RS Acoustic Engineering

103 Kingswood Road, Manchester
Noise Validation Report

Project: No.103 Kingswood Road, Manchester (Noise Validation)

Client: Colin Comerford

Project Reference: RSA513A/2025

Report Date: 17 December 2025

Document History

Version	Date	Comments	Initials
1	17 December 2025	Issue for planning	RS / LT

Authorised by	Ryan Swales, BSc, MIOA Director & Principal Consultant
Signature	[redacted]

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party. Any such party relies on this report at their own risk.

© Report copyright of RS Acoustic Engineering Ltd

RS Acoustic Engineering Ltd
76 Marple Road
Stockport
SK2 5QH
Web: www.rsacoustic.co.uk
[redacted]

A company registered in England & Wales (No.07604309)
Corporate Member of the Institute of Acoustics (MIOA No.43109)

Contents

Section Page

1. Introduction 4

2. Acoustic Design Criteria 5

Manchester City Council Planning Conditions 5
British Standard 8233:2014: Guidance on sound insulation and noise reduction for buildings 5
World Health Organisation: Guidelines for community noise (1999) 6
Professional Practice Guidance on Planning & Noise (2017) 6

3. Internal Noise Survey 7

Survey methodology 7
Survey equipment 8
Measured indices 8
Results summary 9

4. Building Envelope Construction & Ventilation 11

5. Conclusion 13

List of Tables, Figures & Appendices

Table 2.1 - Indoor ambient noise levels for dwellings 5
Table 2.2 - ProPG internal noise level guidelines 6
Table 3.1 - Summary of measured ambient sound pressure levels, lounge/kitchen 9
Table 3.2 - Summary of measured ambient sound pressure levels, bedroom 9

Figure 3.1 - Ground floor layout showing survey measurement positions 7
Figure 3.2 - Photographs showing measurement rooms and survey equipment 8
Figure 3.3 - Graph showing measured ambient sound pressure levels, lounge/kitchen 10
Figure 3.4 - Graph showing measured ambient sound pressure levels, bedroom 10
Figure 4.1 - Photographs showing double glazing and trickle vents to front elevation 11
Figure 4.2 - Photographs showing previous rear door and new replacement door/glazing 11
Figure 4.3 - Photographs showing frame-mounted sound attenuating trickle vent 12

Appendix A - Floor layout and elevations 14
Appendix B - Assessment terminology 16

1. Introduction

1.1 RS Acoustic Engineering Ltd has been appointed by Colin Comerford to undertake a noise survey and provide a validation report regarding a new residential development at No.103 Kingswood Road, Manchester, M14 6RY.

1.2 The mid-terraced property has been recently refurbished at ground floor level to provide a single self-contained dwelling (apartment). There are dwellings either side of the property and a dwelling directly above at first floor level.

1.3 Manchester City Council granted prior approval for the proposed change of use in June 2025, subject to a number of conditions (ref: 142859/P3MAP/2025).

1.4 With regard to environmental noise and building envelope sound insulation, condition No.2a was discharged on the 03 September 2025.

1.5 With regard to internal noise and validation prior to first occupation, condition No.2b of the approval states:

2) b) Prior to first occupation of the residential accommodation hereby approved, a verification report shall be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that the internal noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the internal noise criteria.

1.6 A site visit was conducted on Friday 12th December 2025 to inspect the completed works and conduct internal noise monitoring within two habitable rooms. Continuous sound level monitoring was conducted within the lounge/kitchen on the front elevation and within the bedroom on the rear elevation.

1.7 The survey was conducted by Ryan Swales (BSc(Hons), MIOA), Principal Acoustic Consultant and Member of the Institute of Acoustics.

1.8 The results of the noise survey have been presented, along with a discussion of the results with respect to the relevant planning condition and acoustic performance targets.

2. Acoustic Design Criteria

Manchester City Council Planning Conditions

2.1 With regard to environmental noise and building envelope sound insulation, condition No.2a of the approval states:

2) a) Notwithstanding details submitted, prior to the residential accommodation hereby approved being occupied, a scheme for acoustically insulating the proposed residential accommodation against noise from Kingswood Road shall be submitted to and approved in writing by the City Council as Local Planning Authority.

2.2 Condition 2a was discharged on the 03 September 2025.

2.3 With regard to internal noise and validation prior to first occupation, condition No.2b of the approval states:

2) b) Prior to first occupation of the residential accommodation hereby approved, a verification report shall be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that the internal noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the internal noise criteria.

