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Grape Street Square, Manchester

Acoustic planning report

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Version	Date	Comments	Author	Reviewer
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Summary

Sandy Brown has been commissioned by St John's Estate Ltd to provide an acoustic planning report to support a retrospective planning application for an external amenity and events space known as Grape Street Square in Manchester. A large screen with a Public Address (PA) system is installed for film screenings and sports events.

An environmental noise survey has been carried out to determine the existing sound levels in the area and the sound levels produced by the installed PA system at the site. A background noise survey was carried out between 15:20 on 17 October 2025 and 12:35 on 21 October 2025. Additional attended measurements were carried out on 16 June 2026 with the development in use to quantify the impact from the installed PA system.

Manchester City Council (MCC) typically stipulate that entertainment noise levels should be controlled to be no higher than 5 dB below the background noise level outside nearby noise sensitive receptors. The measurement results show that this criterion was exceeded by up to 17 dBA at Bonded Warehouse.

There may be scope to agree alternative criteria with MCC which could allow for the currently produced sound levels to be maintained based on adoption the *Noise control for open air concerts and events*. This would require a limit on the number of noise generating events to be agreed, amongst other mitigation measures to be adopted. If this approach is not approved by MCC, then the amplified sound system will need to be adapted to align with the typical criteria to produce entertainment noise levels in line with the typically stipulated criterion. This is however not expected to be practical with the current PA system, as the sound levels are likely to be too low for the system to be fit for purpose.

An assessment of patron noise egress has also been carried out. It is considered unlikely that patron noise would cause significant disturbance at the surrounding receptors.

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1 Introduction

Sandy Brown has been commissioned by St John's Estate Ltd to provide an acoustic planning report to support a retrospective planning application for the Grape Street Square development, Manchester.

As part of this, an environmental noise survey is required, the purpose of which is to establish the existing sound levels on and around the site.

This report presents the survey method, results and an assessment of noise egress.

Additional attended measurements were carried out on 16 June 2026 with the development in use to quantify the impact from entertainment noise.

2 Development

The development consists of an external events area including a bar, external seating with a big screen for sporting events and film screenings with an amplified sound system, as shown in Figure 1.

It is understood that the existing premises license allows regulated entertainment to 21:00, which can be extended to 23:00 with additional management plans.

The site is not proposed to operate during night-time hours (23:00 – 07:00).

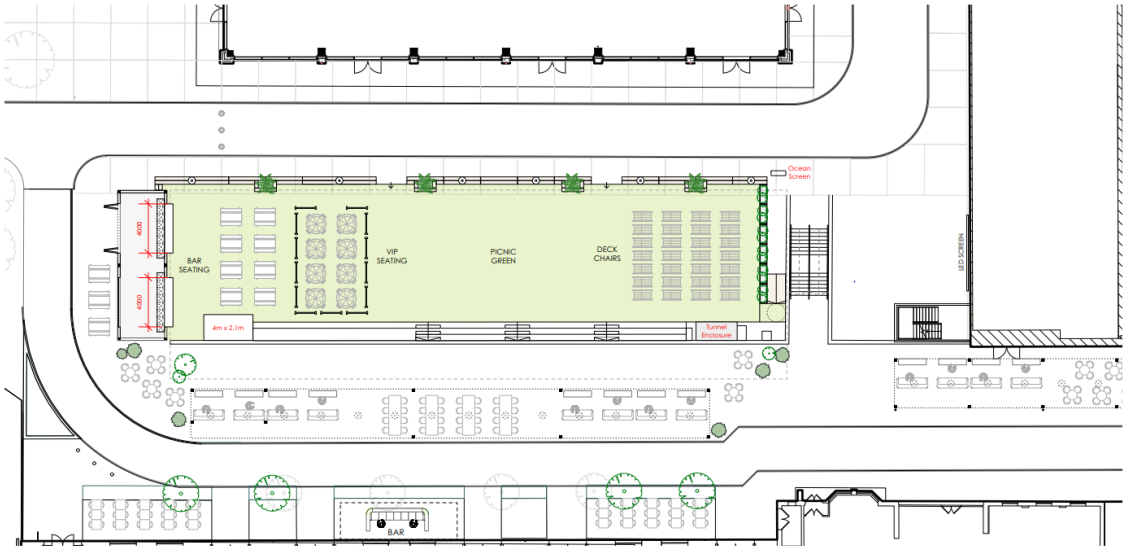


Figure 1 Site plan

3 Site description

The site location (highlighted in red) in relation to its surroundings is shown in Figure 2.

