

MPF/PR0679/L05

30 May 2025

Patrick Weightman
Renaker Build Ltd
1st Floor
NQ Building
47 Bengal Street
Manchester
M4 6BB

Flint Glass Works
64 Jersey Street
Manchester M4 6JW

Dear Pat

HOUSE OF SOCIAL, MANCHESTER

I write to confirm the results of the internal noise measurements conducted within the cluster apartments of House of Social, Manchester. The measurements have been conducted to determine the internal noise levels due to external and internal noise sources and to compare the measurement results to the requirements of the planning condition relating to external noise ingress.

INTRUSIVE NOISE CRITERIA - PLANNING CONDITION 14

Planning condition 14 of the planning approval for House of Social, reference 136170/FO/2023, dated 1 March 2023, amended by 137946/NMC/202 dated 12 September 2023, states:

- 14 Notwithstanding the details within the First Street Plot 10a Noise Impact Assessment First Street Developments Limited Ref PLOT10A-XX-XX-RP-Y-45001 P03 12 January 2023 by Cundall stamped as received on 17-02-23:

- a) *Within 8 weeks of core construction commencing a scheme for acoustically insulating the proposed residential accommodation against noise from the nearby road network and any nearby commercial premises shall be submitted to and approved in writing by the City Council as local planning authority. There may be other actual or potential sources of noise which require consideration on or near the site.*

The potential for overheating shall also be assessed and the noise insulation scheme shall take this into account. The approved noise insulation and ventilation scheme shall be completed before any of the dwelling units are occupied.

Noise survey data shall include measurements taken during a rush-hour period and night time to determine the appropriate sound insulation measures necessary. The following noise criteria shall be required to be achieved with windows closed:

*Bedrooms (night time - 23.00 - 07.00) 30 dB LAeq (individual noise events shall not exceed 45 dB L_{Amax,F} by more than 15 times)
Living Rooms (daytime - 07.00 - 23.00) 35 dB LAeq
Gardens and terraces (daytime) 55 dB LAeq*

Additionally, where entertainment noise is a factor in the noise climate the sound insulation scheme shall be designed to achieve internal noise levels in the 63Hz and 125Hz octave centre frequency bands so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively.

The approved noise insulation scheme and vibration mitigation measures shall be completed before any of the dwelling units are occupied.

- b) Prior to first occupation of the residential units, 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 - To secure a reduction in noise in order to protect future residents from noise nuisance, and to reduce the potential for overheating pursuant to policies SP1, H1 and DM1 of the Core Strategy.

The pre-commencement element of condition 14a was discharged on 28 November 2023 (planning reference: CDN/23/0656).

The discharge notice states:

- Condition 14a (Noise and overheating PBSA) - On the basis of implementation and compliance with the specification and recommendations within the following:

HOUSE OF SOCIAL, MANCHESTER, REPORT TITLE INTRUSIVE NOISE STUDY
HS-FAC-A180-RP-XX-003 DATE 20 NOVEMBER 2023 by Fisher Acoustics

the requirements of the condition as set out within 137946/NMC/2023 are discharged

The approved noise insulation scheme and mitigation measures set out within the above shall be completed before any of the dwelling units are occupied.

The applicable internal noise criteria for apartments are reproduced in Table 1.

Room Type	Time of day	
	07:00 to 23:00	23:00 to 07:00
Living room	35 dB LAeq, 16 hours	-
Bedroom	-	30 dB LAeq, 8 hours Individual noise events should not normally exceed 45 dB (LAmax) more than 15 fifteen times a night

Table 1: Intrusive noise criteria

MEASUREMENT METHODOLOGY

The measurement methodology, as agreed with Manchester City Council, to demonstrate compliance with the criteria identified in Table 1 above is as follows:

- 1) 10% of apartments are to be tested in the daytime only. The location of the apartments under test will be selected by Fisher Acoustics on the basis of apartments that are most exposed to the surrounding road traffic noise sources and with reference to any change in the glazing specification to apartments.
- 2) Night-time noise levels within bedrooms will be interpolated from the daytime noise levels, based on daytime and night-time external noise measurements.
- 3) Install sound level meters in a living room and bedroom of one apartment between the hours of approximately 4.30pm and 7.30 pm (i.e. at a time when construction noise at House of Social has ceased but road traffic levels can be assumed to be typical).
- 4) Measure the noise level in the rooms for approximately 5 minutes without MVHR running (as the planning condition relates to external noise only). If the average (LAeq) noise level in the room has not settled after 5 minutes, continue the measurement until a consistent (LAeq) noise level has been established (up to approx. 10 minutes if required).
- 5) Measure the reverberation time in the rooms to allow the measured noise levels to be corrected to allow for the reduction in internal noise level that will occur upon full furnishing of the rooms.
- 6) Analyse the data to determine the daytime noise level in the rooms. With reference to the results of external noise survey measurements, determine the expected night-time internal noise levels within bedrooms based on the change in external noise levels between the daytime and night time.
- 7) Repeat the above measurements and analysis for a further 9 apartments.
- 8) Issue a letter report that confirms the results of the above measurements relating to external noise ingress.

In addition, for information the internal noise levels have been measured with the MVHR (mechanical ventilation and heat recovery) unit operating in continuous 'background' ventilation mode within each assessed room.

The measurements were conducted by Fisher Acoustics Ltd between the following times:

- 1630 hours and 1920 hours on Tuesday 6 May 2025
- 1530 hours and 1700 hours on Friday 16 May 2025
- 1600 hours and 1630 hours on Wednesday 22 May 2025

There was no notable construction activity within the building during the internal measurements. Road traffic flows on the Mancunian Way (A57(M)) and Medlock Street (A5103) were found to be typical for the duration of the internal noise measurements.

The measurements were undertaken with the windows closed.

The measurements were conducted in general accordance with 'ANC Guidelines -Noise Measurements in Buildings, Part 2: Noise from External Sources (e.g. traffic noise) within Buildings'.

The measurements were conducted in rooms on various levels of the building with a bias to measuring in apartments on the elevation of the building that faces the Mancunian Way and Medlock Street, as these are the most dominant noise sources in the area.

MEASUREMENT TOLERANCE

As described in the ANC Guidelines, BS EN 61672-1: 2013 'Electroacoustics. Sound level meters – Specifications' gives the tolerance limits that are applicable to noise level measurements carried out using Class 1 sound level meters. These tolerance limits are given in 1/3 octave bands (ie across the sound spectrum), from which it is possible to determine the influence of the tolerance limits on an overall dB(A) measured noise level.

Using the 1/3 octave band data, the overall measurement tolerance on the measured internal noise levels is +/- 1.2 dB(A). It follows that a measured noise level within 1.2dB(A) of the applicable criterion could be compliant with the criterion.

MEASURED INTERNAL NOISE LEVELS

The reverberation times of the rooms were greater than will be the case when the rooms are occupied. Therefore, the measured noise levels have been corrected to allow for the expected reduction in reverberation time following the full furnishing of the rooms.

The measured reverberation times have been corrected to 0.5 seconds for living rooms/kitchens and 0.45 seconds for bedrooms. In addition, a correction must also be applied to the measured 5-minute daytime internal noise levels in order to determine the expected 16-hour daytime internal noise levels within bedrooms. In order to determine the correction, reference has been made to external noise survey data gathered at the same time as the internal noise measurements and to the results of a full 16-hour daytime external noise survey.

The measured daytime noise levels were determined by road traffic on the Mancunian Way and Medlock Street.

Table 2 shows the measured, RT-corrected average (LAeq,16h) daytime noise levels in living rooms with the MVHR switched off.