Reason - In order to safeguard the amenity of existing and future, pursuant to saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1, H1 and DM1 of the Manchester Core Strategy.

British Standard 8233:2014: Guidance on sound insulation and noise reduction for buildings

2.4 BS 8233 provides guidance regarding acoustic criteria and noise levels appropriate for various types of space that have different functions.

2.5 With regard to dwellings, appropriate internal ambient sound levels are given in Table 2.1 for bedrooms, living rooms and dining rooms. The guidelines take into consideration the effect of internal noise on sleep and also the effect of noise on resting, listening and communicating.

Table 2.1 - Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	---
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	---
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

2.6 BS 8233 (Note 7) also suggests that in some circumstances, it is appropriate to relax the indoor ambient noise level targets by up to 5 dB:

Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

World Health Organisation: Guidelines for community noise (1999)

2.7 The guidelines and corresponding sound level targets within this historical document corroborate those given within BS 8233:2014. The guideline values are to help avoid speech interference, annoyance and sleep disturbance within dwellings.

2.8 With regard to sleep disturbance and maximum L_{AFmax} sound levels, the study undertaken by Vallet & Vernet (1991) suggests that for good sleep, indoor sound pressure levels should not exceed approximately 45 dB L_{Amax} more than 10-15 times per night.

Professional Practice Guidance on Planning & Noise (2017)

2.9 Professional Practice Guidance on Planning and Noise (ProPG) has been produced in order to provide practitioners with guidance on a recommended approach to the management of noise within the planning system in England.

2.10 The NPPF encourages improved standards of design. This guidance document encourages better acoustic design for new residential development and aims to protect people from the harmful effects of noise.

2.11 The scope of ProPG is restricted to the consideration of new residential development that will be exposed predominantly to airborne noise from transportation sources.

2.12 The recommended ProPG internal noise level guidelines are presented in Table 2.2. The guidelines reflect and extend current practice contained within BS 8233:2014.

Table 2.2 - ProPG internal noise level guidelines

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	---
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	---
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$ 45 dB $L_{Amax,F}$

3. Internal Noise Survey

Survey methodology

3.1 Continuous sound level monitoring was conducted over a 43-hour period within the ground floor lounge/kitchen on the front elevation and within the ground floor bedroom on the rear elevation.

3.2 Measurements were conducted from 16:00 hours on Friday 12 through to 11:00 hours on Sunday 14 December 2025.

3.3 During the survey, all windows were closed and the trickle vents were fully open.

3.4 The survey measurement positions and habitable rooms are shown in Figure 3.1 and Figure 3.2 overleaf.

Figure 3.1 - Ground floor layout showing survey measurement positions

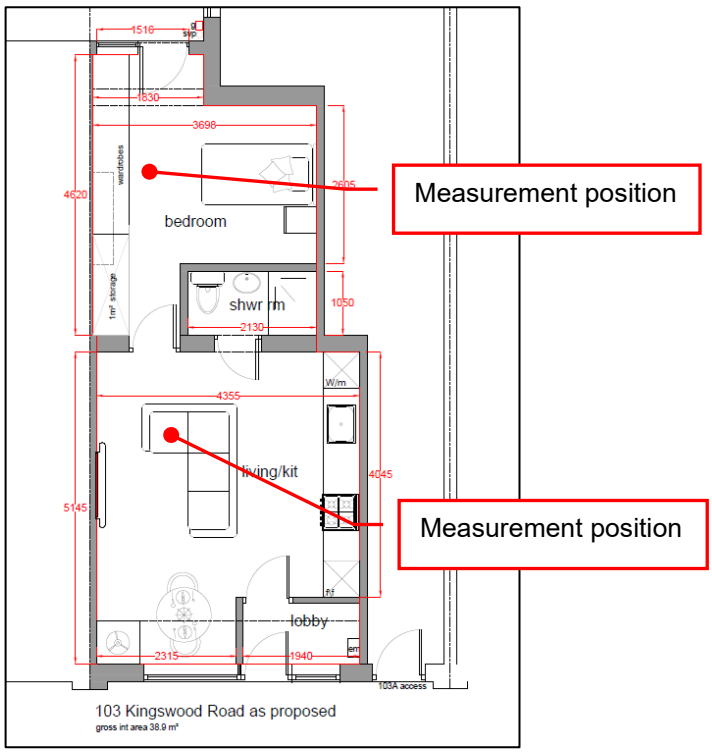


Figure 3.2 - Photographs showing measurement rooms and survey equipment

Survey equipment

3.5 The survey was conducted using the following Class-1 specification equipment:

- Brüel & Kjaer 2250 sound level meter, microphone type 4189, preamplifier type ZC0032.
- Brüel & Kjaer 2260 sound level meter, microphone type 4189, preamplifier type ZC0032.
- CEL-120/1 Acoustic calibrator.

