# New Century Hall Manchester

## Environmental Noise Survey and Noise Impact Assessment Report

32956/NIA

7 July 2026

For:
New Century Hall Ltd



**Hann Tucker Associates**
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Hann Tucker Associates

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# 32956/NIA

## Document Control

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# Environmental Noise Survey and Noise Impact Assessment Report
# 32956/NIA

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# 1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned by New Century Hall Ltd to undertake a noise assessment for a site in Manchester.

The existing space in the ground floor area of New Century Hall is being considered for use as a music entertainment space.

Baseline noise conditions have been established by means of a detailed noise survey, presented herein. The findings have subsequently been used to assess the suitability of the site for music entertainment use. Measures required to mitigate noise impacts for the proposed development (when operational) have been discussed in context with relevant national & local planning policies, design standards and good practice guides.

# 2.0 Objectives

To undertake an environmental noise survey to establish the existing $L_{max}$, $L_{eq}$ and $L_{90}$ environmental road, rail and air traffic noise levels at selected accessible positions.

To undertake façade testing of the existing façade to determine the sound insulation performance to be used to assess noise breakout from potential music entertainment.

To obtain data that can be used to determine the requirements for sound insulation of the external facades at a later date.

Based on the results of the survey, to undertake a noise assessment to assess the suitability of the site for music entertainment use in accordance with the Noise Policy Statement for England (NPSE), National Planning Policy Framework (NPPF), Planning Practice Guidance (ProPG), British Standard BS8233:2014 and Local Authority requirements.

With reference to Manchester City Councils noise egress requirements for music venues, to propose suitable internal noise limits for the proposed space and to protect neighbouring noise sensitive receptors.

# 3.0 Acoustic Terminology

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

# 4.0 Site Description

## 4.1 Location

The site is located in central Manchester. The location is shown in Figure 1.

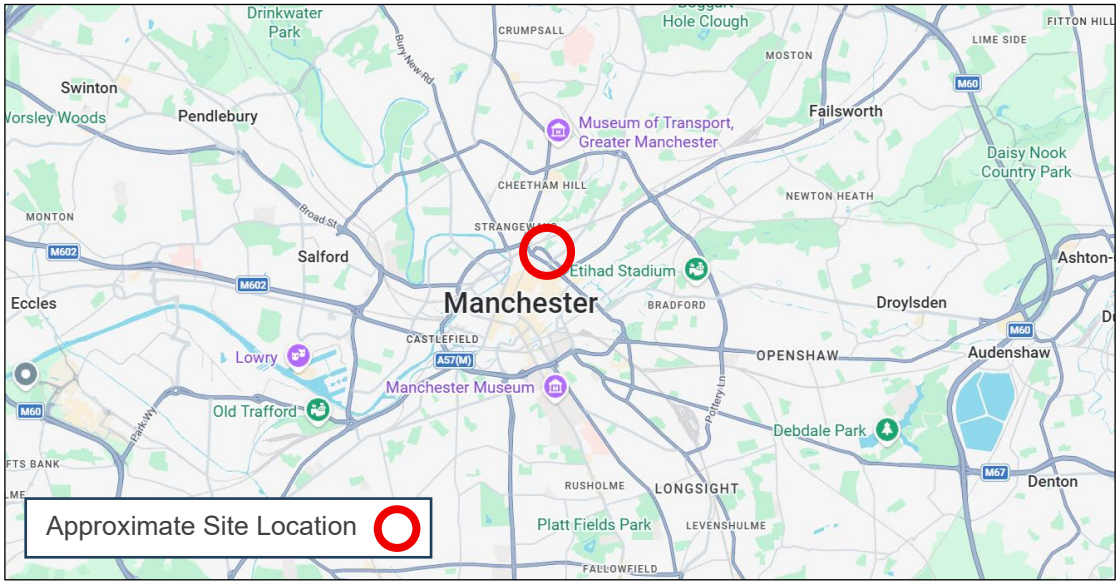



*Figure 1 Map Location (Imagery ©2026 , Map data ©2026 Google)*

The site falls within the jurisdiction of Manchester City Council.

## 4.2 Description

The site is the New Century Hall located in central Manchester and is surrounded primarily by commercial, office and mixed-use buildings.

The site is bounded by several significant road links, including the city centre Ring Road (A665), Hanover Street and Dantzic Street. Road traffic noise is therefore expected to be the dominant source of the prevailing noise climate, with additional contribution from general activity associated with activity on Saddlers Yard.

The nearest residential receptors have been identified as 86 Miller Street Apartments and The Linx Bldg located to the east of the development site, the nearest being New Vic approximately

75m West. The Redfern Building, located to the immediate south of the site is understood to be used as offices and is therefore considered noise sensitive during daytime hours only.

The site in relation to its surroundings is shown in Figure 2.

