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Sent: Tuesday, April 23, 2019 5:54 PM
To: Range, Jessica (CPC); Hsiao, Alesia (CPC); Thomas, Christopher (CPC)
Cc: Poling, Jeanie (CPC)
Subject: Daytime Construction Question

Hi Noise Team, Chris and I had a call with Chris Sanchez on the Balboa Park EIR today, and a question came up about our daytime noise construction methodology. Below is the proposed methodology in the noise substantial evidence document, and Chris and I's proposed approach.

Approach

Daytime Construction Noise Evaluation

Because the noise ordinance does not include a combined construction equipment noise standard and does not establish a noise limit for impact tools and equipment meeting certain requirements, compliance with the noise ordinance may not necessarily be sufficient to ensure that a project's construction noise would not result in a substantial temporary increase in ambient noise levels for projects requiring preparation of a noise study. For these projects, construction noise (including noise from impact equipment) should be evaluated by comparing noise levels that would be generated by project construction according to the Federal Transit Administration guidelines, further discussed in Appendix A. The analysis should include:

1. Comparing the noise level resulting from simultaneous operation of the two loudest pieces of equipment^[1] (including impact equipment) with the Federal Transit Administration's general construction assessment criterion of 90 dBA 1-hour Leq at the nearest noise sensitive receptor^[2]; and
2. Determining if the noise level resulting from the simultaneous operation of the two loudest pieces of equipment (including impact equipment) would be greater than 10 dBA above the background noise level at sensitive receptor locations when the ambient noise level is greater than 65 dB Ldn.

If the noise level in one hour from the two noisiest pieces of simultaneously operating equipment exceeds 90 dBA at a residential land use (or other noise sensitive receptors), then there may be an adverse reaction.^[3] The methodology for this evaluation includes a multiplier referred to as a utilization factor that accounts for how often that equipment is used. The utilization factor is based on Federal Transit Administration methodology and reflects the fact that most equipment is generally used intermittently, reducing its noise levels over the course of a workday.^[4]

In addition, consistent with the Federal Transit Administration's guidelines, in areas with very high ambient noise levels (where the Ldn is greater than 65 dB) noise analyses should evaluate the simultaneous operation of the two loudest pieces of equipment^[5] to determine whether construction noise levels would exceed 10 dB above the existing ambient noise level at sensitive receptor locations.^[6] As discussed previously, a 10 dB increase above the ambient noise level would represent perceived doubling of loudness.

Question

The area surrounding the project site has ambient noise levels of around 55-63 dBA and is surrounded on three sides by sensitive receptors (residences and a high school), and therefore does not fall within the 65dBA noise impacted areas. Construction would increase noise levels to around 86-87 dBA, which is a 20-25 dBA increase above ambient noise levels for several months of the overall construction duration. Construction overall would take over 6 years. Chris and I think this may be a case where a qualitative discussion of the duration of construction and increase in ambient noise levels may warrant implementing noise mitigation measures even though it does not exceed the 90 dBA FTA threshold.

Thoughts? If people could provide Chris and I your thoughts by this Friday, I would be appreciate it and it would help Jeanie with the schedule.

Thanks noise team!!

Chelsea

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^[1] An alternative methodology to the evaluation of the two loudest pieces of proposed equipment, is an evaluation of the noise level from the use of all proposed equipment by phase. This alternative methodology evaluates the noise level from all pieces of equipment that may be used for each individual building phase, assuming they are all in use simultaneously.

^[2] Although this Federal Transit Administration standard is specifically applicable to residential receptors, this standard can be applied to other noise sensitive receptors including school students and hospital patients. For projects with the potential to affect sensitive wildlife species (i.e., nesting birds, marine mammals, or fish), different standards may be more appropriate, based on the specific species affected.

^[3] Federal Transit Administration, Office of Planning and Environment. 2006. *Transit Noise and Vibration Impact Assessment*, p. 12-7. FTA-VA-90-1003-06. Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf Accessed: August 9, 2018.

^[4] Ibid., p. 12-3.

^[5] An alternative methodology to the evaluation of the two loudest pieces of proposed equipment, is an evaluation of the noise level from the use of all proposed equipment by phase. This alternative methodology evaluates the noise level from all pieces of equipment that may be used for each individual building phase, assuming they are all in use simultaneously.

^[6] Federal Transit Administration, Office of Planning and Environment. 2006. *Transit Noise and Vibration Impact Assessment*, p. 12-7. FTA-VA-90-1003-06, p. 12-8. Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf Accessed: August 9, 2018.