3.6 Calibration of the sound level meter and microphone used for the measurements is traceable to a UKAS accredited laboratory.

3.7 The calibration of both sound level meter and microphone was checked using a 1 kHz tone at 94 dB prior to and following the measurements performed. Calibration drift was less than 0.1 dB.

Measured indices

3.8 Although a wide range of statistical sound level data was recorded during the survey, the L_{Aeq} and L_{AFmax} indices are of most interest in this instance:

- $L_{Aeq,T}$ - The A-weighted equivalent continuous sound pressure level over a period of time, T. Representative of the 'average' sound pressure level over a given period (commonly used to describe the 'ambient' sound level).
- $L_{AFmax,T}$ - The A-weighted 'maximum' sound pressure level that occurred during a given period, T (commonly used for the assessment of occasional loud noises).

3.9 Sound pressure level measurements are taken with an A-weighting (denoted by a subscript 'A', e.g. L_{Aeq}) to approximate the frequency response of the human ear.

3.10 Further information regarding the basic quantities used for the description of noise in community environments can be found within BS 7445-1:2003.

Results summary

3.11 Table 3.1 presents the measured ambient L_{Aeq} sound pressure levels for the lounge/kitchen on the front elevation. Measured values have been rounded to the nearest whole number.

Table 3.1 - Summary of measured ambient sound pressure levels, lounge/kitchen

Date	Period	Duration, T (hours)	$L_{Aeq,T}$ dB
Friday 12/12/2025	Daytime (16:00-23:00)	7	32
	Night-time (23:00-07:00)	8	30
Saturday 13/12/2025	Daytime (07:00-23:00)	16	35
	Night-time (23:00-07:00)	8	29
Sunday 14/12/2025	Daytime (07:00-11:00)	4	35

3.12 The daytime sound pressure level was approximately 35 dB $L_{Aeq,16hour}$ and the night-time sound pressure level was approximately 29 to 30 dB $L_{Aeq,8hour}$.

3.13 The daytime sound level target of 35 dB $L_{Aeq,16hour}$ has therefore been achieved within the lounge/kitchen on the front elevation.

3.14 There are no night-time noise targets for lounges/living rooms or dining rooms/kitchens. However, it is worth noting that the 30 dB $L_{Aeq,8hour}$ night-time target for bedrooms has also been achieved in this instance.

3.15 Table 3.2 presents the measured ambient L_{Aeq} and L_{Amax} sound pressure levels for the bedroom on the rear elevation. Measured values have been rounded to the nearest whole number.

Table 3.2 - Summary of measured ambient sound pressure levels, bedroom

Date	Period	Duration, T (hours)	$L_{Aeq,T}$ dB	10th highest[1] $L_{AFmax,T}$ dB
Friday 12/12/2025	Daytime (16:00-23:00)	7	35	---
	Night-time (23:00-07:00)	8	30	45
Saturday 13/12/2025	Daytime (07:00-23:00)	16	34	---
	Night-time (23:00-07:00)	8	28	45
Sunday 14/12/2025	Daytime (07:00-11:00)	4	29	---

[1]The 10th highest measured value (indoor sound levels should ideally not exceed 45 dB L_{Amax} more than 10-15 times per night within bedrooms) ---Daytime values are not presented since there is no daytime L_{AFmax} criterion.

3.16 The daytime sound pressure level was approximately 34 dB $L_{Aeq,16hour}$ and the night-time sound pressure level was approximately 28 to 30 dB $L_{Aeq,8hour}$.