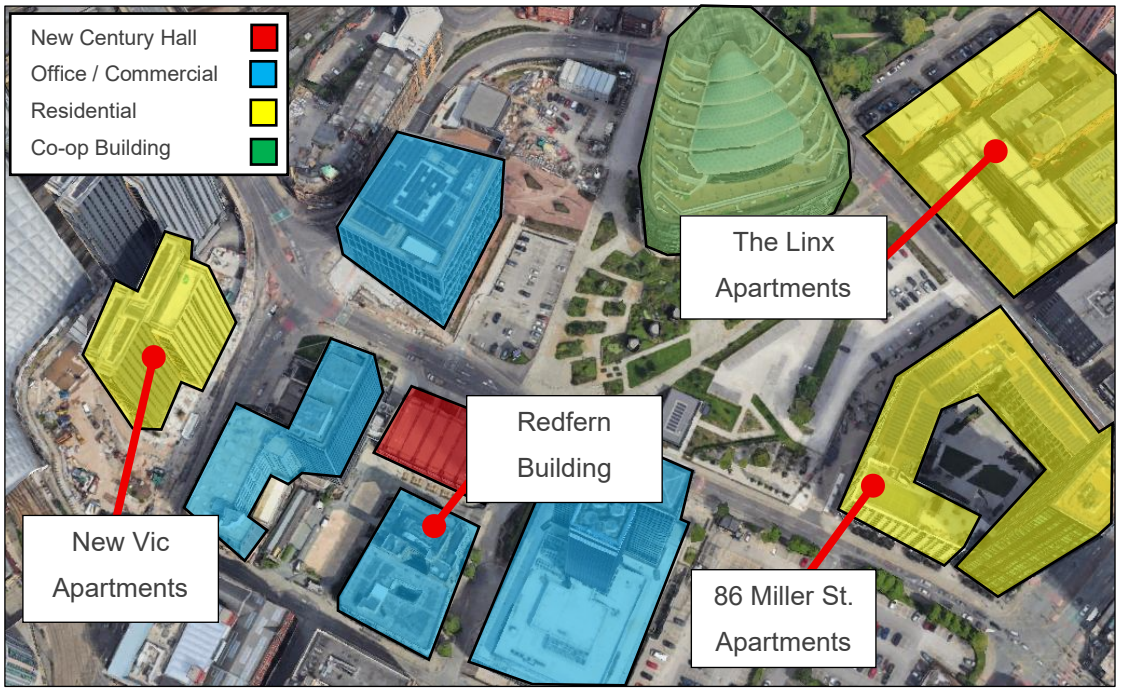



*Figure 2 Imagery ©2026 Google, Map data ©2026*

## 5.0 Proposed Development

It is proposed to split the existing ground floor space at New Century Hall into two sections, one to function as a bar area (as per the existing use), and another to host live music events. It is understood that no alterations to the existing façade is currently proposed as part of the development.

The proposals are highlighted in Figure 3 below.

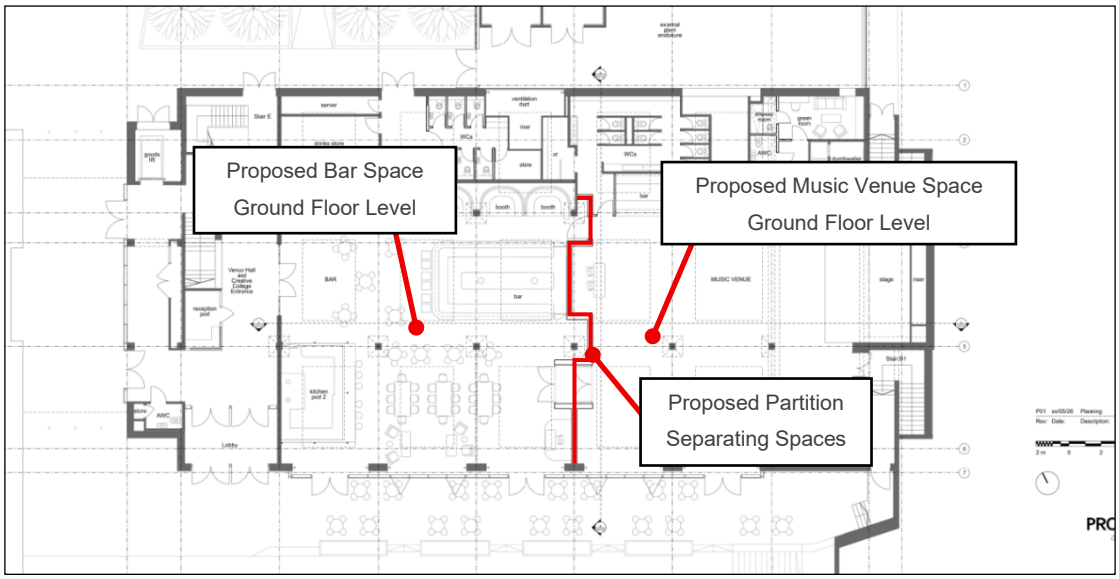



*Figure 3 Proposed Development Plans (Drawing No. 0886-P3A-XX-00-DR-A-05001)*

# 6.0 Planning Policies, Standards & Guidance

## 6.1 Policies & Guides

In order to provide a suitable assessment a number of national planning policies have been considered, including:

- The National Planning Policy Framework (NPPF) 2024 (amended February 2025)
- The Noise Policy Statement for England (NPSE), 2010
- Planning Practice Guidance – Noise (PPGN), 2019

The above documents highlight the importance of considering the potential noise effects on any new residential development and provide a qualitative approach to assessment. However, each of the above does not provide any quantitative guidance. As such, all quantitative guidance used to form a noise impact assessment is taken from various other standards, guidance, and Local Authority requirements as summarised below:

- Local Planning Policy
- World Health Organisation: 2018
- British Standard BS8233: 2014
- ProPG : Planning & Noise: 2017
- British Standard 4142:2014 + A1:2019
- BS EN ISO 16283-3:2016

Detailed information for relevant planning policies and guidance can be found within Appendix B.

## 6.2 Specific Local Authority Criteria

MCC have adopted 'Planning and Noise Technical Guidance' (PNTG), issued in October 2022 which provides planning guidance on matters relation to noise and vibration.

PNTG states that *"a planning application for a new entertainment venue that is structurally detached from other building uses should demonstrate that music noise from the proposal will not be 'audible' in nearby residential properties, assuming that the residential properties in question have their windows open. The criterion here is:*

*Entertainment noise ($L_{Aeq,5min}$) should be controlled to 5dB below the typical background noise level ($L_{A90}$) in each octave band at the nearest noise sensitive location."*

Furthermore, Section 3.7.1.2 of PNTG states the following with respect to noise from entertainment venues.

> *"Music noise levels in the 63 Hz and 125 Hz octave centre frequency bands ($L_{eq}$) should be controlled so as not to exceed (in habitable rooms) 47 dB and 41 dB ($L_{eq,5min}$), respectively".*

PNTG states the following with respect to noise from fixed plant/equipment.

> "*Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5 dB ($L_{Aeq}$) below the typical background ($L_{A90}$) level at the nearest noise sensitive location".*

# 7.0 Baseline Noise Survey

## 7.1 Procedure

Fully automated environmental noise monitoring was undertaken by Euan Ellis BA(Hons) Tech IOA from approximately 10:00 hours on Monday 29 June 2026 to 09:00 hours on Thursday 2 July 2026, to establish full daytime and night-time noise levels over a typical weekday period. Measurements were taken continuously of the A-weighted (dBA) and octave band $L_{90}$ sound pressure levels over discrete 5 and 15-minute periods.

## 7.2 Measurement Positions

The noise level measurements were undertaken at 2no. positions as described in Table 1 and indicated in Figure 4.

