



NORTHERN HOSPITALITY (MCR) LTD

22 LITTLE LEVER STREET, MANCHESTER

NOISE IMPACT ASSESSMENT FOR PLANNING PURPOSES

08 September 2025

AEC REPORT: P5633/R01/PJK

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1.0 INTRODUCTION

- 1.1 Acoustic & Engineering Consultants Limited (AEC) has been instructed by Northern Hospitality (Mcr) Ltd to undertake a noise impact assessment for planning purposes in relation to the proposed event space/bar to be formed in the existing four storey building at 22 Little Lever Street, Manchester.
- 1.2 This report details the baseline noise levels measured at the development site, presents the assessment criteria and discusses the implications on the building design, to achieve acceptable noise levels within the nearest noise sensitive receptors as outlined by the Local Authority.
- 1.3 Acoustic terminology is discussed in brief in Appendix A.

2.0 BACKGROUND AND SITE DESCRIPTION

- 2.1 The site is located on the junction of Little Lever Street and Bradley's Court in Manchester City Centre, the site location is identified on Figure 4.1, along with the measurement locations and the nearest noise sensitive receptors.
- 2.2 Both Little Lever Street and Bradey Court are single carriageway one way streets. The nearest noise sensitive receptors are located in the adjacent building above the Bike Shop on Little Lever Street.
- 2.3 The site is just off Stevenson Square where there are numerous pubs and clubs which play amplified music which is audible external of the proposed development site.
- 2.4 The scheme includes the conversion of 22 Little Lever Street into an event space/bar with toilets on the basement, seating for 26 patrons on the ground floor and 35 patrons on the first floor. There is a bar servery area on the ground floor and it is not expected that there is no real space for patrons to stand. The second floor will be used as an office and will include a meeting room.
- 2.5 It is understood that only low level background music will be played in the basement and on the ground and first floors.
- 2.6 If the venue sells food, the meals will be prepared in an adjacent establishment owned by the Client and there will be no mechanical services plant associated with the development.
- 2.7 The venue will be open until 0200h Monday to Sunday.

3.0 BASIS OF ASSESSMENT

National Planning Policy Framework

- 3.1 Current national planning policies are set out in the National Planning Policy Framework (NPPF) published by the Department for Communities and Local Government, dated March 2012, and revised most recently in December 2024.
- 3.2 The planning policies which relate specifically to or are considered relevant to noise, are presented in paragraphs 187, 198, 200 which are reproduced below:

“187. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- (e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;*

198. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- (a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- (b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

200. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.

- 3.3 Further to the above, the Governments ‘Planning Practice Guidance’ (PPG) published on 6 March 2014 and most recently updated in September 2023 states:

‘Noise needs to be considered when development may create additional noise, or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced). When preparing plans, or taking decisions about new development, there may also be opportunities to make improvements to the acoustic environment. Good acoustic design needs to be considered early in the planning process to ensure that the most appropriate and cost-effective solutions are identified from the outset.’

- 3.4 In addition, the guidance indicates that, whilst noise can override other planning concerns, it is important to look at noise in the context of the wider characteristics of a development proposal, its likely users, and its surroundings, as these can have an important effect as to whether or not noise is likely to pose a concern.