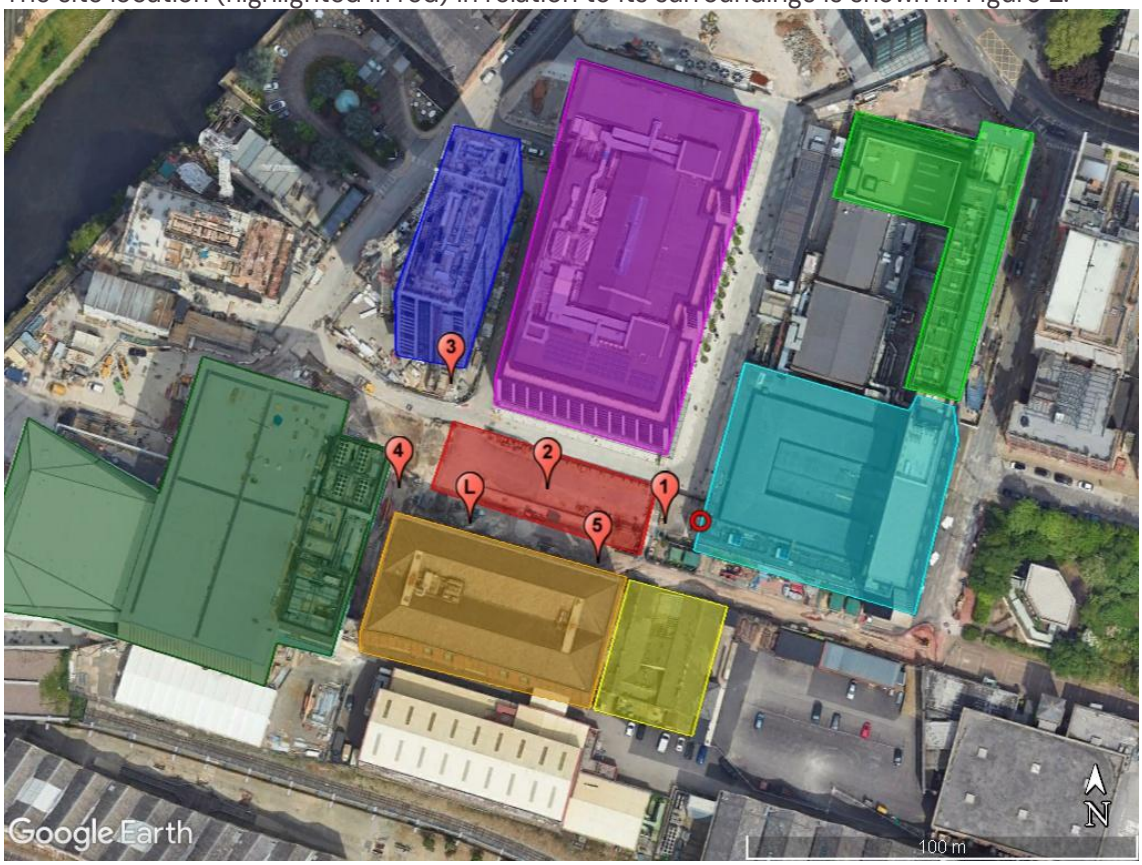


Figure 2 Aerial view of site (courtesy of Google Earth Pro)

The location of the large screen and amplified sound system is shown by the red 'O' on the side of Versa Studios, shown in cyan.

The site is close to the following premises:

- Union Tower (residential), shown in blue in Figure 2.
- Old Granada Studios (hotel), shown in green in Figure 2.
- Bonded Warehouse (office and commercial), shown in orange in Figure 2.
- Versa Studios, shown in cyan in Figure 2.
- Goods Yard, (offices and commercial) shown in pink in Figure 2.
- The Stables, bar and outdoor venue shown in yellow in Figure 2.
- Aviva Studios, music and arts venue (internal and external spaces), shown in dark green in Figure 2.