*Table 1 Measurement Location Descriptions*

| Position | Type | Description |
|---|---|---|
| 1 | Unattended | To the northwest of the site, approx. 8m from Corporation Street. Microphone attached to a tripod approximately 2.5m above ground level and in free field conditions. |
| 2 | Unattended | To the southwest of the site on Dantzic Street, approx. 13m from Ring Road. Microphone secured to a lamp post box approximately 2.5m above ground level and in free field conditions. |

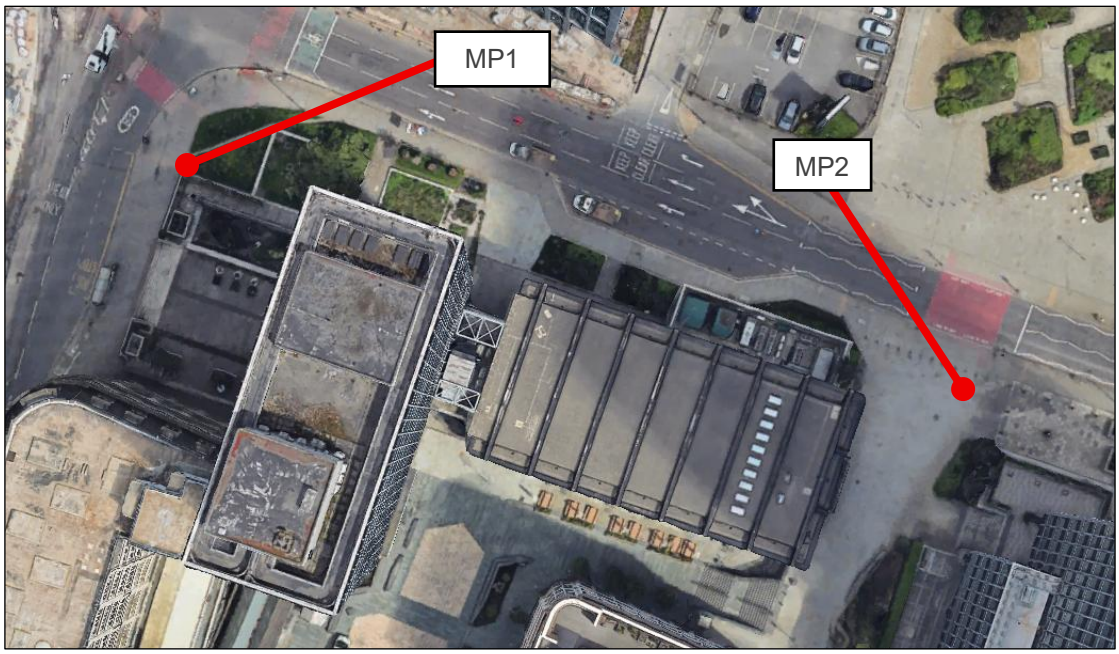



*Figure 4 Measurement Positions (Imagery ©2026 Google, Map data ©2026)*

## 7.3 Weather Conditions

For the unattended survey between Monday 29 June 2026 and Thursday 02 July, local weather reports indicated no notable periods of prolonged and/or heavy rainfall, with temperatures ranging from 13°C (night) to 25°C (day) and wind speeds less than 5m/s. During our time on site, skies were overcast, wind conditions were light and from a easterly direction and road surfaces were dry.

## 7.4 Instrumentation

The instrumentation used during the survey is presented in Table 2.

*Table 2 Instrumentation and Calibration Information*

| Position | Manufacturer | Unit Type | Model | Serial No | Calibrated |
|---|---|---|---|---|---|
| 1 | Larson Davis | Sound Level Meter | LxT | 4086 | 28/04/2026 |
| | PCB | Preamp | PRML x TL1 | 42843 | |
| | PCB | Microphone | 377B02 | 174436 | |
| 2 | ACOEM | Sound Level Meter | CUBE | 10631 | 22/10/2025 |
| | ACOEM | Preamp | PRE22 | 10628 | 22/10/2025 |
| | GRAS | Microphone | 40CD | 207243 | 22/10/2025 |
| 1 & 2 | Type 1 Calibrator | Larson Davis | CAL200 | 3083 | 04/03/2026 |

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.3 dB).

Each sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. Each microphone was fitted with a windshield.

## 7.5 Results

The results have been plotted on Time History Graphs 32956/TH1 to 32956/TH2 enclosed presenting the 15 minute A-weighted (dBA) and octave band $L_{90}$ at each measurement position throughout the duration of the survey.

Manchester City Council has a specific methodology for establishing the typical background noise level. This methodology is set out in Appendix A of Manchester City Council Planning and Noise Technical Guidance. The calculated typical background noise level in each measurement position using the MCC method are presented below:

Measurement Position 1:

- 56 dB $L_{A90,5min}$ daytime
- 54 dB $L_{A90,5min}$ Evening
- 43 dB $L_{A90,5min}$ Night

Measurement Position 2:

- 55 dB $L_{A90,5min}$ daytime
- 51 dB $L_{A90,5min}$ Evening
- 43 dB $L_{A90,5min}$ Night

Typically, Hann Tucker would calculate the background $L_{A90}$ level using analysis of histograms for day and night-time period, selecting a noise level that occurs no less than 20 percent of the time during the survey. However, for the purposes of this assessment, MCC's typical approach has been used to establish the typical background noise levels.

A summary of the results, as used to inform subsequent assessments against current guidelines, is presented in Table 3 below. The $L_{A90}$ values presented are the 'representative' levels determined through statistical analysis of the 5-minute readings in line with Appendix A of MCC's PNTG.

*Table 3 Measured Octave Band L90 Noise Levels*

| Position | Period | Typical Measured Background Noise Level ($L_{90,15min}$) at Octave Band Frequencies (Hz) | | | | | | | | $L_{A90}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 1 | Daytime (07:00 – 19:00) | 62 | 57 | 55 | 52 | 52 | 48 | 40 | 29 | 56 |
| | Evening (19:00 – 23:00) | 57 | 53 | 51 | 50 | 50 | 45 | 36 | 24 | 54 |
| | Nighttime (23:00 – 07:00) | 45 | 44 | 42 | 40 | 39 | 35 | 26 | 18 | 43 |
| 2 | Daytime (07:00 – 19:00) | 58 | 54 | 53 | 51 | 52 | 47 | 37 | 26 | 55 |
| | Evening (19:00 – 23:00) | 51 | 48 | 48 | 46 | 48 | 43 | 31 | 19 | 51 |
| | Nighttime (23:00 – 07:00) | 46 | 44 | 42 | 39 | 38 | 35 | 28 | 19 | 43 |

### 7.6 Discussion of Noise Climate

Due to the nature of the survey, i.e. unattended, it is not possible to accurately describe the dominant noise sources, or specific noise events throughout the entire survey period. However, at the beginning and end of the survey period the noise climate was noted to be dominated by road traffic noise.

