

ENVIRONMENTAL NOISE ASSESSMENT

On behalf of

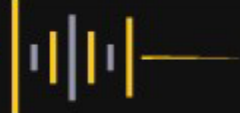
Redbank Manchester Ltd

For the site at:

Jefferson Place, 1 Fernie Street, Manchester, M4 4AZ

REPORT DATE: 16th September 2024

REPORT REF: AA/24/09/RM/JP/NIA



CLIENT: Redbank Manchester Ltd

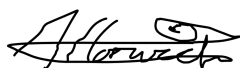
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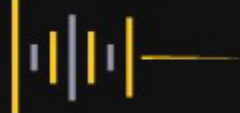
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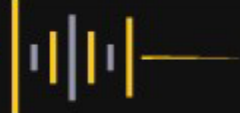
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1. INTRODUCTION

1.1. General

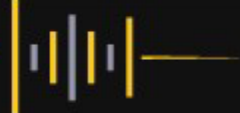
Amber Acoustics has been commissioned by Redbank Manchester Ltd to carry out a post completion validation Noise assessment to accompany a Planning condition discharge application in association with permission granted at appeal for the change of use from a vacant store to one bedroom apartment (Use Class C3a) and associated elevational alterations (129542/FO/2021) at Flat 101, Jefferson Place, 1 Fernie Street, Manchester, M4 4AZ.

1.2. Assessment Scope

This report will seek to demonstrate that through adequate mitigation and proactive implementation of an upgrade to the external façade, the effect of external noise in the nearby vicinity to the site will be low impact.

Amber Acoustics have completed this report for the benefit of the individuals referred to in Section 1.1 and any other relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use, or rely upon, the contents of this report unless explicit written approval has been gained from Amber Acoustics.

Amber Acoustics accepts no responsibility or liability for the consequences of this documentation being used for any purpose or project other than that for which it was commissioned. It should also be noted herein that the issue of this document to any third party with whom approval for use has not been agreed.



2. SITE DESCRIPTION

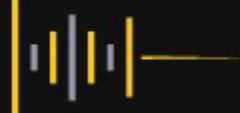
This Noise Survey is to accompany a planning condition discharge application in association with permission granted at appeal for the change of use from a vacant store to one bedroom apartment (Use Class C3a) and associated elevational alterations (129542/FO/2021) at Flat 101 Jefferson Place 1 Fernie Street Manchester M4 4AZ.

Condition 4 of the previous planning permission associated with this site states that:

“4)No development shall commence until details for noise mitigation and sound insulation have been submitted to and approved in writing by the local planning authority. Notwithstanding the approved plans, such details shall also include the provision of an internal lobby area as shown in the drawing in Appendix A of the Noise Assessment Prepared by Miller Goodall dated 20 September 2021. The approved noise mitigation and sound insulation measures shall be implemented prior to the first occupation of the approved apartment and thereafter retained.”

An application was submitted to discharge this condition, (CDN/23/0369) and the following are comments from Manchester City Council in response to the Application.

“We will require a scheme of validation once the apartment has been completed and prior to occupation to include day and night time internal noise measurements to demonstrate that the internal noise criteria has not been exceeded. Noise measurements will need to be undertaken whilst the mechanical ventilation system is in full operation. Validation assessment will also need to confirm that the recommendations in the report have been fully complied with and corroborate the assumptions used in the assessment were correct, such as the glazing specification meets the stated glazing performance used in the assessment, the doors are of the stated thickness and a lobbied door set has been installed.”



3. ASSESSMENT STANDARDS

This section of the report outlines the context of the proposed development with respect to noise.

A pre completion validation survey was carried out with two meters to ascertain the daytime and nighttime noise levels.

The internal noise criteria referred to in Appendix A of the Noise Assessment Prepared by Miller Goodall dated 20 September 2021 are as set out below.

