Date: 18th May 2026

MOUNT ROAD, GORTON
TECHNICAL NOTE ON NOISE FROM VENTILATION

1. INTRODUCTION

1.1. BACKGROUND & OBJECTIVES

Following discharge of application ref: CDN/26/0285 (27/04/2026) Kellen Homes are now seeking discharge of condition 18b in relation to phase 2. The following supporting documents have been submitted as part of this application:

- Post Completion Noise Testing and Verification Report - Plot 2, Plot 4, Plot 6, Plot 7, Plot 92, 93 and 94 ref: 50-710- R4-2 dated October 2025.
- Post Completion Noise Testing and Verification Report - Plots 95, 98, 99, 102 and 128 ref: 50-710- R2-1 dated October 2025.
- Post Completion Noise Testing and Verification Report - Plots 1, 12, 13,14, 15 and 16 and Plot 104 ref: 50-710- R5-1 dated November 2025.
- Post Completion Noise Testing and Verification Report - Plots 3, 5 and 96 ref: 50-710- R6-1 dated December 2025.

The only plots which are in phase 2 that require additional mitigation are plots 98, 99 and 128. These plots have been tested which validates that the noise mitigation measures have been implemented in accordance with the acousticians Noise Impact Assessment.

This note has been completed by Lee Faulkner, Associate Director at E3P and full corporate member of the Institute of Acoustics.

2. VENTILATION SYSTEM

E3P are in receipt of plans and information from Kellen Homes on the proposed ventilation system.

From the documentation, E3P note the following:

- Vent Axia NBR DMEV C 100/125 fan units in kitchens and bathrooms. It is noted that certain housetypes have an open plan living space and so these fans have the potential to be audible in living rooms.
- Vent Axia NBR Cool Unitary Fan in bedrooms, where required. These fans provide purge ventilation only to satisfy the requirements of Approved Document Part O and are not subject to measurement or assessment here.

The following noise level information is provided for each fan:

- NBR DMEV C 100 – Living room potential only – min flow = 7.4 dB(A) at 3 m, max flow at 34.3 dB(A) at 3 m – subject to Part F requirements, i.e. BS 8233 criterion.
- NBR DMEV C 125 – Living room potential only – min flow = 8.5 dB(A) at 3 m, max flow at 37.9 dB(A) at 3 m – subject to Part F requirements, i.e. BS 8233 criterion.

Given the above, a simple table is provided, for each room and system. For living rooms, the shortest distance from a NBR DEMV Fan to a living room is noted to be at least 4 m. Only two housetypes have this configuration (ADU1009 and Olive PRS). All other types have intervening walls.

Table 1 Consideration of Internal Noise Levels with Ventilation

ROOM	VENTILATION SYSTEM/FAN	EXPECTED NOISE LEVEL AT MAX FLOW, $L_{Aeq,T}$ (dB)	VENTILATION CONDITION	LIMIT (dB)	NOISE LEVELS BELOW LIMIT
Living Room	NBR DMEV C 100	32	Part F - Extract	35	Yes
	NBR DMEV C 125	35		35	Yes

No fans for ventilation purposes are provided within the bedrooms, only purge provision. However, E3P measured within the bedrooms without the purge fan active, with levels below 35 dB as noted in the sound test reports during daytime periods.

Additionally, daytime measurements were taken whilst the purge fan was active with uncorrected levels of 37-39 dB noted in the centre of the room at a height of 1.5 m. With corrections for reverberation within the room, due to the unfurnished bare plaster nature of the rooms, levels are corrected to 33-35 dB based on a reverberation time of 1.2 seconds for the unfurnished room and 0.4 seconds for a furnished room.

Additionally, daytime measurements were taken whilst the purge fan was active with uncorrected levels of 37-39 dB noted in the centre of the room at a height of 1.5 m. With corrections for reverberation within the room, due to the unfurnished bare plaster nature of the rooms, levels are corrected to 33-35 dB based on a reverberation time of 1.2 seconds for the unfurnished room and 0.4 seconds for a furnished room. Using data gathered with previous field tests, the operation of the purge fan at night, with lower external noise levels, would be closer to 30 dB following corrections.

As noted above, noise levels are expected to achieve or fall below the required noise level for all habitable rooms depending on the ventilation condition. Indeed, Building Regulations Approved Document Part F states:

> *For mechanical ventilation systems, fan units should be appropriately sized so that fans operating in normal background ventilation mode are not overly noisy. This might require fans to be sized so that they do not operate near maximum capacity when in normal background ventilation mode.*
>
> *1.7 Account should be taken of outside noise when considering whether openable windows are appropriate for purge ventilation.*
>
> *NOTE: Although there is no requirement to undertake noise testing, achieving the levels in the following guidance would ensure good acoustic conditions. The average A-weighted sound pressure level for a ventilator operating under normal conditions and not at boost rates should not exceed both of the following.*
>
> *a. 30dB $L_{Aeq,T}$* for noise-sensitive rooms (e.g. bedrooms and living rooms) when a continuous mechanical ventilation system is running on its minimum low rate.*
> *b. 45dB $L_{Aeq,T}$* in less noise-sensitive rooms (e.g. kitchens and bathrooms) when a continuous operation system is running at the minimum high rate or an intermittent operation system is running.*

As noted above, minimum flow rates, as required above, result in noise levels of no more than 9 dB at 3 m.

The requirement for purge vents in overheating conditions is not required to achieve the above criteria. The whole house ventilation system is shown to be acceptable via the internal sound tests.

Yours sincerely,
For and on behalf of E3P Ltd

Lee Faulkner
Associate Director