## 8.0 Façade Sound Insulation Testing

### 8.1 Procedure

Hann Tucker carried façade testing at New Century Hall, on Thursday 2nd July 2026 between 08:00 and 09:00 with the purpose of establishing the existing façade acoustic performance.

The purpose establishing existing façade performance was so that noise breakout calculations could be carried out with a view to setting suitable internal noise limits for the proposed music venue.

To establish the existing performance of the external façade, a field measurement of sound insulation was undertaken in accordance with BS EN ISO 16283-3:2016, Acoustics – Field measurement of sound insulation in buildings and of building elements – Part 3: Façade sound insulation. This standard outlines procedures for determining the sound insulation performance of façades under actual in-use conditions by comparing outdoor and indoor sound pressure levels using loudspeaker-generated pink noise source.

### 8.2 Instrumentation

The instrumentation used during the façade testing is presented in Table 4

*Table 4 Façade Testing Instrumentation*

| Manufacturer | Unit Type | Model | Serial No | Calibrated |
|---|---|---|---|---|
| Brüel and Kjær | Sound Level Meter | 2250 | 3025254 | 25/02/2026 |
| Brüel and Kjær | Calibrator | 4231 | 2308993 | 25/02/2026 |
| Behringer | Speaker | Eurolive B112MP3 | S250100053AJM | N/A |

## 8.3 Testing Location

The measurements yield levels that can be used to calculate the in-situ weighted sound reduction index ($R'_w$). The details of the tested room are as follows, with the location of the test is indicated on the Figure 5 below:

*Table 5 Façade Test Internal Room Details*

| Internal Location | Room Volume ($m^3$) | Façade Area ($m^2$) |
|---|---|---|
| Existing Ground Floor | 2000 | 90 |

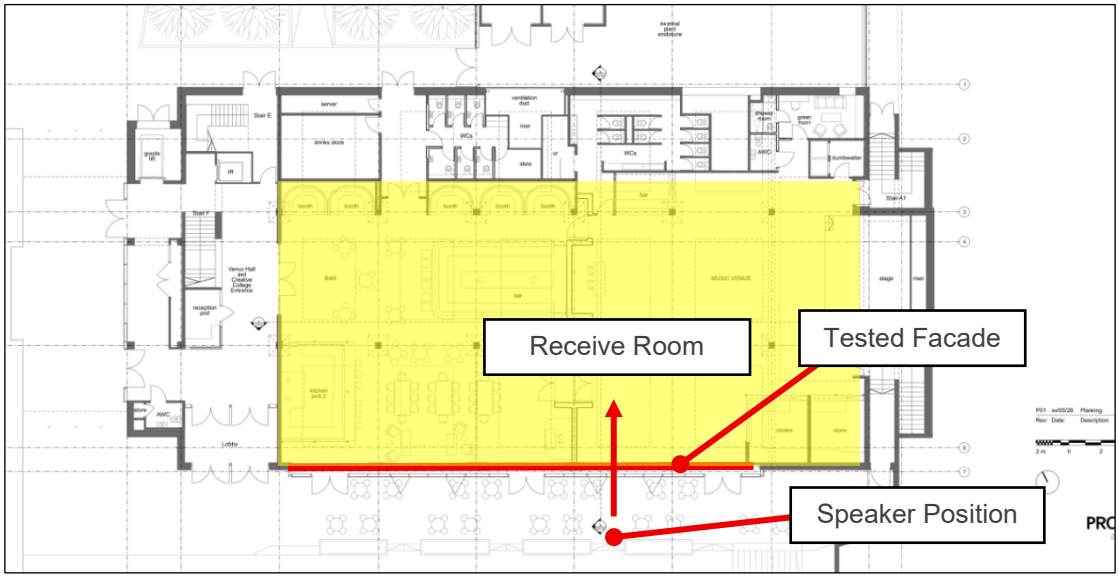



*Figure 5 New Century Hall Façade Test Location (Drawing No. 0886-P3A-XX-00-DR-A-05001)*

## 8.4 Façade Sound Insulation Test Results

Based on the measured noise levels and the room parameters noted above, the existing in-situ weighted sound reduction index has been calculated. This is presented in the table below.

*Table 6 Measured $R_w$ Value of Glazed Façade*

| Location | Measured $R'_w$ ($+C_{tr}$) dB |
|---|---|
| Glazed Façade at Proposed Music Venue Space | 25 |

Based on the above, the performance of the composite façade, including the wall and glazed areas is expected to be in the region of 25 dB $R'_w + C_{tr}$.

The octave band R' values are provided in 7 below.

*Table 7 Octave Band R' of Glazed Façade*

| Location | Measured Sound Reduction Index, R', (dB) of Façade at Each Octave Band Frequency (Hz) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 63 | 125 | 250 | 500 | 1000 | 200 | 4000 | 8000 |
| Glazed Façade at Proposed Music Venue | 15 | 18 | 26 | 26 | 24 | 28 | 30 | 25 |

The results above can be used to predict noise breakout levels from music noise within the proposed entertainment space to external receptors.

# 9.0 Façade Breakout Assessment for Entertainment Noise

## 9.1 Proposed Entertainment Egress Limits

The noise limits presented in are set at 5 dB below the existing background noise level in line with the methodology of Manchester City Council.

*Table 8 Proposed Internal Operational Limits*

| Position | Period | Typical Measured Background Noise Level ($L_{90,15min}$) at Octave Band Frequencies (Hz) | | | | | | | | $L_{A90}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 1 | Daytime (07:00 – 19:00) | 57 | 52 | 50 | 47 | 47 | 43 | 35 | 24 | 51 |
| | Evening (19:00 – 23:00) | 52 | 48 | 46 | 45 | 45 | 40 | 31 | 19 | 49 |
| | Nighttime (23:00 – 07:00) | 40 | 39 | 37 | 35 | 34 | 30 | 21 | 13 | 38 |
| 2 | Daytime (07:00 – 19:00) | 53 | 49 | 48 | 46 | 47 | 42 | 32 | 21 | 50 |
| | Evening (19:00 – 23:00) | 46 | 43 | 43 | 41 | 43 | 38 | 26 | 14 | 46 |
| | Nighttime (23:00 – 07:00) | 41 | 39 | 37 | 34 | 33 | 30 | 23 | 14 | 38 |

It should be noted that the noise limits provided above are also below the criteria for music noise for new build residential developments (i.e below 47dB at 63 Hz and 41 dB at 125Hz $L_{eq\ 5min}$ in habitable rooms) so some relaxation of the above may be possible. However, for the purposes of this assessment the limits at 63Hz and 125Hz have been set at 5 dB below the measured background noise level.