- Daytime (07:00 – 23:00) Ambient $L_{Aeq,16hour}$ in the living area: 35 dB
- Night-time (23:00 – 07:00) Ambient $L_{Aeq,8hour}$ in the bedroom: 30 dB
- No more than 15 No. breaches of 45 dB L_{AFmax} during the night-time (23:00 – 07:00)

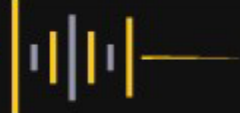
The assessment was undertaken generally in accordance with the guidelines of BS:8233 2014 and in general accordance with BS7445: 2003 'Description and Measurement of Environmental Noise'.

3.1. National Planning Policy Framework and Planning Practice Guidance

The NPPF, published in March 2012, sets out the Government's planning policies for England and how these are to be expected to be applied. The NPPF must be taken into account in the preparation of local and neighbourhood plans and is to be a material consideration in planning decisions.

Paragraph 123 of the NPPF advises that, with respect to noise emissions, planning policies and decisions should aim to:

- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- Mitigate and reduce to a minimum, other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions
- Planning Practice Guidance, published in March 2014, advises on how planning can manage potential noise impacts in new development. The guidance states that noise needs to be considered when "...new developments would be sensitive to the prevailing acoustic environment." Although noise can override other planning concerns, "neither the NPSE1 nor the NPPF expects noise to be considered in



isolation from the economic, social and other environmental dimensions of the proposed development. “

When making decisions, local planning authorities should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the NPSE this would include identifying whether the overall effect of the noise exposure would be above or below the significant observed adverse effect level. The guidance points to the Explanatory Note for Noise Policy Statement for England 2010 for further information.

3.2. Noise Policy Statement for England 2010

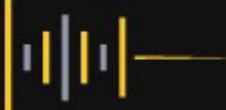
The NPSE sets out the long-term vision of Government noise policy. The Noise Policy Vision is supported by the following Noise Policy Aims:

- Avoid significant impacts on health and quality of life;
- Mitigate and minimise adverse effects on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life.

The NPSE categorises noise exposure through the concept of observed effect levels:

- No Observed Effect Level (NOEL): The level below which no effect can be detected.
- Lowest Observed Adverse Effect Level (LOAEL): the level above which adverse effects on health and quality of life can be detected.
- Significant Observed Adverse Effect Level (SOAEL): the level of noise exposure above which significant adverse effects on health and quality of life occur.

The second Noise Policy Aim refers to the situation where the noise impact lies between the LOAEL and the SOAEL. It requires that, “...all reasonable



steps should be taken to mitigate and minimise effects on health and quality of life... This does not mean that such adverse effects cannot occur.”

The NPSE does not contain specific noise level limits to define the SOAEL as it is likely to be different for different noise sources and parameters. In the absence of national LOAEL and SOAEL noise level criteria, noise levels have been assessed against criteria contained within BS8233:2014 and WHO Guidelines.

3.3. The World Health Organisation Guidelines

The WHO Guidelines for Community Noise 1999 consolidate scientific knowledge on the health impacts of community noise and provide guidance to protect people from the harmful effects of noise in non-industrial environments.

Although this guidance was updated in 2018, the specific references to noise levels were omitted, and have still, to the best of the authors' knowledge, not been updated or clarified by the WHO. Therefore, the 1999 guidelines are referenced herein as they contain the specific noise level targets which tie in nicely with those listed in other British Standards.

The WHO Guidelines for Community Noise set out health-based guideline values for community noise, including recommended noise level values for the onset of sleep disturbance, annoyance and speech interference for the general population. Guideline values are provided for outdoor living areas, living rooms and bedrooms, for both continuous noise and discrete noise events. These are:

$L_{Aeq,T}$ - the A-weighted equivalent continuous noise energy level over a given period of time T, applied to fluctuating noise levels to give single figure descriptor and sometimes referred to as the ‘average’; and

L_{AFmax} - the maximum A-weighted noise instantaneous sound pressure level recorded during a measurement period using a fast time response.