3.17 The daytime sound level target of 35 dB $L_{Aeq,16hour}$ has been achieved within the bedroom.

3.18 The night-time sound level targets of 30 dB $L_{Aeq,8hour}$ and 45 dB $L_{AFmax,T}$ have also been achieved.

3.19 The measured sound pressure levels are presented graphically in Figure 3.3 and Figure 3.4.

Figure 3.3 - Graph showing measured ambient sound pressure levels, lounge/kitchen

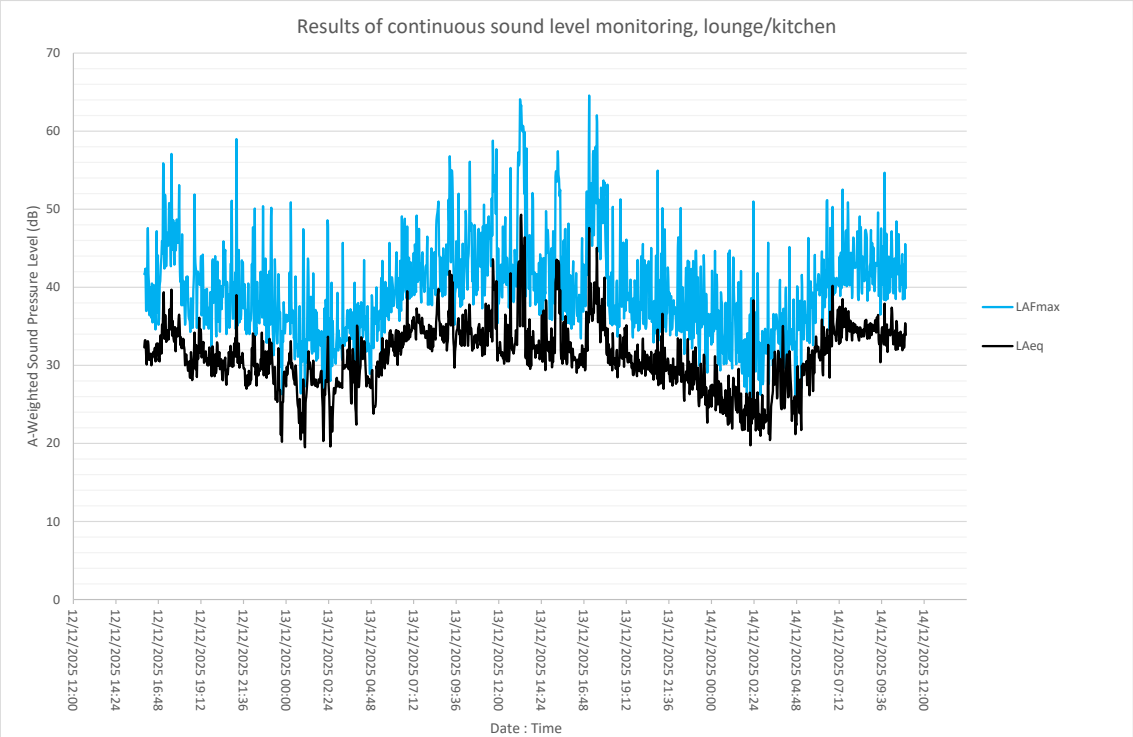
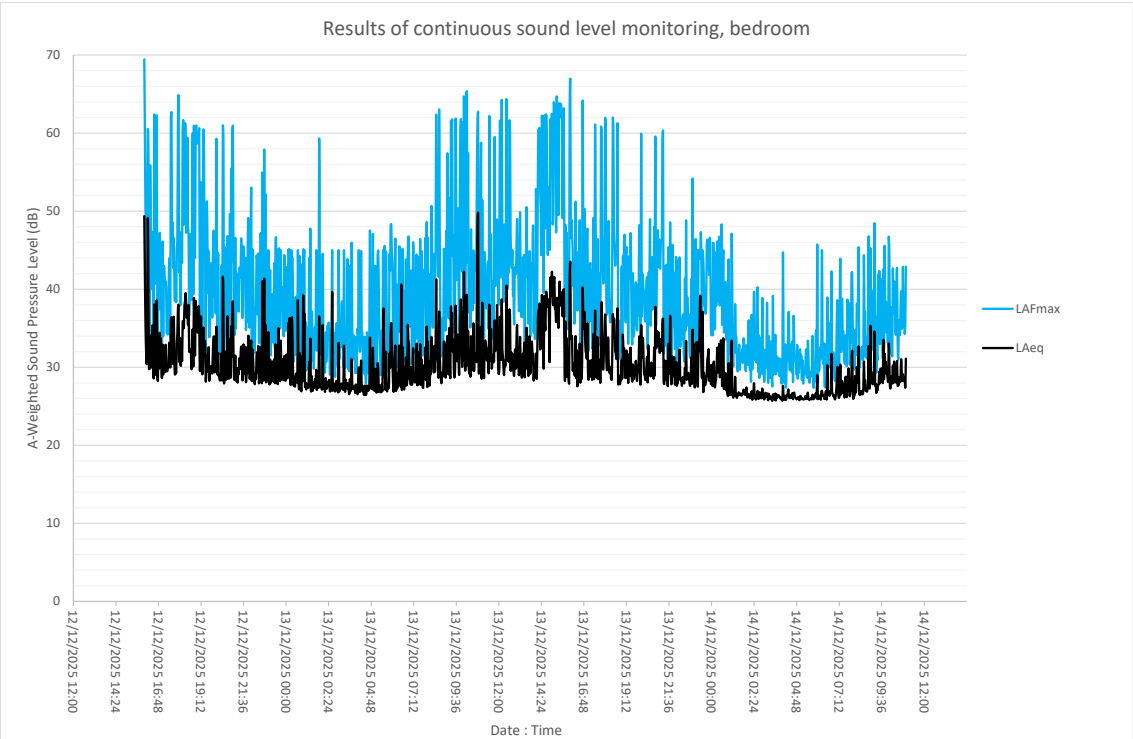