## 9.2 Most Affected Receptors

A 3D noise model of the site has been developed in CadnaA® to predict the incident noise levels upon each elevation of the surrounding noise sensitive receptors during the operation of the proposed music entertainment space.

To establish the most affected receptors an area noise source, to represent the façade of the building, was created and an arbitrary sound power was applied. The model was run and the noise levels at each nearby receptor was calculated. The noise contour plot is provided shown in Figure 6.




*Figure 6 (Cadna Model Showing Predicted Site Wide Noise Levels Radiating From Proposed Music Venue)*

Based on the above, Figure 7 highlights the locations of the noise sensitive receptors that are likely most effected by noise breakout from the proposed music venue space. These are:

NSR 1 (Redfern Office Building) is located to the immediate west of the proposed entertainment space and is understood to be used as offices. As such, this receptor is considered noise sensitive during daytime hours only (ie between 07:00 d 19:00). Internal noise limits have been calculated for the proposed music venue to meet the required background noise levels at this receptor during the day.

NSR 2 (New Vic Apartments), NSR 3 (86 Miller St. Apartments), and NSR 4 (The Linx Building) are identified as the worst-case residential receptors. Internal operational noise limits have been calculated so that noise egress from the proposed music venue does not exceed MCC guidance during the evening and nighttime hours.

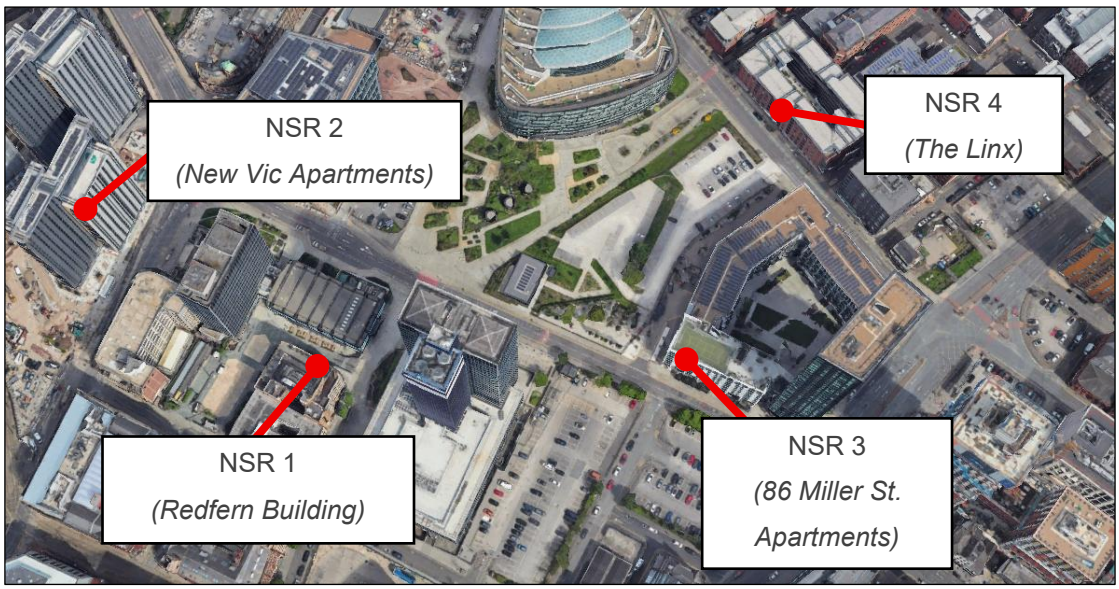



*Figure 7 Noise Sensitive Receptors (Imagery ©2026 Google, Map data ©2026)*

## 9.3 Operational Noise Limits

Based on the results of further computer modelling, Table 8 provides operational noise limits for the proposed music venue during daytime, evening and night-time hours to ensure noise egress to all identified noise sensitive receptors in the surrounding area complies with MCC guidance.

It should be noted that although the evening and night-time background noise levels were measured to be lower than daytime noise levels, the noise limits provided below are generally lower during daytime hours due to the close proximity of NSR 1 which operates as offices, whereas the residential receptors (NSR 2, 3 and 4) that are noise sensitive during the evening and night-time hours are significantly further away and acoustically screened, allowing for more flexible noise limits during night-time hours.

*Table 9 Internal operational Noise Limits*

| Internal Operational Noise Limits at Each Octave Band Frequency (dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Period** | **63Hz** | **125 Hz** | **250 Hz** | **500 Hz** | **1000 Hz** | **2000 Hz** | **4000 Hz** | **8000 Hz** |
| Daytime (07:00 – 19:00) | 86 | 87 | 92 | 90 | 89 | 88 | 81 | 70 |
| Evening (19:00 – 23:00) | 113 | 113 | 115 | 115 | 113 | 114 | 113 | 123 |
| Night-time (23:00 – 07:00) | 101 | 104 | 106 | 105 | 102 | 104 | 103 | 117 |

To show the expected noise egress based on the above limits being achieved, Figure 8 and Figure 9 have been produced. These present the night-time music noise egress levels at 63 Hz and 125Hz and show that with the above limits, low frequency noise egress from the site should comply with MCC requirements.




*Figure 8 (Cadna Model Showing Predicted Site Wide Noise Levels Radiating from Proposed Music Venue At 63Hz)*