With regard to outdoor living areas, the WHO Guidelines for Community Noise state that, “... in order to protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55dB(A) L_{Aeq} on balconies, terraces, and in outdoor living areas”.

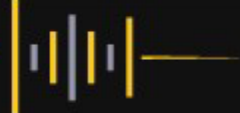


Table 1: WHO Guideline Values for Community Noise

Specific Environment	Critical Health Effect (s)	L_{Aeq} dB(A)	Time base (hours)	L_{AFmax} fast dB(A)
Outdoor living area	Serious annoyance, daytime and evening.	55	16	-
	Moderate annoyance, daytime evening	50	16	-
Dwelling indoors	Speech intelligibility and moderate annoyance, daytime and evening	35	16	-
Inside bedroom	Sleep disturbance night-time	30	8	45
Outside bedroom	Sleep disturbance, window open (outdoor values)	45	8	60

Source: World Health Organisation 1999

3.4. BS8233:2014

BS8233:2014 contains suggested criteria for common situations, such as resting and sleeping, and proposes noise levels that normally satisfy those criteria for most people. For dwellings, the main considerations are:

- For bedrooms, the acoustic effect on sleep; and
- For other rooms, the acoustic effect on resting, listening and communicating.

Suggested noise levels reflect those contained within the WHO Guidelines. BS8233:2014 advises that the time period T, should be appropriate for the activity involved, in this case the daytime $L_{Aeq,16hr}$ (07:00-23:00) and night-time $L_{Aeq,8hr}$ (23:00-07:00).

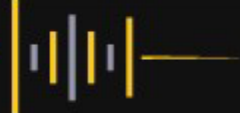


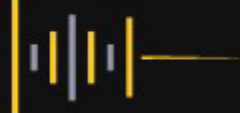
Table 2 below details guideline values for dwellings as recommended within BS8233:2014.

Table 2: BS8233:2014 Recommended Noise Levels

Criterion	Typical situations	Time		
		Daytime 07:00 to 23:00 (L_{Aeq})	Night-time 23:00 to 07:00 (L_{Aeq})	Night-time 23:00 to 07:00 (L_{Amax})
Resting	Living room	35	-	
Sleeping (daytime resting)	Bedroom	35	30	45

Source: BS8223:2014

With regard to external noise levels in amenity spaces such as gardens, the guidance advises that "...it is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces but should not be prohibited."



4. SURVEY MEASUREMENTS

The Environmental Noise Assessment (referred to as MP1 and MP2) in this report) took place over a 24-hour period commencing at 23:00 on Tuesday 13th August 2024 and concluding at 23:00 on Wednesday 14th August 2024.

The Noise survey was carried out in accordance with BS7445: 2003 'Description and Measurement of Environmental Noise'.

4.1. Measurement Locations

The Measurement location was as follows:

MP1 – A meter was positioned within the Living Room of the apartment

MP2 - A meter was positioned within the Bedroom of the apartment

All trickle vents were open for the duration of the survey.

It should also be noted that the flat had a lobbied entrance see image below.



Image 1: Lobbied Flat Entrance

The front door was also of a 40mm thickness as per image 2 below,



Image 2: Front Door Thickness

4.2. Measurement Equipment

$L_{Aeq,T}$ and L_{AFmax} sound levels were recorded using two Type 1 Svantek SV307 Sound Analyser (serial numbers 116709 and 100907). Measurements were A-weighted and recorded using a fast time response.

The sound level meter was calibrated using a Svantek SV36 Sound Calibrator (serial number 83149) at the start and finish of the monitoring period. No significant calibration drifts were observed. A detailed equipment list is given in **Appendix B** with calibration information in **Appendix C**.

4.3. Observations

The ventilation system was active for the duration of the survey and the only observed acoustic input appeared to be from pedestrians passing the property, with the occasional input of passing vehicles.