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4 Noise survey method

4.1 Unattended noise survey

An environmental noise survey has been carried out which included unattended noise measurements at the site over 4 days. The measurements were taken over 15-minute periods between 15:20 on 17 October 2025 and 12:35 on 21 October 2025.

The measurements and information provided in this report are in accordance with requirements of BS 7445, as referenced in Appendix A.

The microphone for the sound level meter was mounted to a pole extended approximately 1 m out of a partially open window on Level 5 on the Grape Street facade of Bonded Warehouse. The measurement position is indicated in Figure 2 by the letter 'L'. This location was chosen to be reasonably representative of noise levels at the site and outside the nearest noise sensitive premises.

Details of the equipment used and the noise indices measured are provided in Appendix A.

Weather conditions during the survey are described in Appendix A.

4.2 Attended noise survey

Attended sample measurements were carried out at five positions, indicated as '1' to '5' in Figure 2. The measurements were carried out over 5-minute periods between 13:00 and 15:15 on 16 June 2026 to capture use of the amplified sound system. On this day, measurements were carried out under the following conditions:

- A sport soundtrack
- A TV soundtrack
- No audio from the amplified sound system.

It was not possible to obtain measurements of each scenario and a representative ambient level measurement with no audio from the sound system at each position due to the operation of events area on the day. The measurements obtained are thought to be sufficiently representative.

The microphone for the sound level meter was mounted to a tripod approximately 1.2 m above ground level.

Details of the equipment used, the noise indices measured and the weather conditions during the survey are provided in Appendix A.

4.2.1 Measurement position 1

Measurement position 1 was located approximately 10 m from the wall the screen and loudspeakers were mounted on. The measurement position is shown in Figure 3.