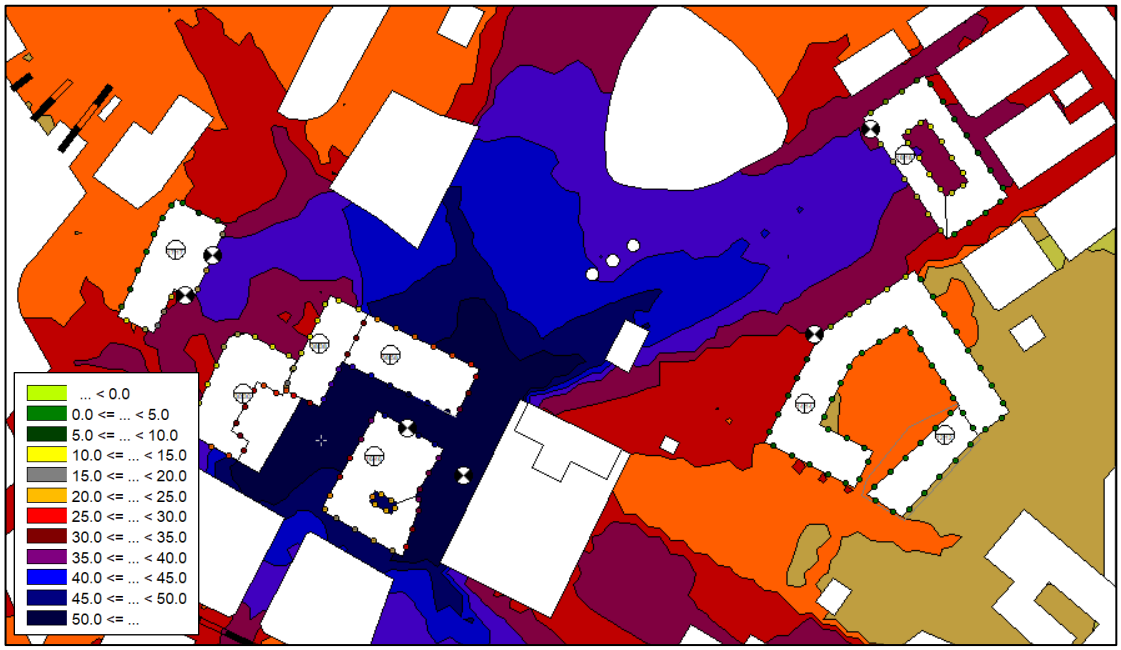



*Figure 9 (Cadna Model Showing Predicted Site Wide Noise Levels Radiating from Proposed Music Venue At 125Hz)*

## 9.4 Discussion of Music Noise Breakout

The assessment has demonstrated that, with appropriate management of amplified music levels in accordance with the operational noise limits presented in Table 8, music noise breakout from the venue can be effectively controlled with the existing façade. The recommended internal limits have been set to ensure that nearby noise sensitive receptors are suitably protected during both daytime, evening and night-time operating periods.

To put the internal noise level limits into context the noise levels provided in Table 10 were measured in a similar venue. Comparing these to the limits in Table 8, it is likely that during the day the space could be used as a typical bar and in the evening at night it could be used as a music venue with some low frequency noise limits applied at night.

*Table 10 Noise Levels Measured in a Similar Venue in Manchester*

| Location | Metric | Typical Highest Reverberant Noise Level (dB) at Octave Band Centre Frequency (Hz) | | | | | | | | dBA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| Live Music and Event Space | $L_{Aeq}$ | 106 | 113 | 105 | 104 | 101 | 96 | 95 | 90 | 106 |
| Busy bar with background music | $L_{Aeq}$ | 76 | 80 | 82 | 82 | 80 | 76 | 69 | 57 | 85 |

It is therefore recommended that a suitably specified and commissioned noise limiting system is installed and configured to maintain the internal operational limits set out in this report. The system should be tamper-proof, controlled by venue management and verified by post-completion testing prior to the commencement of live music events.

## 10.0 Plant Noise Emission Limits

Based on the results of the noise survey and the requirements of the Local Authority, Table 11 shows the proposed plant noise emission criteria be achieved incident at the nearest noise sensitive residential windows, in free-field conditions, with all plant operating simultaneously.

*Table 11 Plant Noise Egress Limits*

| Location | Plant Noise Emission Criteria, $L_{Ar,Tr}$ (dB) | | |
|---|---|---|---|
| | Daytime (07:00 – 23:00 hours) | Evening (19:00 – 23:00 hours) | Night-time (23:00 – 07:00 hours) |
| 1 | 51 | 49 | 38 |
| 2 | 50 | 46 | 38 |

Noise shall be assessed in accordance with BS4142:2014 with corrections applied for any plant emitting noise of a tonal or irregular quality. The above limits shall be subject to the final approval of the Local Authority.

## 11.0 Conclusion

The assessment has considered the suitability of the proposed ground-floor space at New Century Hall for use as a live music and entertainment venue, with particular regard to music noise breakout to nearby residential and commercial receptors.

A baseline noise survey was undertaken between 29 June and 2 July 2026 at representative positions around the site. The measured noise climate was dominated by road traffic, and the results have been used to establish daytime, evening and night-time music noise limits in accordance with Manchester City Council's Planning and Noise Technical Guidance.

Façade sound insulation testing indicates that the existing composite façade achieves an in-situ performance of approximately 25 dB $R'_w + C_{tr}$. This measured performance has been incorporated into a 3D noise model to assess music noise breakout to the nearest noise sensitive receptors.

The assessment indicates that the proposed venue can operate without causing unacceptable music noise impacts, provided that internal amplified music levels are controlled in accordance with the octave-band operational limits set out in this report. The daytime limits are governed by the proximity of the adjacent Redfern office building, while evening and night-time limits are governed by the more distant residential receptors.

Comparison with measured noise levels in a similar venue indicates that the space should be capable of operating as a bar during the daytime and as a live music venue during the evening and night-time periods. However, control of low-frequency music, particularly during the night-time period, may be required.

Any new fixed building services plant associated with the venue should also be designed to achieve the plant noise emission limits set out in this report at the nearest noise sensitive receptors, subject to final approval by Manchester City Council.

# Appendix A

## Acoustic Terminology

The acoustic terms used in this report are defined as follows:

dB — Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).

dBA — The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The $_A$ subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted

It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

$L_{90,T}$ — $L_{90}$ is the noise level exceeded for 90% of the period *T* (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.

$L_{eq,T}$ — $L_{eq,T}$ is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, *T*.

$L_{max}$ — $L_{max}$ is the maximum sound pressure level recorded over the period stated. $L_{max}$ is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the $L_{eq}$ noise level.

$L_p$ — Sound Pressure Level (SPL) is the sound pressure relative to a standard reference pressure of $2 \times 10^{-5}$ Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).

$L_w$ — Sound Power Level (SWL) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually $10^{-12}$ W).

# Appendix B

# Planning Policies, Standards & Guidance

## B.1 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010 (i.e. before the NPPF). The NPSE is the overarching statement of noise policy for England and applies to all forms of noise other than occupational noise, setting out the long term vision of Government noise policy which is to:

*"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."*

That vision is supported by the following NPSE noise policy aims which are reflected in three of the four aims of planning policies and decisions in paragraph 123 of the NPPF (see paragraph 8.2 (b) below):

*"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

The Explanatory Note to the NPSE has three concepts for the assessment of noise in this country:

**NOEL – No Observed Effect Level**
This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.

**LOAEL – Lowest Observable Adverse Effect Level**
This is the level above which adverse effects on health and quality of life can be detected.

