

ACOUSTIC TECHNICAL NOTE

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To:	Wates
From:	Toby Walton
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Project:	Abbey Area, Phase 3
Subject:	Acoustics, Ventilation & Overheating, Level 1 Assessment

1.0 AVO GUIDANCE (OVERHEATING)

The Acoustics, Ventilation and Overheating Residential Design Guide (AVO guidance) was published by the Association of Noise Consultants in January 2020. It is intended to provide guidance on the conflict between opening windows for ventilation and overheating and the associated increase in internal noise levels that inevitably occurs.

The principles of the AVO guidance are as follows:

- There are three conditions to consider – background ventilation, purge ventilation, and overheating;
- If open windows are relied upon for background ventilation, appropriate internal noise levels in line with the relevant standards need to be met with open windows.
- If alternative means of background ventilation are provided, appropriate internal noise levels should be met with closed windows;
- Opening windows for purge ventilation even in high noise areas is not considered problematic, as these are typically infrequent events of short duration (e.g. getting rid of paint fumes);
- Where opening windows are required to control overheating, typically a relaxed internal noise level can be adopted, although this depends on the extent of the overheating issue – what portions of the year overheating is expected to occur, and whether it occurs at night etc.

In general, the guidance promotes a two-stage approach, of carrying out an initial high level assessment for a proposed residential development site. If the first stage assessment indicates that noise could be an issue, a more detailed second assessment is then required.

“Level 1 is a site risk assessment based on external noise levels and the assumption that opening windows are the primary means of mitigating overheating. Based on the Level 1 indication of risk, a subsequent Level 2 assessment may be required.”

Referring to the measured external levels given in our Preliminary External Building Fabric report (9770.RP01.EBF.0.07012022.TW dated 7 January 2022, it is therefore considered that the risk of noise issues associated with opening windows at the proposed development site will generally be as follows:

Table 2 – Overheating Noise Impact Risk

Zone	Worst-case Average $L_{Aeq, period}$ Noise Level (dB)			
	Daytime (07:00 – 23:00)	Risk Category	Night-time (23:00 – 07:00)	Risk Category
Abbey Road Façade	64	Medium	57	High
Belsize Road Façade	60	Medium	55	High
Rear Facades	53	Low	46	Negligible

Clearly, the extent to which opening windows is considered a reasonable method of avoiding overheating is heavily dependent on how often occupants are required to do so.

A Level 2 Assessment is recommended to be undertaken to establish the resultant internal noise levels and the frequency and duration that which windows are required to be opened for rapid ventilation and overheating purposes (information required from the overheating assessor).