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ATTN: MR. DEAN GOLDING

CHBP Hardware - Sample Calculation

This letter details the sample calculations for the noise impact assessment conducted into potential noise impacts from deliveries between the period of 6am to 7am and compliance with the relevant DECC INP sleep disturbance criteria.

Sample calculations of the potentially worst case noise level source associated with deliveries and resulting noise levels at the residential receiver approximately 70m from the site are detailed below:

The following is a sample calculation used to predict the noise level at the worst affected residential boundary surrounding the site.

1.	Noise source (Reversing alarm @ 7m):	75 dB(A) SPL L_{max}
2.	Distance correction to source (7m):	+25dB
3.	Distance correct to receiver (70m):	-45 dB
4.	Barrier correction for open fence (see site details below):	-5 dB
	Sleep disturbance noise criteria (Criteria 48 dB(A) L_1):	50 dB(A) L_{Max}

See notes below regarding potential for noise impact on sleep disturbance with the DECC INP.

Note that based on the short duration of the period of noise generated from the loading dock that the L_{eq} noise levels will comply with the detailed criteria within the Noise Impact Report when correcting for the noise level over a 15min period.

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Note that the noise barrier used in the calculations above is based on the fence/screen detailed on the architectural drawings as indicated in the figure below.

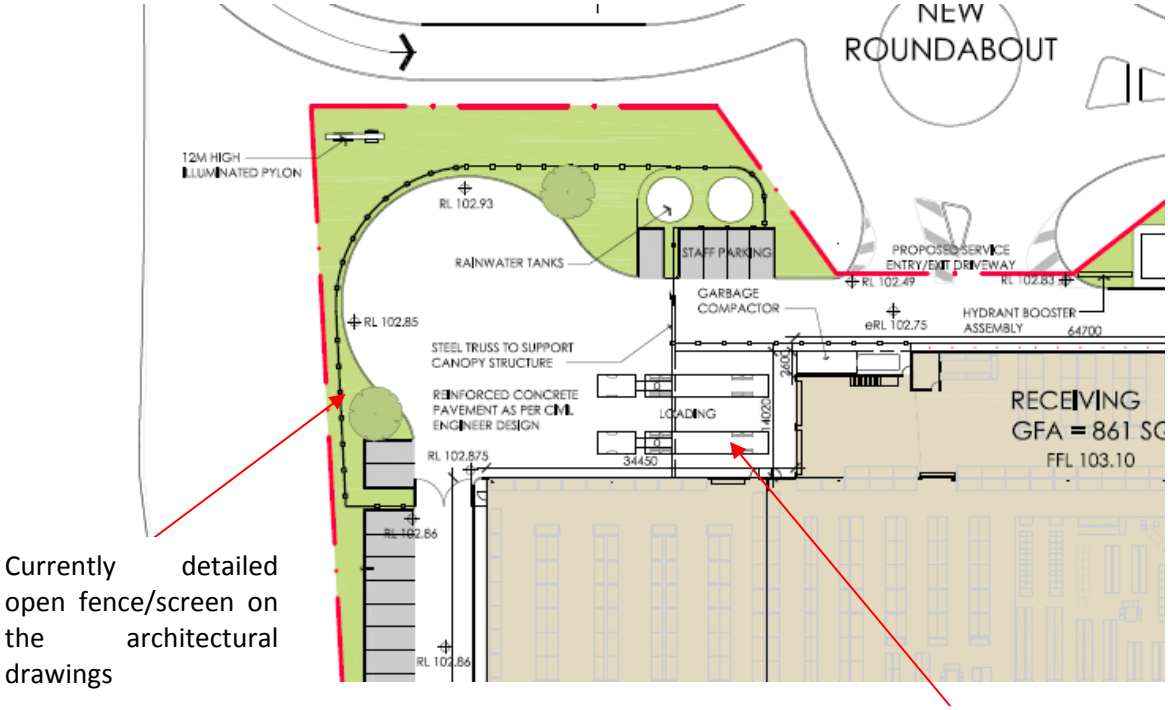

Figure 1 – Barrier location

Sleep arousal is a function of both the noise level and the number of noise events during the night time period.

The assessment of potential sleep arousal from the loading dock to surrounding receivers has been conducted in accordance with the methodology set out in the explanatory notes to the DECC Industrial Noise Policy. This assessment is a two stage process:

1. Firstly - an emergence test is carried out. That is, the L_1 noise level of any specific noise source should not exceed the background noise level (L_{90}) by more than 15dB(A) outside a resident's bedroom window. If the noise events are within this guideline, then sleep arousal impacts are unlikely and no further analysis is needed.

2. If there are noise events that could exceed the emergence level outlined above, then a detailed assessment of sleep arousal impact is required to be carried out taking into account the actual predicted noise level and the likely number of nose events in order to determine the likelihood of sleep disturbance. The DECC explanatory notes refer to the documents such as the DECC Environmental Criteria for Road Traffic Noise appendix B for analysis to correlate noise events with a probability of awakening.

The DECC Criteria for Road Traffic Noise Appendix B, Figure B2 – indicates that in the event of an internal noise level less than 55 dB(A) L_{Max} that there is a 0% probability of awakening.

Additionally the standard goes on to state the following:

"… that maximum internal noise levels below 50-55dB(A) are unlikely to cause awakening reactions, and that one or two noise events per night with maximum internal noise levels of 65-70 dB(A) are not likely to affect heath and wellbeing significantly."

Based on the results of the calculation into noise levels generated from the proposed loading dock area of the development and the sleep disturbance criteria detailed above it is has been concluded that there is a very low potential for sleep disturbance events impacting on all surrounding residential locations from activities within the loading dock.

In addition to the above it is noted that the proposed operating hours of the loading dock is 6am to 7am. As such the number of trucks being received during this time will be limited (approximately 2 during the classified night time hours). During this time noise generated from existing traffic movements on Camden Valley Way will be likely to generate a noise level at the residential receivers which is greater than that from the proposed loading dock.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

B.G.White.

Acoustic Logic Consultancy Pty Ltd
Ben White