Figure 3.4 - Graph showing measured ambient sound pressure levels, bedroom



4. Building Envelope Construction & Ventilation

4.1 The external walls are of a traditional double-leaf brickwork/blockwork construction. The sound insulation performance is expected to be approximately 50 to 60 dB R_w.

4.2 The windows to the front elevation are standard thermal double-glazed units fixed within uPVC frames. The construction appears to be 4 mm glass / 16 mm cavity / 4 mm glass.

4.3 The sound insulation performance of standard double glazing is approximately 29 to 32 dB R_w.

4.4 Frame-mounted trickle vents are installed within the window frame of the front elevation as shown in the photographs below. Purge ventilation is provided by natural means (opening windows).

4.5 The previous acoustic assessment indicated that the existing double glazing and two trickle vents to the front elevation were sufficient in terms of attenuating external noise.

Figure 4.1 - Photographs showing double glazing and trickle vents to front elevation

4.6 Regarding the rear elevation, the original single glazing was approximately 3 to 4 mm thick and was set within a timber frame. There was no trickle vent installed.

4.7 The original glazing, timber frame and external door have been replaced with new standard thermal double-glazing set within uPVC frames. The glazing type is in line with the recommendations given within the acoustic report dated June 2025.

Figure 4.2 - Photographs showing previous rear door and new replacement door/glazing

4.8 A sound attenuating trickle vent has been installed within the new uPVC frame as shown in the photographs below (Yale SlotVent 2500EA).

4.9 The manufacturer's data indicates that the unit provides a sound insulation performance of approximately 33 dB $D_{n,e,w}$ and therefore achieves the recommended performance target (≥32 dB $D_{n,e,w}$) given within the acoustic report dated June 2025.

Figure 4.3 - Photographs showing frame-mounted sound attenuating trickle vent

5. Conclusion

5.1 Continuous sound level monitoring has been conducted within the lounge/kitchen on the front elevation and within the bedroom on the rear elevation.