5. RESULTS

To assess the environmental noise climate, noise measurements were undertaken over a 24-hour period. The testing took place over Tuesday 13th – Wednesday 14th August 2024. The results of the measurements are tabulated below.

Measurement Point	L _{Aeq} 16hr (dB)	L _{Aeq} 8hr (dB)	L _{Amax} (dB)
MP1	32.8	22.7	6 Exceedances
MP2	32.4	29.5	3 Exceedances

Table 1: Measurement Summary of Noise Survey (MP1 + MP2) Results.

6. ASSESSMENT

6.1. Existing Noise Climate

Sound levels across the site were mainly determined to be from pedestrians passing the property, with the occasional input of passing vehicles.

The majority of noise from road traffic is attributable to tyre 'roar', which has a characteristic mid frequency tonal peak. It is considered that road traffic also determines the background noise levels for the site, for both daytime and night-time, given the lack of other significant noise sources in the area.

6.2. BS8233: 2014 and WHO Guidelines Assessment

A summary of external and internal sound levels to be achieved at the proposed development is provided below:

Living rooms (daytime) $L_{Aeq,T}$ 35dB(A);

Bedrooms(daytime) $L_{Aeq,T}$ 35dB(A)

Bedrooms(night-time) $L_{Aeq,T}$ 30dB(A);

Bedrooms (night-time) L_{AFmax} 45dB(A); and

Gardens $L_{Aeq,T}$ 50-55dB(A).

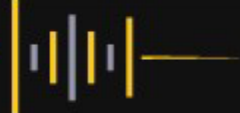
With regard to internal sound levels, from the site measurement data, it is apparent that the L_{Aeq} levels for day and night time periods as well as L_{AFmax} sound levels in the bedroom during the night-time fall within the parameters of BS8233:2014 'Guidance on sound insulation and noise reduction for buildings' and World Health Organisation 'Guidelines for Community Noise' as well as the requirements of Condition 4 of the planning permission decision granted for this site.

7. SUMMARY AND CONCLUSIONS

Amber Acoustics has been commissioned by Redbank Manchester Ltd to carry out a post completion validation Noise assessment to accompany a Planning condition discharge application in association with permission granted at appeal for the change of use from vacant store to one bedroom apartment (Use Class C3a) and associated elevational alterations (129542/FO/2021) at Flat 101, Jefferson Place, 1 Fernie Street, Manchester, M4 4AZ.

The Environmental Noise Assessment has sought to establish existing daytime and night-time sound levels at the site, and to ensure that the levels are within the standards of BS8233:2014 'Guidance on sound insulation and noise reduction for buildings' and World Health Organisation 'Guidelines for Community Noise' as well as the requirements of Condition 4 of the planning permission decision granted for this site.

Noise survey results and assessment indicate that no further mitigation of local sound sources (roads) will be required in order to achieve the requisite internal sound level criteria in all areas of the proposed development, and that the developer has discharged their requirements in regard to the internal ambient noise levels for this development.



APPENDICES

APPENDIX A - Measurement Details

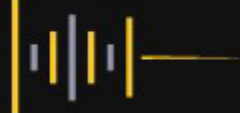
Measurement	Kit	Start Date	Start Time	End Date	End Time
MP1	AA1	13 th August 2024	23:00	14 th August 2024	23:00

APPENDIX B - Equipment Details

Kit	Equipment	Make	Model	Class	Serial Number
AA1	Sound Meter	Svantek	SV307a	1	116709
AA3	Sound Meter	Svantek	SV307	1	100907
AA2	Calibrator	Svantek	SV36	1	83149