Apartment Number	Corrected Average Daytime Noise Level, dB (LAeq,16h)
	Living Room/ Kitchen
	Limit = 35 dB LAeq,16h
1.04	22.3
2.04	23.4
4.04	26.1
6.09	28.0
7.08	26.0
8.02	20.8
10.02	22.8
12.02	25.9
13.03	20.0
13.09	22.9

Table 2: Measured, RT-corrected average (LAeq,5mins) daytime noise levels in apartment rooms – MVHR Off

It can be seen that compliance with the daytime internal noise criterion for living rooms has been achieved in all tested rooms due solely to external noise sources (i.e. with the MVHR unit switched off).

Table 3 shows the measured, RT-corrected average ($L_{Aeq,16h}$) daytime noise levels in living rooms and bedrooms with the MVHR switched on.

Apartment Number	Corrected Average Daytime Noise Level, dB ($L_{Aeq,16h}$)	
	Living Room/ Kitchen Limit = 35 dB $L_{Aeq,16h}$	Bedrooms Limit = 35 dB ($L_{Aeq,16h}$)
1.04	33.8	26.9
2.04	28.8	23.5
4.04	32.7	27.2
6.09	33.4	30.1
7.08	32.9	26.8
8.02	29.3	28.6
10.02	30.7	26.7
12.02	32.6	30.1
13.03	32.2	24.4
13.09	31.1	28.5

Table 3: Measured, RT-corrected average ($L_{Aeq,5mins}$) daytime noise levels in apartment rooms – MVHR On

It can be seen that compliance with the daytime internal noise criterion for living rooms has been achieved in all of the rooms under test with the MVHR switched on.

A correction must be applied to the measured daytime noise levels in bedrooms in order to determine the expected night time internal noise levels within bedrooms. In order to determine the correction, reference has been made to external noise survey data gathered at the same time as the internal noise measurements.

The measurements show that the external night time noise level ($L_{Aeq,8hrs}$) due to road traffic is 4.6 dB lower than the external daytime noise level ($L_{Aeq,16hrs}$) due to road traffic.

Table 4 shows the interpolated night time average noise levels in bedrooms with the MVHR switched on and off. The specific contribution from the MVHR only is also shown.

Apartment Number	Interpolated Average Night Time Noise Level, dB ($L_{Aeq,8h}$)		
	MVHR OFF Limit = 30 dB $L_{Aeq,8h}$	MVHR On Limit = 30 dB $L_{Aeq,8h}$	MVHR Only, dBA
1.04	16.8	26.4	25.9
2.04	14.6	22.3	21.5
4.04	19.8	25.7	24.4
6.09	22.1	28.9	27.9
7.08	22.0	23.1	16.5
8.02	17.6	27.9	27.5
10.02	20.2	24.3	22.3
12.02	21.2	28.9	28.1
13.03	14.4	23.4	22.9
13.09	15.8	28.0	27.7

Table 4: Measured, RT-corrected average ($L_{Aeq,8h}$) noise levels in bedrooms

It can be seen that compliance with the night time internal noise criterion for bedrooms has been achieved in all tested rooms due solely to external noise sources and due to the combination of external noise sources and the MVHR unit.

During the daytime measurements within bedrooms, there were no excesses over the night time internal noise criterion of 45dB LAmax given maximum noise events generated by external noise sources. Compliance with the night time maximum internal noise criterion is therefore expected in all of the assessed bedrooms due to typical external night time noise events.

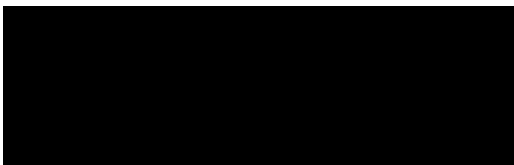
CONCLUSION

Compliance with the daytime and night time internal noise criteria for living rooms and bedrooms has been achieved in all tested rooms due to external noise break-in and internal noise from the MVHR units that service the residential rooms.

It is therefore considered that compliance with planning condition 14b has been achieved.

Please do not hesitate to contact the undersigned if you have any queries relating to the above.

Yours sincerely



MATT FISHER BEng(Hons) CEng MIOA
For and on behalf of Fisher Acoustics Limited