**SOAEL – Significant Observed Adverse Effect Level**
This is the level above which significant adverse effects on health and quality of life occur.

None of these three levels are defined numerically and for the SOAEL the NPSE makes it clear that the noise level is likely to vary depending upon the noise source, the receptor and the time of day/day of the week, etc. The need for more research to investigate what may represent an SOAEL for noise is acknowledged in the NPSE and the NPSE asserts that not stating specific SOAEL levels provides policy flexibility in the period until there is further evidence and guidance.

The NPSE concludes by explaining in a little more detail how the LOAEL and SOAEL relate to the three NPSE noise policy aims listed above. It starts with the aim of avoiding significant adverse effects on health and quality of life, then addresses the situation where the noise impact falls between the LOAEL and the SOAEL when *"all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development."* The final aim envisages pro-active management of noise to improve health and quality of life, again taking into account the guiding principles of sustainable development which include the need to minimise travel distance between housing and employment uses in an area.

## B.2 National Planning Policy Framework (NPPF)

The following paragraphs are from the NPPF (published December 2024, amended February 2025):

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; and

c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

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."

Paragraph 198 also references the Noise Policy Statement for England (NPSE). This document does not refer to specific noise levels but instead sets out three aims:

- "Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
- Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
- Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development."

## B.3 Planning Practice Guidance on Noise

Planning Practice Guidance (PPG) under the NPPF has been published by the Government as a web based resource at http://planningguidance.planningportal.gov.uk/blog/guidance/. This includes specific guidance on Noise although, like the NPPF and NPSE the PPG does not provide any quantitative advice. It seeks to illustrate a range of effect levels in terms of examples of outcomes as set out in the following table:

| Perception | Examples of Outcomes | Increasing effect level | Action |
|---|---|---|---|
| Not noticeable | No effect | No Observed Effect | No specific measures required |
| Noticeable and not intrusive | Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life. | No Observed Adverse Effect | No specific measures required |
| | | Lowest Observed Adverse Effect Level | |

| Perception | Examples of Outcomes | Increasing effect level | Action |
|---|---|---|---|
| Noticeable and intrusive | Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. | Observed Adverse Effect | Mitigate and reduce to a minimum |
| | | Significant Observed Adverse Effect Level | |
| Noticeable and disruptive | The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area. | Significant Observed Adverse Effect | Avoid |
| Noticeable and very disruptive | Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory. | Unacceptable Adverse Effect | Prevent |

## B.4 British Standard 4142:2014 + A1:2019

When setting plant noise emission criteria reference is commonly made to BS 4142:2014 "*Methods for rating and assessing industrial and commercial sound".*

The procedure contained in BS 4142:2014 provides an assessment of the likely effects of sound on people when comparing the specific noise levels from the source with representative background noise levels. Where the noise contains "a tone, impulse or other characteristic" then various corrections can be added to the specific (source) noise level to obtain the "rating level".

BS 4142 states that: *"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs". An estimation of the impact of the specific noise can be obtained by the difference of the rating noise level and the background noise level and considering the following:*

• *"Typically, the greater this difference, the greater the magnitude of the impact."*

• *"A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."*

• *“A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.”*

• *“The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”*

The determination of the “rating level” and the “background level” are both open to interpretation, depending on the context.

## B.5 Defra NANR45: Assessment of Low Frequency Noise Complaints

This document aims to recommend an objective method for assessing low frequency noise suitable for use by Environmental Health Officers in the UK.

Criteria already in use in Germany, Sweden, Denmark, Netherlands and Poland were reviewed and compared against the experience from these countries in applying the criteria, which was found to be generally positive.

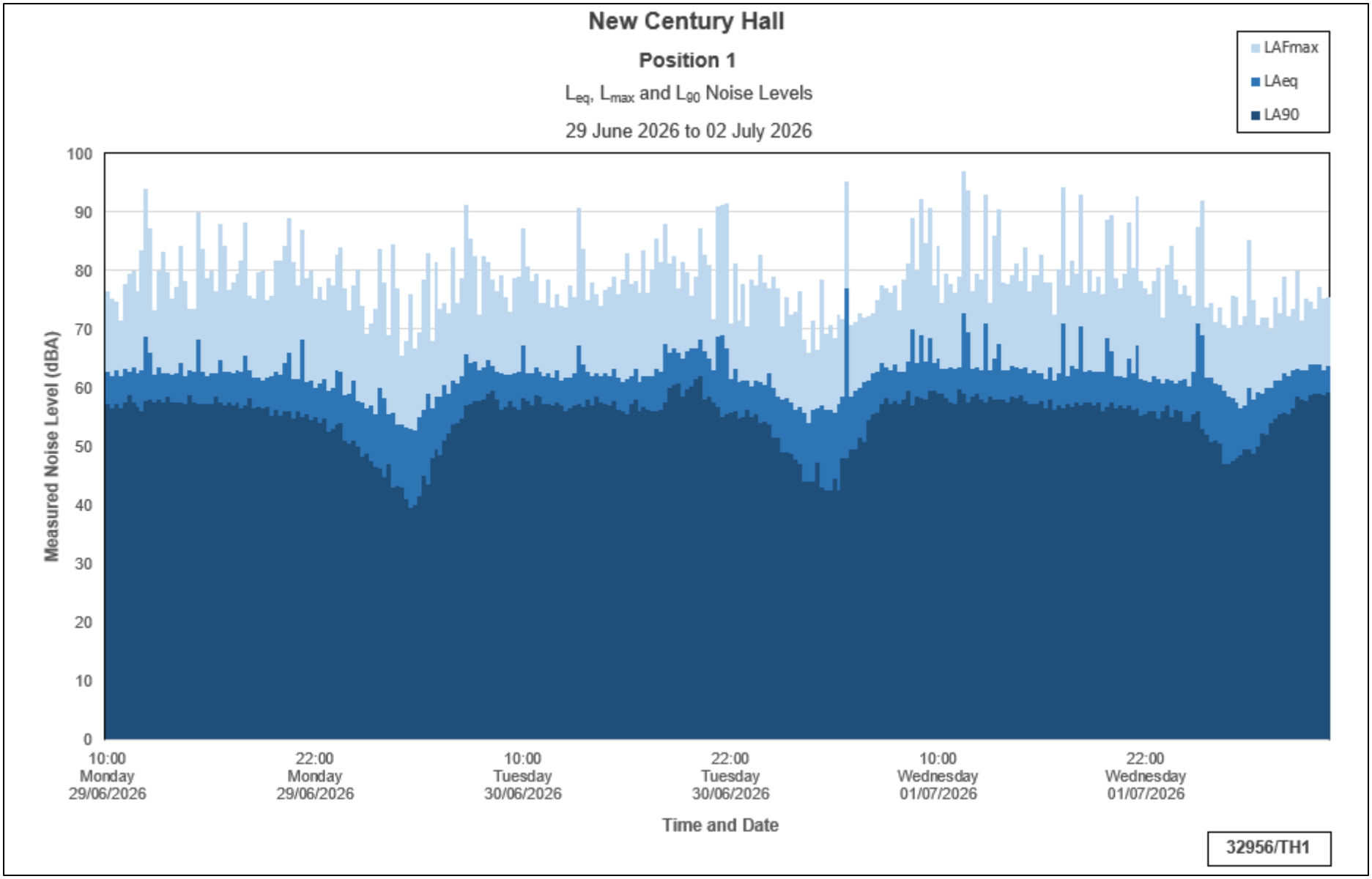
The above study was supplemented by field and laboratory studies to subsequently inform the proposed criteria (Moorhouse Curve) in 1/3 octave bands between 10 Hz and 160 Hz.