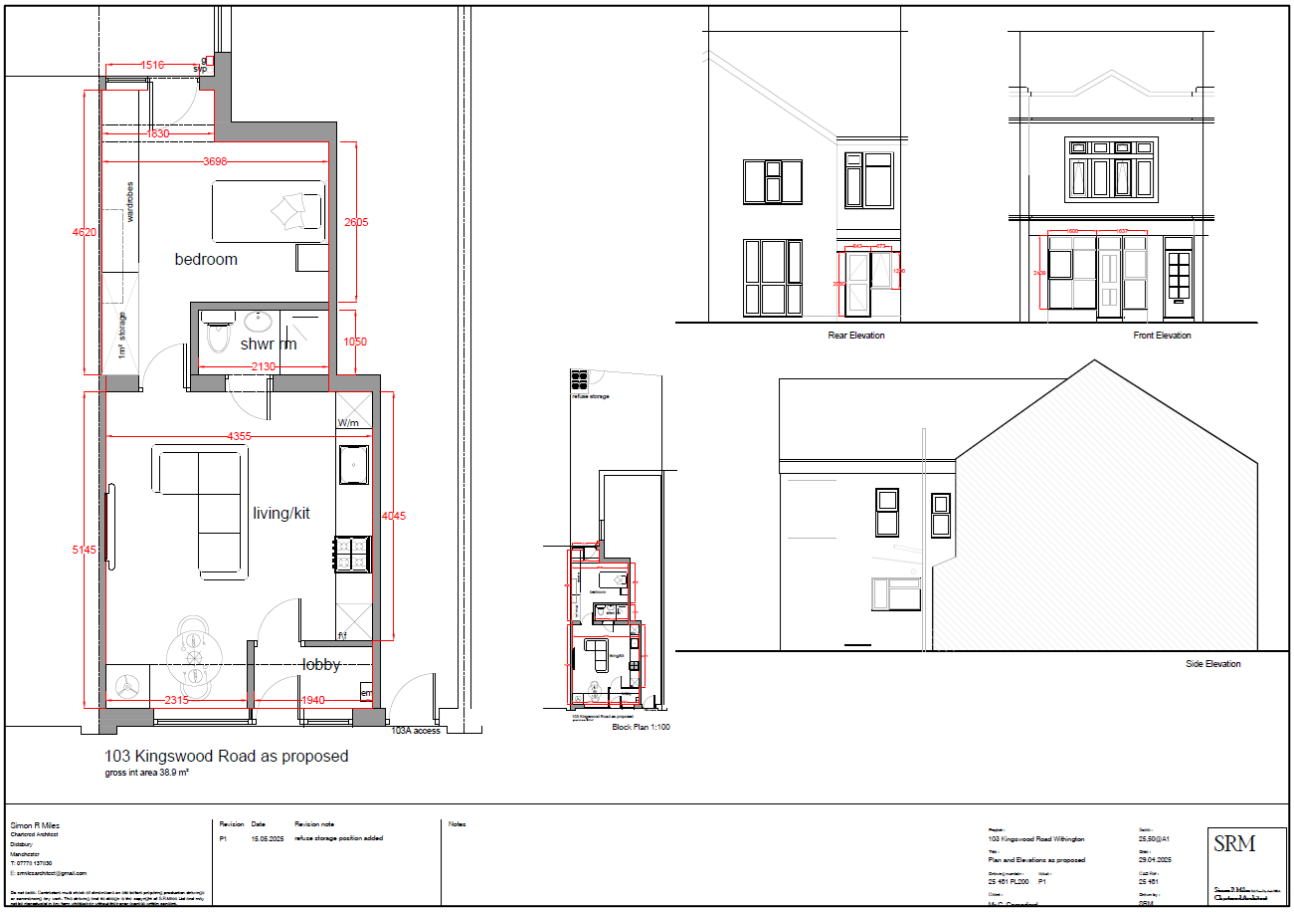
5.2 The daytime and night-time sound level targets have been achieved within both habitable rooms with the windows closed and the ventilator units fully open.

5.3 The building fabric, double-glazing and frame-mounted trickle vents provide sufficient sound insulation.

5.4 The new glazing and ventilator unit performance are in line with the recommendations given within the acoustic report dated June 2025.

5.5 The noise related planning condition stipulated by Manchester City Council has been satisfied in this instance and can therefore be discharged.

Appendix A
Floor layout and elevations


1516
1830
3698
2605
4620
wardrobes
bedroom
1m² storage
shwr rm
1050
2130
W/m
4355
living/kit
4045
5145
lobby
2315
1940
103A access
103 Kingswood Road as proposed
gross int area 38.9 m²
Rear Elevation
Front Elevation
Side Elevation
Block Plan 1:100
SRM

Appendix B
Assessment terminology

Assessment terminology

Term	Description
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2x10^{-5}$Pa).
dB(A)	The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc, according to the parameter being measured.
Acoustic environment	Sound from all sources as modified by the environment.
Ambient sound level	The totally encompassing sound in a given situation at a given time; it is usually composed of sound from many sources, near and far.
Equivalent continuous sound level - $L_{Aeq,T}$	The A-weighted equivalent continuous sound pressure level over a period of time, T. Representative of the 'average' sound pressure level over a given period (commonly used to describe the 'ambient' sound level).
Maximum sound level - $L_{AFmax,T}$	The A-weighted 'maximum' sound pressure level that occurred during a given period, T (commonly used for the assessment of intermittent and transient loud noises).
Habitable room	Any room used or intended to be used for sleeping, cooking, living or eating purposes (enclosed spaces such as bath or toilet facilities, service rooms, corridors, laundries, hallways, utility rooms or similar spaces are excluded from this definition).
R_w	The weighted sound reduction index expressed in dB. A single number quantity for airborne sound insulation rating.