

Environmental Health,  
Manchester City Council,  
Town Hall,  
Albert Square,  
Manchester,  
M2 5DB

23/01/2025

To Whom It May Concern,

**Caritas House – CMEV**

We understand that concerns have been raised with respect to ventilation and overheating in bedrooms of the Caritas House development at night, specifically with reference to the AVO guide.

A Level 1 Site Risk Assessment has been completed in accordance with the guidance within “Acoustic, ventilation and overheating<sup>1</sup>”. This guidance recommends an approach to acoustic assessments for new residential development that take regard of the interdependence of provisions for acoustics, ventilation, and overheating.

External ambient noise levels were recorded at 54 dB  $L_{Aeq,8hr}$  overnight at the site. This was approximately 1 m from the façade, correlating to approximately 51 dB  $L_{Aeq,8hr}$  incident noise level.

Comparing this noise level to Table 3-2 of the AVO guide (reproduced overleaf), it can be seen that night-time noise levels are between Low and Medium.

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<sup>1</sup> Association Of Noise Consultants And Institute Of Acoustics (January 2020) *Acoustics Ventilation And Overheating Residential Design Guide* V1.1

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**Table 3-2** Guidance for Level 1 site risk assessment of noise from transport noise sources <sup>[Note 1]</sup> relating to overheating condition

| Risk category for Level 1 assessment <sup>[Note 5]</sup>                                                                                                                                                                                 | Potential Effect without Mitigation                                                                                | Recommendation for Level 2 assessment |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <p><math>L_{Aeq,T}</math> (Note 3) during 07:00 - 23:00</p> <p><math>L_{Aeq,8hr}</math> during 23:00 - 07:00</p> <p>65 dB</p> <p>High</p> <p>60 dB</p> <p>Medium</p> <p>55 dB</p> <p>Low</p> <p>50 dB</p> <p>Negligible</p> <p>45 dB</p> | <p>Increasing risk of adverse effect</p>                                                                           | <p>Recommended</p> <p>Optional</p>    |
|                                                                                                                                                                                                                                          | <p>Use of opening windows as primary means of mitigating overheating is not likely to result in adverse effect</p> | <p>Not required</p>                   |

A Level 2 assessment would therefore be considered “Optional”. In addition overheating risks are mitigated by:

1. The site being located in Northern England (relatively lesser solar gains than more southern areas)
2. The presence of effective solar shading i.e. the windows are on north-facing façades and will only experience minimal direct sunlight

As a result, the risk category is either “Low” or reduced to “Low” due to mitigating factors and not a significant risk.

Internal ambient noise levels are mitigated to comply with BS 8233 criteria, and criteria laid out in Table 3-3 of the AVO guide (condensed overleaf).

**Table 3-3** Guidance for Level 2 assessment of noise from transport noise sources<sup>[Note 1]</sup> relating to overheating condition

| Internal ambient noise level <sup>[Note 2]</sup>                                  |                                      |                                                                                     | Examples of Outcomes <sup>[Note 5]</sup>                                   |                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $L_{Aeq,T}$ <sup>[Note 3]</sup><br>during<br>07:00 – 23:00<br><sup>[Note 6]</sup> | $L_{Aeq,8h}$ during<br>23:00 – 07:00 | Individual noise<br>events during<br>23:00 – 07:00<br><sup>[Note 4]</sup>           |                                                                            |                                                                                                                                                                                                                                                                                |
| ≤ 35 dB                                                                           | ≤ 30 dB                              | Do not<br>normally<br>exceed $L_{AF,max}$<br>45 dB more<br>than 10 times<br>a night | Noise can<br>be heard, but<br>does not cause<br>any change in<br>behaviour | Noise can be heard, but does not<br>cause any change in behaviour,<br>attitude, or other physiological<br>response <sup>[Note 9]</sup> . Can slightly affect the<br>acoustic character of the area but<br>not such that there is a perceived<br>change in the quality of life. |

With respect to  $L_{max}$  noise levels, Note 4 of Table 3-2 states:

*“Where 78dB  $L_{AF,max}$  is normally exceeded during the night-time period (23:00–07:00), a Level 2 assessment is recommended.”*

The 11<sup>th</sup> highest  $L_{AF,max}$  event recorded at the site was 73 dB, i.e. the  $L_{AF,max}$  level at the site does not normally exceed 78 dB. As before, removing the façade reflection would correlate to a typical  $L_{AF,max}$  noise level of 70 dB. As a result, the AVO guide does not recommend a Level 2 assessment to assess the  $L_{AF,max}$  noise level impact.

In summary, the bedrooms at the site are predicted, in the worst case, to be in the Low risk category. A detailed Level 2 AVO assessment would be considered Optional but is not required due to the relatively low noise levels externally and due to mitigating factors previously discussed. Additionally,  $L_{AF,max}$  noise levels are below the level at which a Level 2 AVO assessment would be recommended. Therefore, we would not consider CMEV (or any mechanical ventilation system) necessary for this site as the façade mounted trickle vents will appropriately control both noise and ventilation for overheating.

Yours Faithfully,



Jo Lacy  
Senior Acoustic Consultant