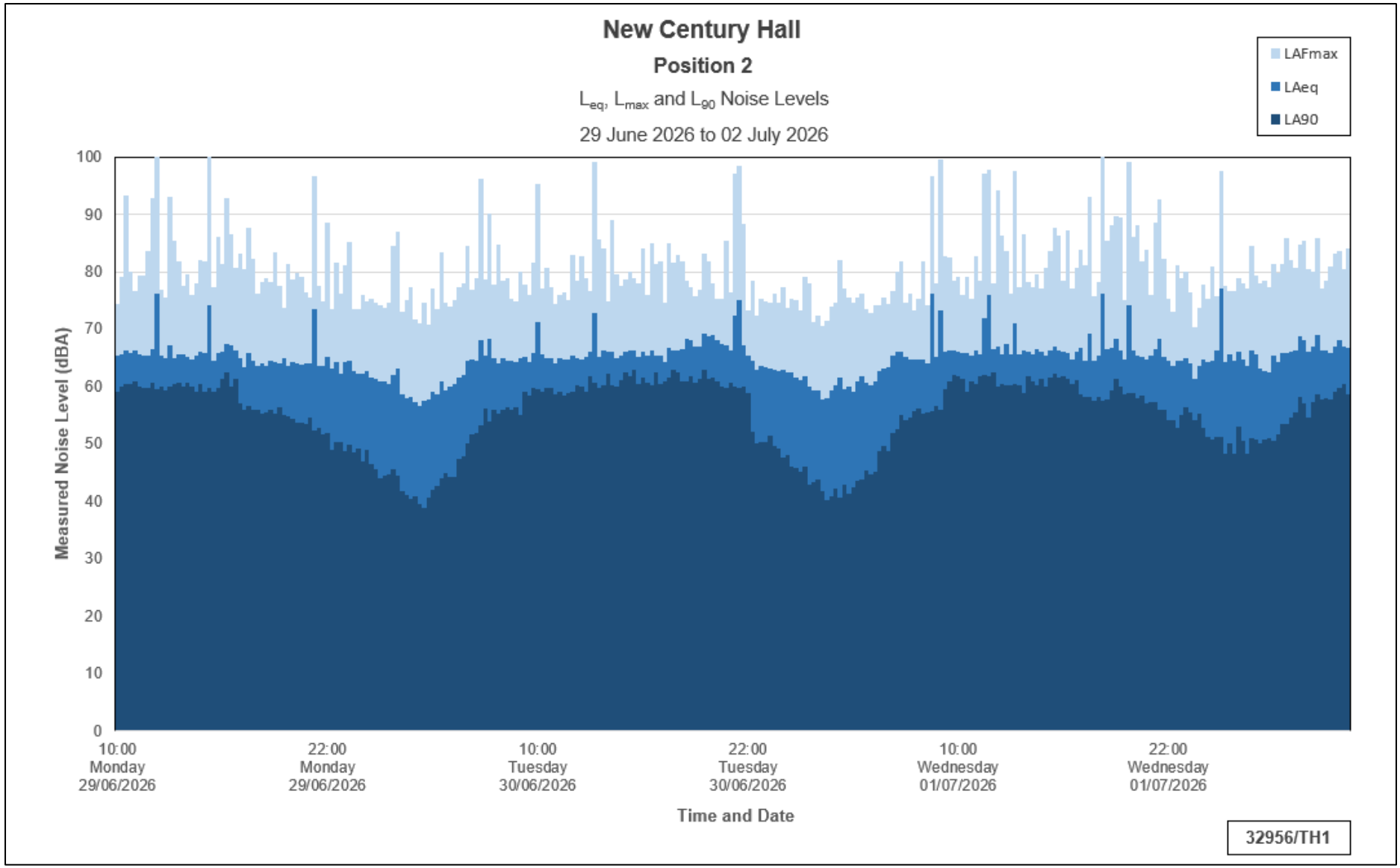
When logarithmically summed, the Moorhouse Curve provides limits at 63 Hz and 125 Hz of 47 dB $L_{eq}$ and 41 dB $L_{eq}$, respectively, with a relaxation of 5 dB during daytime hours.

The above levels provide a good practical basis to assess low frequency noise and are now implemented as a criterion for planning applications across many Local Authorities.

# Appendix C

# Time History Graphs


New Century Hall
Position 1
$L_{eq}$, $L_{max}$ and $L_{90}$ Noise Levels
29 June 2026 to 02 July 2026
LAFmax
LAeq
LA90
Measured Noise Level (dBA)
100
90
80
70
60
50
40
30
20
10
0
10:00 Monday 29/06/2026
22:00 Monday 29/06/2026
10:00 Tuesday 30/06/2026
22:00 Tuesday 30/06/2026
10:00 Wednesday 01/07/2026
22:00 Wednesday 01/07/2026
Time and Date
32956/TH1


New Century Hall
Position 2
$L_{eq}$, $L_{max}$ and $L_{90}$ Noise Levels
29 June 2026 to 02 July 2026
LAFmax
LAeq
LA90
Measured Noise Level (dBA)
100
90
80
70
60
50
40
30
20
10
0
10:00 Monday 29/06/2026
22:00 Monday 29/06/2026
10:00 Tuesday 30/06/2026
22:00 Tuesday 30/06/2026
10:00 Wednesday 01/07/2026
22:00 Wednesday 01/07/2026
Time and Date
32956/TH1