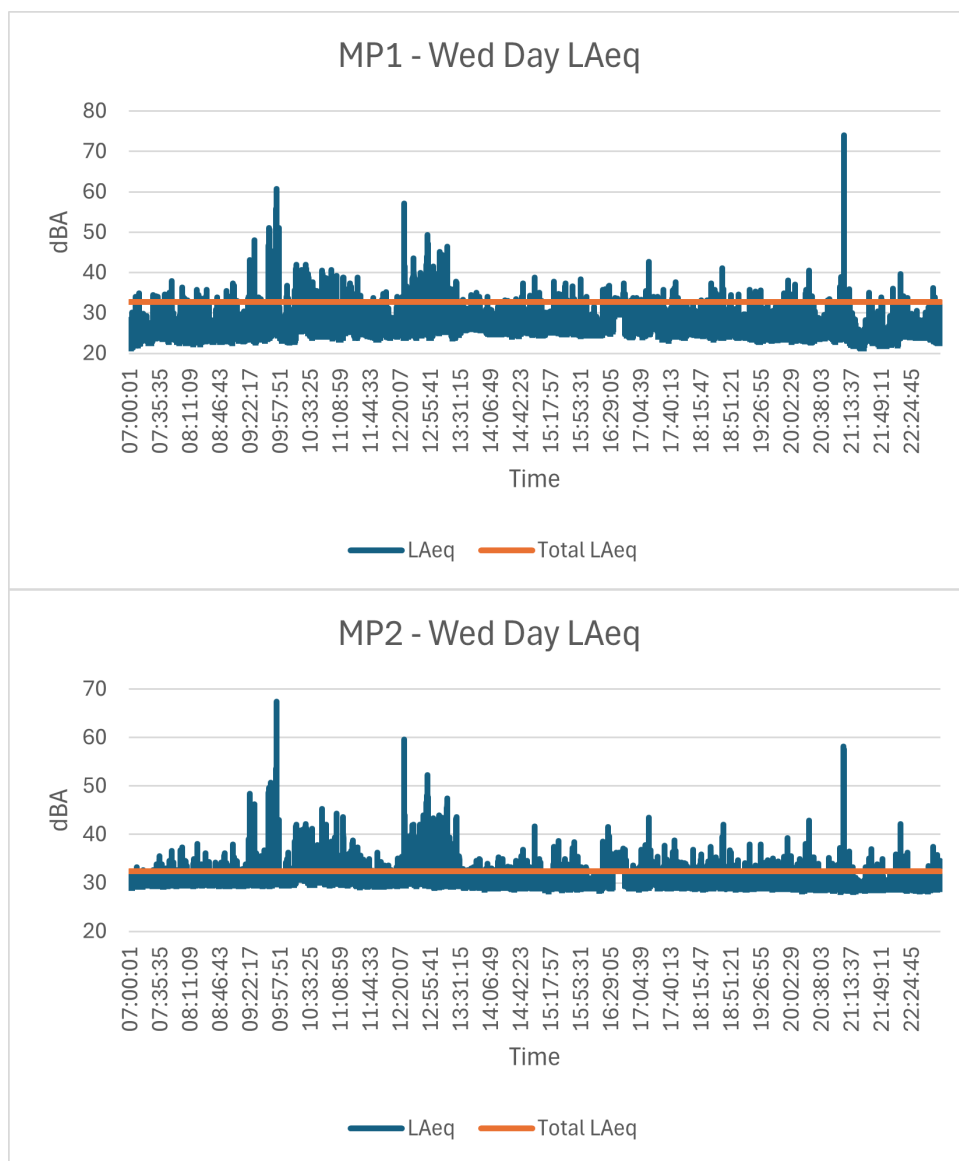
APPENDIX C - Calibration Details

Measurement	Calibrator Ref Level (dB)	Level Before (dB)	Deviation Before (dB)	Level After (dB)	Deviation After (dB)
MP1	114	114.06	-0.06	114.1	-0.1
MP2	114	114.1	-0.1	114.2	-0.2