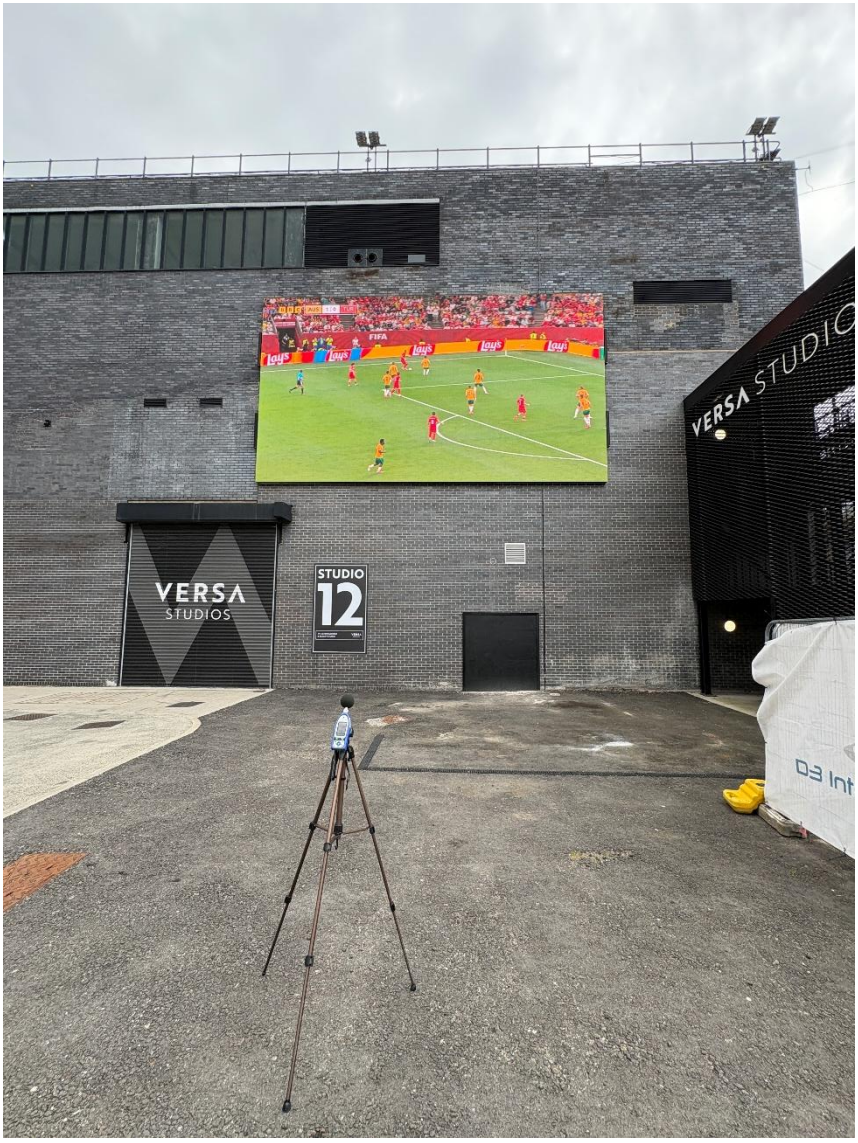


Figure 3 A photograph to show measurement position 1

4.2.2 Measurement position 2

Measurement position 2 was located in the centre of the new green area that forms part of the development.

4.2.3 Measurement position 3

Measurement position 3 was located at ground level, approximately 1 m from the facade of the Union Tower. The measurement position is shown in Figure 4. As seen in the photograph, there was no direct line of sight between the sound system and the measurement position.

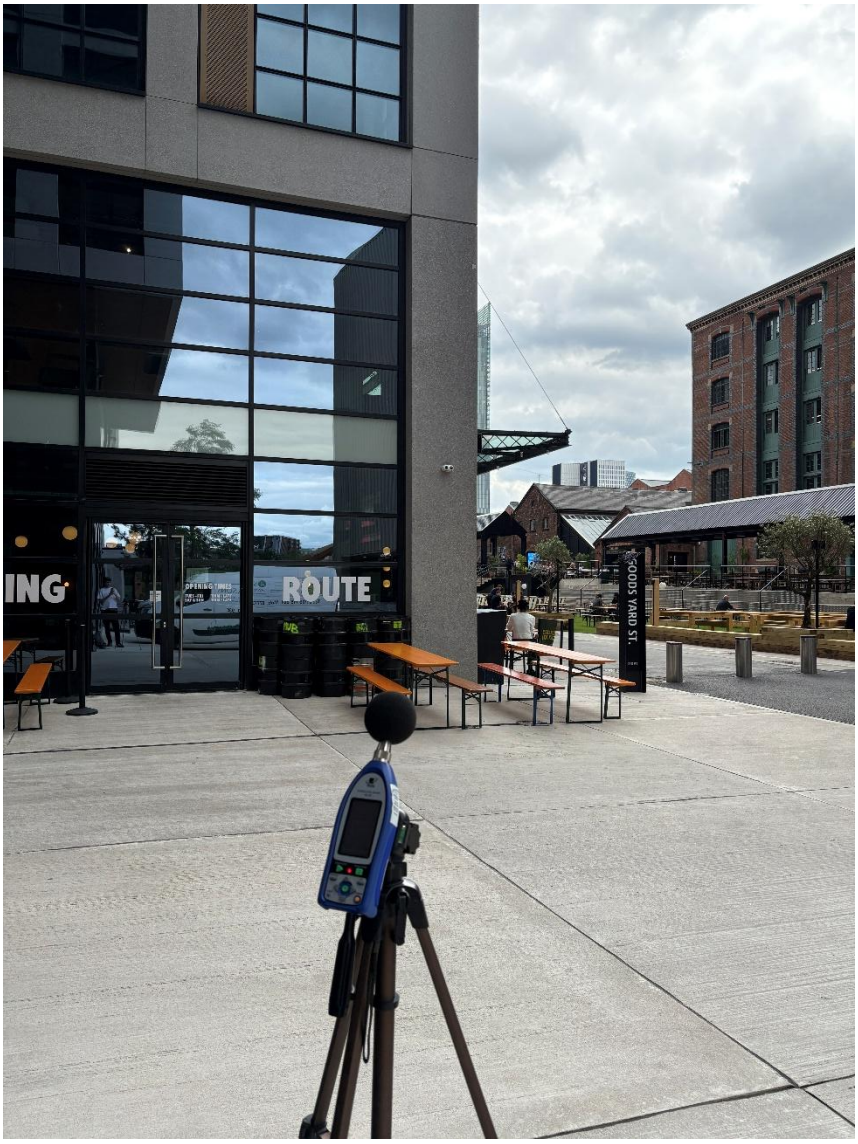


Figure 4 A photograph to show measurement position 3

4.2.4 Measurement position 4

Measurement position 4 was located directly below the overhang of the closest Aviva Studios facade to the amplified sound system. The measurement position is shown in Figure 5.



