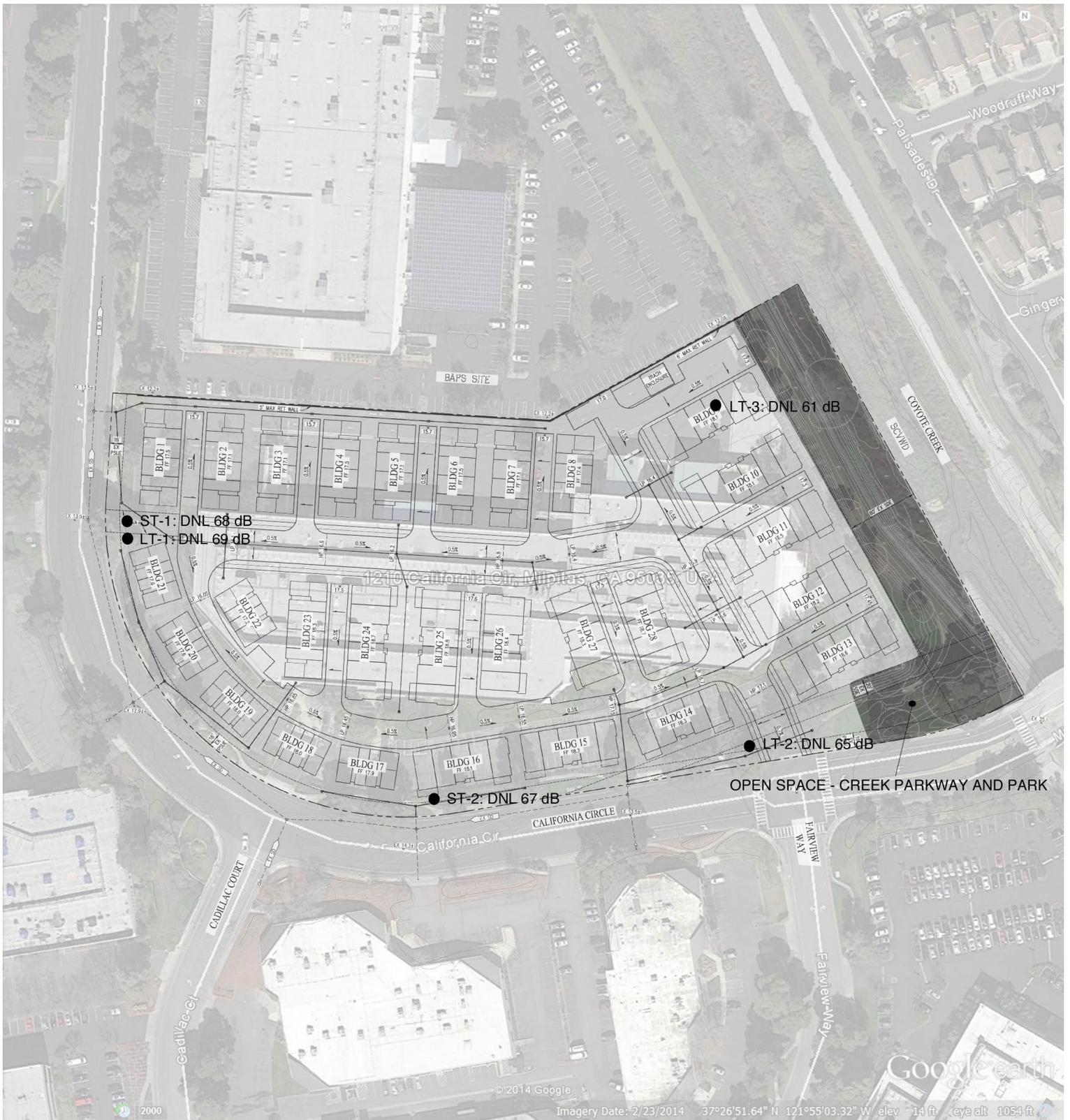
1. Based on floor plans dated 27 June 2014, preliminary estimates suggest that window and door sound insulation ratings up to approximately STC 32 will be needed at rooms directly along California Circle. Exterior windows and doors with STC ratings up to STC 28 are expected to be needed throughout the rest of the site.⁵ For reference, standard dual-pane construction-grade windows and sliding glass doors have sound insulation ratings in the range of STC 26 to 28. Specific details and sound insulation ratings must be determined during the design phase as floor plans and exterior elevations are finalized.
2. Since windows of residences will need to be closed to meet the interior DNL 45 dB criterion, houses should include mechanical ventilation systems. This should be discussed with the project mechanical engineer and must not compromise sound insulation of the exterior assemblies.
3. Noise levels in outdoor spaces will vary, depending on the location and orientation on site.
 - a. Common Space - The conceptual site plan includes a Creek Parkway along the eastern border of the site, as well as a community park in the southeastern corner of the site. Estimated future noise levels in these spaces will be between DNL 61 and 65 dB with shielding from the proposed buildings on-site. This falls into the City's *normally acceptable* category for residences.
 - b. Individual Decks - The General Plan does not provide a noise level goal for individual unit decks. For reference, estimated future noise levels at individual decks will be between DNL 61 and 69 dB, which are within the City's *conditionally acceptable* category for multi-family residences.

Mechanical Equipment (associated with the project)

Mechanical equipment associated with the project is expected to consist of residential air-conditioning units. While the Milpitas Municipal Code does not identify specific noise level limits, the project should consider noise levels at neighboring units when selecting and locating units. This should be considered during the design phase.

* * *

⁵ Preliminary estimates assume an exterior wall assembly similar to 3-coat stucco over wood sheathing with insulation in stud cavities and at least one layer of gypsum board on the interior.



● INDICATES APPROXIMATE NOISE MEASUREMENT LOCATION
 NOTE: DRAWING PROVIDED BY OTHERS; NO SCALE

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2010 CALIFORNIA CIRCLE, MILPITAS, CA NOISE MEASUREMENT LOCATIONS AND FUTURE NOISE LEVELS

FIGURE 1

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 JMR