APPENDIX D – Survey Data

Daytime L_{Aeq} Noise Survey Data



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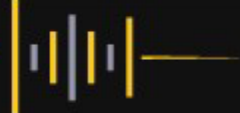
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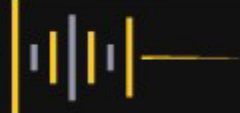
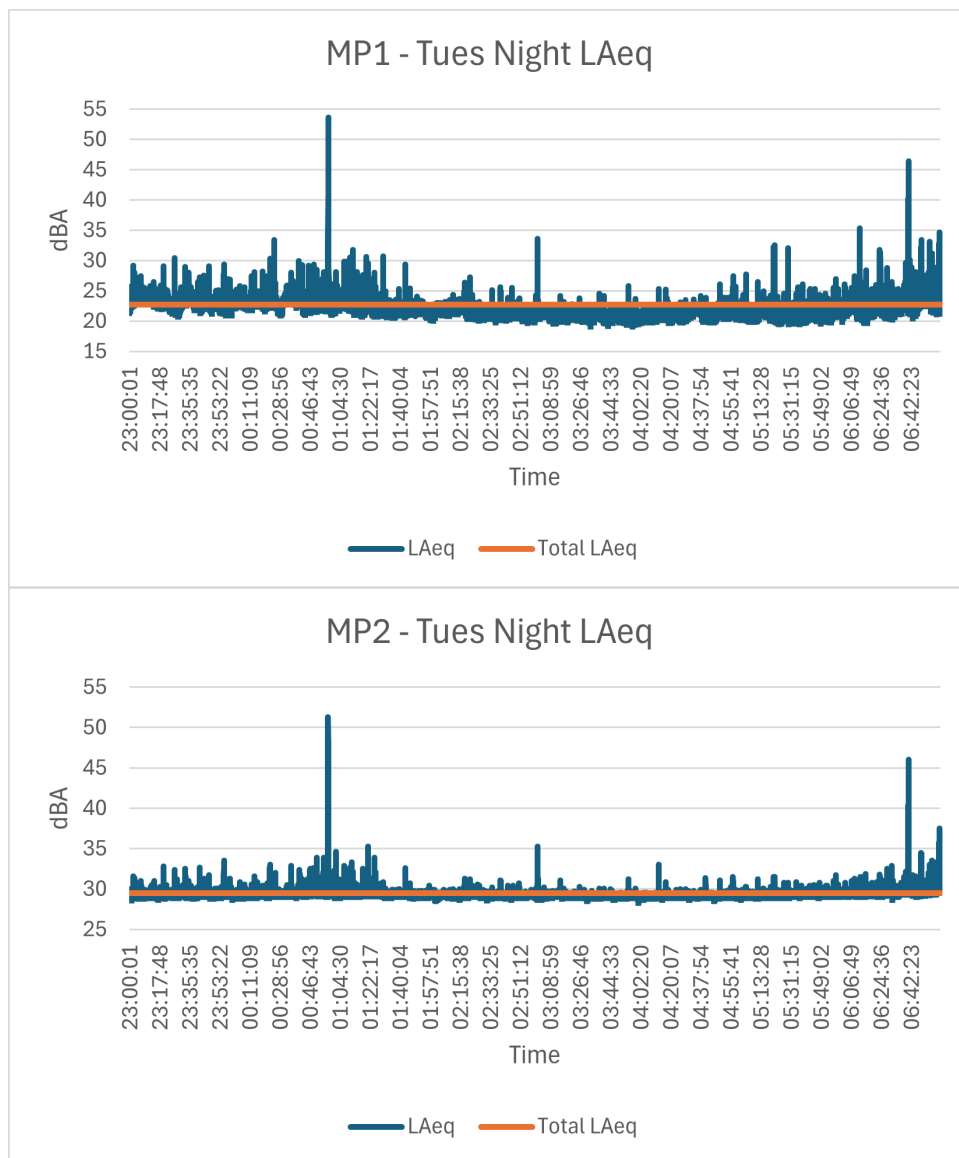
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Night time L_{Aeq} Noise Survey Data



Night time L_{Max} (F) Noise Survey Data