Figure 5 A photograph to show measurement position 4

4.2.5 Measurement position 5

Measurement position 5 was located approximately 1 m from the facade of the ground level window at Bonded Warehouse closest to the amplified sound system. The measurement position is shown in Figure 6.



Figure 6 A photograph to show measurement position 5

5 Assessment criteria

5.1 NPPF and NPSE

The National Planning Policy Framework, December 2024 and updated in February 2025 (NPPF) sets out the UK government's planning requirements. It supersedes previous guidance notes such as PPG24. No specific noise criteria are set out in the NPPF, or in the Noise Policy Statement for England (NPSE) 2010 to which it refers.

The NPPF, clause 198 states:

'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:

- *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.*
- *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 clause 200 states:

'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.'

The NPSE states that its aims are as follows:

'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.'*

As such, neither document sets out specific acoustic criteria for new residential developments, but they require consideration of the effect of existing noise on the new development and the effect of noise from the development on the surroundings.

5.2 NPPG 2014

The National Planning Practice Guidance (NPPG) is a web-based document which complements the NPPF and provides advice on how to deliver its policies. The document provides guidance on how to recognise when noise could be a concern and the factors that influence this, along with outline guidance on noise mitigation through engineering and design, etc.

5.3 BS 4142:2014+A1:2019

Guidance for noise emission from proposed new items of building services plant is given in BS 4142: 2014+A1:2019 *'Methods for rating and assessing industrial and commercial sound'*. BS 4142 provides a method for assessing noise from items such as building services plant against the existing background sound levels at the nearest noise sensitive.

BS 4142 suggests that if the noise level is 10 dB or higher than the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background level, it is an indication of having a low impact. Guidance on corrections for attention catching features is provided in Appendix A.

5.4 Manchester City Council criteria

5.4.1 Plant noise egress

Manchester City Council (MCC) provides guidance in relation to plant noise emissions in their *Noise and Planning guidance* document dated October 2022. The following is stipulated:

> *'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 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.'*

5.4.2 Entertainment noise egress

MCC *Noise and Planning Guidance* dated October 2022 states the following:

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

5.4.3 Guidance on noise control for open air concerts and events

MMC *Guidance on noise control for open air concerts and events* dated August 2022 states the following in relation to music noise:

> *"The music noise levels should not exceed the background noise level by more than 15 dB(A) over a 15 minute period at 1 m from the facade of any noise sensitive premises for events held between the hours of 09:00 and 23:00 for events that occur between 4 and 12 times per calendar year."*

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6 Unattended noise survey results

6.1 Observations

The dominant noise sources observed at the site during the unattended survey were from traffic on nearby roads including Grape Street and Goods Yard Street, including pedestrians.

Less significant noise sources included local wildlife and distant plant noise.

6.2 Measurement results

A graph showing the results of the unattended measurements is provided in Appendix B.

Ambient noise levels measured during the unattended survey are presented in Table 1.

Table 1 Ambient noise levels measured during the unattended survey

Date	Day (07:00 – 23:00) $L_{Aeq,16h}$ (dB)	Night (23:00 – 07:00) $L_{Aeq,8h}$ (dB)
Friday 17 October 2025	57 [1]	50
Saturday 18 October 2025	56	51
Sunday 19 October 2025	54	50
Monday 20 October 2025	62	50
Tuesday 21 October 2025	65 [1]	-
Average	57	50

[1] Measurement not made over full period due to monitoring start and end time (the measurement on 17 October 25 was over 8 hours, and on 21 October 25 over 5 hours); not included in the average.

In line with BS 4142:2014+A1:2019, representative background sound levels have been determined using statistical analysis of the continuous measurements.

