APPENDIX IA

GREEN VALLEY 3 APARTMENTS PROJECT
LAND USE COMPATIBILITY ASSESSMENT FOR NOISE

In *California Building Industry Association v. Bay Area Air Quality Management District*, the Supreme Court of California ruled that "CEQA generally does not require an analysis of how existing environmental conditions will affect a project's future users or residents."[1] With this ruling, CEQA no longer considers the impact of the environment on a project to be an environmental impact, unless the project could exacerbate an existing environmental hazard. Therefore, an Environmental Impact Report (EIR) is not required to include an evaluation of whether the project would have the potential to expose project site residential receptors to excessive noise from existing noise sources near the project site, and such an analysis is not included the impact analysis below. However, the *City of Fairfield General Plan* requires that a noise analysis be completed for a residential project to ensure that the residents are not exposed to noise levels in excess of General Plan standards. To address this requirement, an analysis of noise levels that would be experienced in the exterior recreational areas, such as the swimming pool area, as well as inside the proposed apartments was conducted. This analysis, conducted by LSA in May 2022, is presented below.

LSA assessed the land use compatibility of the proposed project based on the noise standards under Policy HS 9.1 of the *City of Fairfield General Plan*. Outdoor and indoor living areas associated with the proposed project would be exposed to traffic noise from Green Valley Road, Business Center Drive, and I-80.

ON-SITE LAND-USE COMPATIBILITY DETERMINATION

Based on the noise monitoring data for the project site, as reflected in **Table IA.1** below, if a conservative assumption is made that traffic on adjacent streets will double between the existing year and buildout conditions and the existing ambient noise level of 61.8 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) at a distance of 420 feet from the Green Valley Road centerline is adjusted for the proposed project façade which would be at 340 feet from the roadway centerline, future noise levels at the proposed building façade facing Green Valley Road would approach 66.2 dBA CNEL. Future noise levels at the proposed building façade facing Business Center Drive have the potential to be lower due to the construction of a hotel on the parcel to the south, however, to be conservative, the maximum noise level of 66.2 dBA CNEL is assumed for each exterior facade.

[1] *Cal. Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386.

Table IA.1: Existing Noise Level Measurements

Location Number	Location Description	Daytime Noise Levels[1] (dBA L_{eq})	Nighttime Noise Levels[2] (dBA L_{eq})	Average Daily Noise Levels (dBA L_{dn})	Primary Noise Sources
LT-1	Northern property line, near the southwest corner of the rear yard at 515 Malvasia Court.	50.5 – 60.0	49.7 – 59.3	61.8	Traffic on Green Valley Road, Business Center Drive, I-80, Community Park, and Business Park activities
LT-2	Southern boundary of the project site, approximately 260 ft north of Business Center Drive.	48.7 – 55.9	47.1 – 54.6	58.2	Traffic on I-80, Green Valley Road, Business Center Drive, Business Park activities

Source: Compiled by LSA (February 2022).
[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
[2] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
dBA = A-weighted decibels
ft = foot/feet
I-80 = Interstate 80
L_{eq} = equivalent continuous sound level
L_{dn} = Day/Night Noise Level

Exterior Noise Levels

As stated in **Table IA.2** below, the desired exterior noise level for the residential uses is 60 dBA CNEL or less. While exterior noise levels of 66.2 dBA CNEL would exceed the desired level at the nearest building façade, the exterior sensitive areas for the proposed project are the proposed spa, pool, and outdoor areas east of the club house areas. However, these exterior areas would be located to the north of the Residence Inn hotel that is currently under construction and anticipated to be completed in spring 2023. Due to the reduction provided by the intervening hotel building, noise levels in the exterior areas would be reduced by a minimum of 10 dBA. The resulting noise levels in the exterior areas would be below 57 dBA CNEL and would comply with the City's exterior noise level standards.

Table IA.2: Maximum Allowable Noise Exposure to Ground Transportation Noise Sources

Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	60[3]	45	--
Transient lodging	60[3]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums, music halls	--	--	35

Table IA.2: Maximum Allowable Noise Exposure to Ground Transportation Noise Sources

Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq}, dB[2]
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

Source: *City of Fairfield, Fairfield General Plan* Health and Safety Element, Table HS-1, October 2004.

[1] Where the location of outdoor activity areas is unknown, the exterior noise-level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise-level reduction measures have been implemented and interior noise levels are in compliance with this table.

-- = not applicable
CNEL = Community Noise Equivalent Level
dB = decibel(s)
L_{dn} = day/night average noise level
L_{eq} = equivalent continuous sound level

Interior Noise Levels

As described above, the project must demonstrate compliance with the interior noise standards of 45 dBA CNEL for buildings in which people sleep. As noted above, exterior noise levels at the building façade facing Green Valley Road have the potential to approach 66.2 dBA CNEL, requiring a minimum reduction of 22 dBA to meet 45 dBA CNEL. Although the Residence Inn hotel building would serve to shield the apartments facing south from roadway and freeway noise, the apartments facing Green Valley Road would not be shielded. Therefore, an analysis of likely interior noise levels was completed for the proposed project to confirm that the interior noise levels would meet the City's interior noise standards for residential uses.

Based on a review of the architectural plans for the proposed project, the noise sensitive rooms would have air conditioning; therefore, the interior noise assessment assumes a windows-and-doors-closed condition. INSUL, a software program for predicting interior noise environments from wall construction and window selections, was used to assess a standard exterior-to-interior noise level reduction for the proposed project. The following are the details of a standard wall assembly, which would have a Sound Transmission Class (STC) rating of 41, are as follows:

- 7/8-inch stucco exterior
- Single layer of 5/8-inch plywood

- 2-inch by 6-inch wood studs, 16 inches off center, filled with a minimum of 3.5-inch thick fiberglass insulation

- Single layer of 5/8-inch Type-X gypsum board

At this time, the specific window supplier has yet to be chosen; therefore, this information references Milgard Windows for comparison purposes. Utilizing a window with a STC rating of 29, the INSUL model indicates that a reduction of approximately 26.5 dBA can be expected.[2] With a reduction of at least 26.5 dBA, interior level would be approximately 40.5 dBA L_{dn} and would be below the City's interior 45 dBA L_{dn} standard. It is recommended that all exterior windows and sliding glass doors have a minimum STC rating of 29 throughout the proposed project.

[2] Milgard Windows. 2018. Sound Transmission Loss Tests. Various Reports.