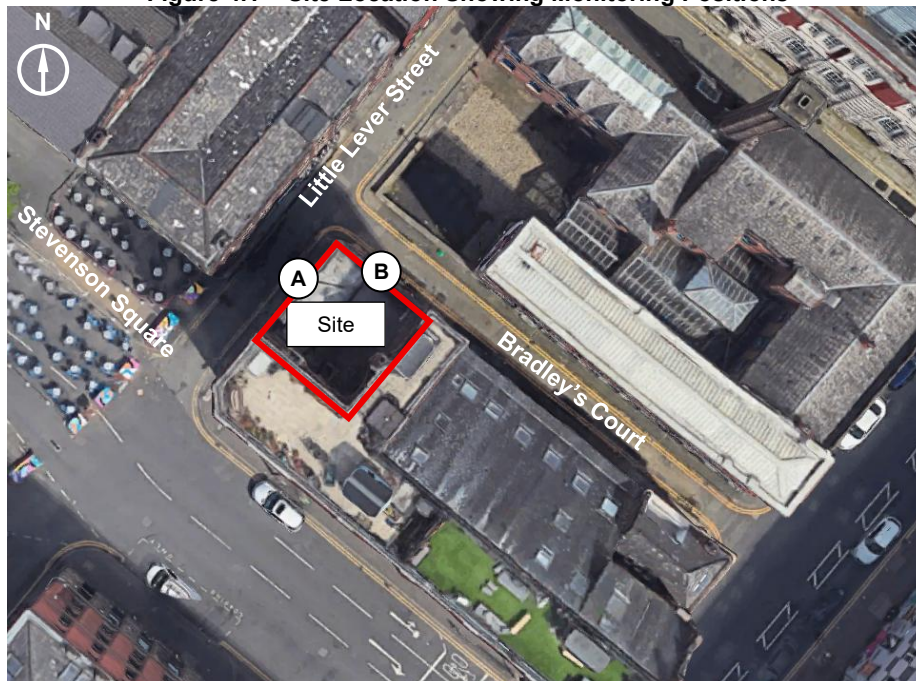
Noise Breaking-out of Proposed Venue

- 3.5 Manchester City Council (MCC) has outlined their requirements for noise assessments to accompany planning applications in '*Planning & Noise – Technical Guidance*' (2022) (PNTG).
- 3.6 In relation to entertainment venues structurally connected to residential properties venues PNTG states '*Music noise levels in the 63Hz and 125Hz octave centre frequency bands (L_{eq}) should be controlled so as not to exceed (in habitable rooms) 47dB and 41dB ($L_{eq,5min}$), respectively*'. This should result in inaudibility or barely audible music noise levels.
- 3.7 As the proposed venue is not intending to play loud amplified music, it is proposed that noise from the venue is controlled to not exceed NR20 in the adjacent residential property. This should result in noise levels within the property being significantly below the required internal noise level limits presented in PNTG for residential properties of 35dB $L_{Aeq,T}$ during the daytime (0700-2300h) and 30dB $L_{Aeq,T}$ in bedrooms at night (2300-0700).

4.0 NOISE CLIMATE

- 4.1 An extended unattended noise level survey was undertaken by AEC between 1300h on Friday 22nd of August and 0700h on Monday 26th August 2025.
- 4.2 Measurements were undertaken at first floor level on the Little Lever Street and Bradley's Court elevation under façade conditions, identified as A and B on Figure 4.1, respectively.
- 4.3 All measurements were undertaken in general accordance with BS7445-1: 2003 '*Description and measurement of environmental noise. Guide to quantities and procedures*'. A full measurement procedure for the survey is presented in Table B.1 of Appendix B and the measured data is presented in Graphs B.1 and B.2.

Figure 4.1 – Site Location Showing Monitoring Positions



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- 4.4 A summary of the ambient noise levels measured during the daytime and between 2300 and 0200 and 0200 and 0300h during the night-time are presented in Table 4.1, below.
- 4.5 As the noise levels at both locations were undertaken under façade conditions, a correction of -3dB has been applied in order to convert them to free-field noise levels, as per guidance in BS7445-2: 1991 '*Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use*'.

Table 4.1 – Summary of Measured Façade / Free-field Noise Levels

Measurement Location	Day	Ambient Noise Levels, dBL _{Aeq,T}		
		Daytime	2300-0200h	0200-0300h
A	Friday	62	66	67
	Saturday	65	64	64
	Sunday	63	62	61
B	Friday	57	61	59
	Saturday	61	60	59
	Sunday	56	58	58

- 4.6 Following a review of the audio recordings, the main source of noise during both the daytime and night-time periods at Locations A and B was road traffic and pedestrians. In night-time period, amplified music noise was perceptible on the Little Lever Street elevation.