Day and night statistical analysis of representative values for the site are given in Figure 7.

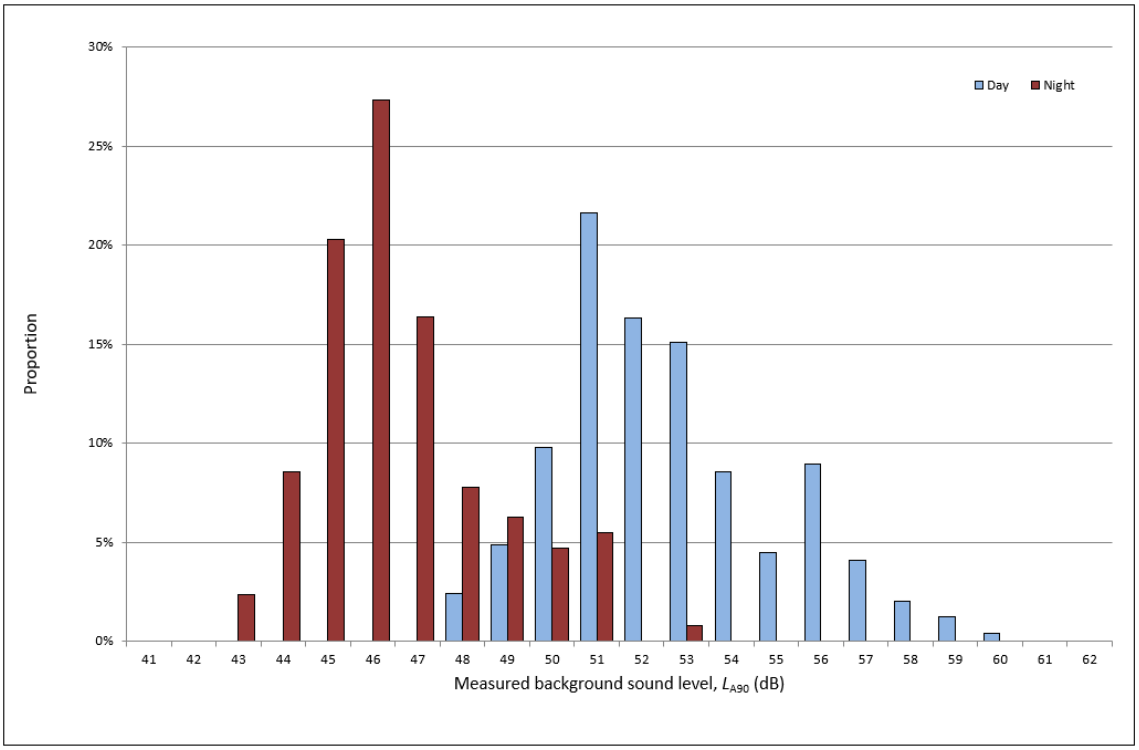


Figure 7 Statistical analysis of representative measured sound pressure levels

From this analysis, the representative background sound levels measured during the survey were $L_{A90,15min}$ 51 dB during the day and $L_{A90,15min}$ 45 dB at night.

Octave-band representative background sound levels are provided in Table 2.

Table 2 Octave-band representative background sound levels

Time period	L_{90} (dB) at each octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Day (07:00–23:00)	54	52	47	47	46	41	34	46
Night (23:00–07:00)	49	49	43	40	40	35	27	42

7 Amplified sound egress

7.1 Limits

Based on the above criteria given in Section 5.4.2 and the unattended measurement results, the cumulative noise egress level from any amplified sound associated with the

development should not exceed the limits set out below (based on 5 dB below the background noise level).

The limits apply at 1 m from the worst affected windows of the nearest noise sensitive premises and are presented as facade levels. In this case, these limits would apply at all noise sensitive locations identified during the day, and at Union Co-living Apartments during the night.

Table 3 Amplified sound egress limits at 1 m from the nearest noise sensitive premises

	Amplified sound egress limits at 1 m from noise sensitive premises, $L_{eq,5min}$ (dB) at each octave-band centre frequency (Hz)							
Time of day	63	125	250	500	1000	2000	4000	dBA
Day (07:00-23:00)	49	47	42	42	41	36	29	46
Night (23:00-07:00)	44	44	38	35	35	30	22	40

7.2 Attended survey results

7.2.1 Observations

The dominant noise sources observed during the attended survey included noise from the amplified sound system when it was in use, as well as speech from members of the public using the available outdoor seating areas at Manchester Goods Yard, Grape Street Square and The Stables.

7.2.2 Measurement results

A summary of the ambient noise level measurement results from the attended positions is presented in Table 4. Where measurements were obtained in the free-field condition, they have been corrected by the addition of 3 dB for comparison against the noise levels measured during the unattended noise survey.

Table 4 Measured ambient sound pressure level during the attended survey

Time	Scenario	Measured ambient sound pressure level, L_{eq} (dB) Octave-band centre frequency (Hz)							
		63	125	250	500	1000	2000	4000	dBA
Position 1 [1]									
13:17	Sport	61	61	61	64	61	56	52	65
14:17	TV	65	66	73	68	62	58	53	69
14:40	No audio	60	59	57	56	51	47	42	57

Time	Scenario	Measured ambient sound pressure level, L_{eq} (dB) Octave-band centre frequency (Hz)							
		63	125	250	500	1000	2000	4000	dBA
Position 2 [1]									
14:23	TV	65	64	66	64	66	57	49	68
13:35	No audio	58	57	53	53	49	43	37	54
Position 3 (Union Tower)									
13:06	Sport	60	55	53	52	51	46	40	55
15:09	Sport	60	56	54	53	52	46	40	56
13:41	No audio	62	57	54	52	49	46	38	54
Position 4 [1]									
15:03	Sport	62	59	57	57	58	55	50	62
14:33	No audio	61	58	55	53	50	47	40	55
Position 5 (Bonded Warehouse)									
15:15	Sport	58	55	58	57	61	50	41	63
13:47	No audio	56	53	52	53	50	47	43	55

[1] Measurements obtained in the free-field condition and have been corrected by the addition of 3 dB in each octave band to allow for comparison against the criteria presented in Table 3.

At each position, the background (L_{90}) noise level was also measured without audio from the sound system. These measurement results are presented in Table 5. Where measurements were obtained in the free-field condition, they have been corrected by the addition of 3 dB for comparison against the noise levels measured during the unattended noise survey.

Table 5 Measured background noise level (L_{90}) with no audio

Time	Position	Measured background sound pressure level, L_{90} (dB) Octave-band centre frequency (Hz)							
		63	125	250	500	1000	2000	4000	dBA
14:40	Position 1	58	56	53	53	48	45	38	54
13:35	Position 2	58	57	53	53	49	43	37	54
13:41	Position 3 (Union Tower)	57	53	50	48	46	41	33	50
14:33	Position 4	60	56	53	51	49	44	36	53

Time	Position	Measured background sound pressure level, L_{90} (dB) Octave-band centre frequency (Hz)							
		63	125	250	500	1000	2000	4000	dBA
13:47	Position 5 (Bonded Warehouse)	52	51	49	49	46	40	33	50

8 Assessment

It can be seen from the results in Table 4 that the measured ambient sound levels at all positions (except 3) are significantly higher with audio from the sound system than without. This is not compliant with the proposed limits set out in Table 3. Therefore, the sound system operations are not currently compliant with the typical requirements of MCC for entertainment noise.

Subjectively, audio from the sound system was clearly audible at all measurement positions, including position 3 where the measured ambient noise level was comparable to the condition with no audio from the sound system.

8.1 Recommendations

Either the sound system will need to be adapted to ensure that the limits set out in Table 3 are complied with or alternative criteria will need to be targeted and agreed with MCC.

8.1.1 Comply with typical MCC entertainment noise limits

To comply with the limits presented above, the following options could be considered:

- Reducing the noise level of the sound system by approximately 17 dBA (with specific reductions as octave bands). This is however likely to render the sound system to be unfit for use as the sound levels would likely be too low in the events space.
- Adapting the sound system to provide localised audio at a reduced noise level closer to the target audience. Well distributed and directional loudspeakers positioned close to the audience could be used to allow for higher localised sound levels, whilst complying with the criteria.