5.0 ASSESSMENT OF NOISE BREAKING-OUT OF THE PROPOSED VENUE

Determining of Internal Noise Levels

- 5.1 The noise level within the ground and first floor of the venue has been calculated based on the number of patrons and using the data and concept of group size presented in the J.H. Rindel, C.I Christensen, A.C. Grade research paper: '*Dynamic sound source for simulating the Lombard effect in room acoustic modelling software*' (Proceedings of Inter-Noise 2012, New York, USA, (2012)).
- 5.2 Based on the proposed ambience of the venue, it has been deemed appropriate to use a noise level representative of 'normal' speech conversation levels. The sound power level of a person speaking in a normal voice is equal to roughly 68dBL_{wA} (ref. ANSI 3.5).
- 5.3 Based on the number of seats, the number of speaking persons (NS) at any one time has been predicted based on the following equation:

$$\text{Number of speaking persons (NS)} = N/G$$

Where:

N is the total number of persons (Ground Floor = 26 / First Floor = 35)

G is the assumed group size (typically 3).

- 5.4 This equates to 9 speaking on the ground floor and 12 speaking on the first floor. Taking into account the number of people speaking and the sound power level of normal conversation (68dBL_{WA}) the resultant sound power level would be around 77dBL_{WA} on the ground floor and 80dBL_{WA} on the first floor. Based on these sound power levels the ambient noise level on the ground and first floors would be $69\text{dBL}_{\text{Aeq,T}}$ and $72\text{dBL}_{\text{Aeq,T}}$, respectively (allowing for a -8dB correction from sound power to sound pressure level).
- 5.5 These levels are line with noise data held on file by AEC for a restaurant with low level background music being played.
- 5.6 In relation to noise levels within the second floor office space, this is not expected to be significant and has not been assessed further.

Noise Transfer into Adjacent Apartments

- 5.7 Based on onsite observations it would appear that 22 Little Lever Street and 20 Little Lever Street are two separate buildings, constructed at separate times. As 20 Little Lever Street is higher than 22 Little Lever Street it is expected that the separating wall between the two spaces is formed by two external walls consisting of at least 2 layers of approximately 110mm thick brick each.
- 5.8 Calculations indicate that the separating wall is expected to have an airborne sound insulation performance of around $50\text{dBD}_{\text{nT,w}}$. This level of performance would be expected to control ambient noise levels generated on the first floor of the venue to below NR20 in the adjacent apartment. However, it would be a marginal situation in the mid-frequencies (speech frequencies) and it is recommended that an independent lining is installed on the separating wall.
- 5.9 An example lining is provided below:
- Two layers of 12.5mm thick British Gypsum SoundBloc (or board of equivalent mass)
 - Gypframe GL1 Lining Channel (or equivalent resilient channel) to form 35mm cavity
 - 25mm thick mineral wool

Noise Breaking-out and Back into Adjacent Apartments

- 5.10 The weakest element of the development will be the windows on the ground and first floors.
- 5.11 It is expected to that the windows are either a single pane of 4mm glass or standard double glazing. Both a single pane of 4mm glass and standard double glazing have a sound insulation performance of 29dBR_w.
- 5.12 Calculations based on the anticipated internal noise level on each floor, the sound insulation performance of the glazing, and distance attenuation indicate that the ambient noise level external to the apartments above the bike shop would be around 37dBL_{Aeq,T}. This is significantly below the ambient noise levels measured during the daytime and night-time on the Friday, Saturday and Sunday.
- 5.13 Therefore, noise breaking out of the venue would not contribute to the existing noise climate and would be acceptable.

APPENDIX A – Acoustic Terminology in Brief

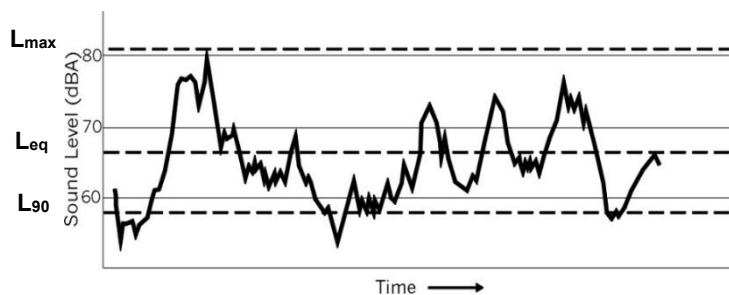
General

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The rate at which the pressure fluctuations occur determines the pitch or *frequency* of the sound. The frequency is expressed in Hertz (*Hz*), that is, cycles per second. The human ear is sensitive to sounds from about 20 Hertz to 20,000 Hertz. Although sound can be of one discrete frequency - a 'pure tone' - most noise is made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same subjective way. This is the basis of the A-weighted sound pressure level *dBA*, normally used to assess the effect of noise on people. The dBA weighting emphasizes or reduces the importance of certain frequencies within the audible range

Sound / Noise Units

The figure below shows an example of sound level varying with time. Because of this variation over time the same period of noise can be described by several different levels. The most common of these are described below.



Commonly Used Descriptors for Sound / Noise

L_{Amax,F/S}	The maximum (A-weighted) sound level measured during a given time. 'Fast' or 'Slow' meter response should be cited.
L_{Aeq,T}	The equivalent continuous (A-weighted) sound level. It may be thought of as the "average" sound level over a given time, T. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises. It can be considered as the "ambient" noise level.
L_{A90,T}	The (A-weighted) sound level exceeded for 90% of a measurement period. It is the value often used to describe the "background" noise.
Free-field Level	This refers to the sound level measured outside, away from reflecting surfaces.
Façade Level	This refers to the sound level measured outside, at 1m from a hard reflecting surface, typically 3dB greater than the free-field level.
NR	Noise rating – a graphical method for assigning a single number rating to a noise spectrum and is often used to specify noise level limits for mechanical services.
R_w	Single number rating used to describe the <u>laboratory</u> airborne sound insulation properties of a material or building element over a range of frequencies, typically 100-3150Hz.
D_w	Single number rating used to describe the on-site airborne sound insulation properties of a material or building element over a range of frequencies, typically 100-3150Hz.
D_{nT,w}	Weighted standardized level difference. A single number rating used to describe the on-site airborne sound insulation performance properties of a material or building element over a range of frequencies, typically 100-3150Hz. Standardized to a reference reverberation time of 0.5s (unless otherwise stated).

APPENDIX B – Noise Survey Details

Table B.1 – Environmental Noise Procedure

Date & Time of Survey:	1300h on Friday 22 August to 0700h on Monday 25 August 2025.					
Personnel:	Liam Harrison (AEC).					
Equipment Used:	Cirrus CR:171B Real Time Analyser (AEC Kit 3). Cirrus CR:171B Real Time Analyser (AEC Kit 5).					
Calibration:	The sound level analysers, which conform to BS EN 61672-1: 2013 ' <i>Electroacoustics – Sound level meters - Part 1 Specifications</i> ' for Class 1 Type Z meters, was in calibration and check calibrated before and after the measurement periods using a Brüel & Kjær type 4231 (94dB) calibrator. There was no significant drift of calibration. Calibration certificates are available on request.					
Weather Conditions:	Date	Period	Wet/Dry	Temp°C	Wind Speed & Direction	Cloud Cover
	22.08.25	Day	Dry	15-18°C	Calm	50%
	22-23.08.25	Night	Dry	12-14°C	Calm	0%
	23.08.25	Day	Dry	17-20°C	Calm	0%
	23-24.08.25	Night	Dry	16°C	Calm	0%
	24.08.25	Day	Dry	17-25°C	Calm	0%
	24-25.08.25	Night	Dry	14°C	Calm	0%
Measurement Locations:	Measurements were undertaken external to the first floor, at 1m, on the Little Lever Street and Bradley's Court elevations, identified as A and B on Figure 4.1.					
Measurement Details:	<p>Measurements at Locations A and B were undertaken under façade conditions</p> <p>Measurements were undertaken over various periods in terms of L_{eq}, L_{10}, L_{90}, and L_{max} and were logged continuously over 1s for post processing and assessment.</p> <p>The measured daytime and night-time periods for the unattended survey is presented on Graphs B.1 and B.2.</p>					
Measured Data:	Full 1/3 rd octave/octave band centre frequency data was obtained for all measurements.					