Other options may be available that would allow for the criteria to be met.

It is expected that these would require further investigation and measurements if pursued.

8.1.2 Noise control and open air concerts and events guidelines

It may be possible to limit the number of events (which feature amplified sound) to be held on no more than 12 calendar days each year and agree an alternative criterion in line with the guidelines presented in Section 5.4.3. This approach is subject to agreement with MCC.

It should be noted, that if this were to be pursued, additional procedures would likely need to be adhered to. This may include providing a management plan, notifying local residents and businesses of planned events and providing additional information to MCC for each specific event.

This approach is however expected to allow for the current sound system operations to be maintained.

9 Patron noise egress

9.1 Noise egress from occupants of external amenity areas

MCC does not specifically stipulate criteria in relation to noise egress associated with operational noise from the occupants of external amenity spaces.

The *Noise and Planning Guidance* document dated October 2022 refers to the WHO *Guidelines for Community Noise* 1999 which have been agreed with MCC and successfully adopted for similar previous assessments.

The guideline values provided in the WHO guidelines for the impact of community noise on residential premises are given in Table 6.

Table 6 WHO guidelines for the impact of community noise

Specific environment	Health effect	Noise level
Outdoor living areas	Serious annoyance, daytime and evening	$L_{Aeq,16hr}$ 55 dB
	Moderate annoyance, daytime and evening	$L_{Aeq,16hr}$ 50 dB
Outside bedrooms	Sleep disturbance, window open	$L_{Aeq,8hr}$ 45 dB

Speech noise associated with the outdoor seating areas is only likely to occur during peak periods and not for the whole 16-hour time base given during the day (07:00 to 23:00). The existing ambient noise levels also generally exceed those provided in the WHO guidelines. As such, any health effects are likely to be less severe than those stated. On this basis, it is considered that an external noise level of $L_{Aeq,1hr}$ 55 dB between 07:00 – 23:00 hrs would be appropriate.

9.2 Assessment

For this development, the actual seating arrangement has capacity for up to 250 patrons. An assessment has been carried on this basis with patrons modelled to be evenly distributed across the site.

Noise egress predictions are based up to 50% of the patrons speaking simultaneously which is considered worst-case.

A sound pressure level of L_{Aeq} 60 dB at 1 m per person speaking (based on normal vocal effort) has been used as the basis of this assessment as defined in ISO9921. Raised vocal levels are approximately 5 dB higher.

The predicted noise levels at the nearby noise sensitive receptors due to patron noise within the external amenity areas are presented in Table 7.

Table 7 Predicted patron noise egress levels

Receptor	Predicted patron sound pressure level due to patron activity, L_{Aeq} (dB)	
	Normal vocal level	Raised vocal level
Union Tower	41	46
Versa studios	44	49
Goods Yard	50	55
Bonded Warehouse	44	49

On this basis it is considered unlikely that patron noise would cause significant disturbance at the surrounding receptors.

10 Conclusion

A noise survey has previously been carried out at the site to establish the background noise level in the area. Key noise sources at the site were noted as traffic on nearby roads (eg Grape Street and Goods Yard Street), including pedestrians. Measured ambient noise levels were in the range $L_{Aeq,15min}$ 56 to 65 dB during the day, and $L_{Aeq,15min}$ 50 to 51 during the night. The representative background sound levels measured during the survey were $L_{A90,15min}$ 51 dB during the day and $L_{A90,15min}$ 45 dB at night.

Additional measurements were carried out to quantify the impact of the amplified sound system on nearby noise sensitive premises. The measurement results show that the amplified noise egress criteria have been exceeded. The amplified sound system will need to be adapted to align with the criteria or limits in line with the noise control for open air concerts and events would need to be agreed with MCC (including limiting the number of events).

An assessment of patron noise has been undertaken, which assumes 250 occupants shall use the space at peak times. The predicted patron noise egress levels are lower or in line with the recommended criterion of L_{Aeq} 55 dB applicable during the day and evening, and lower than the existing ambient noise levels.

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Appendix A

Survey details

Reference standards

- BS 7445 Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures*
- BS 7445: Part 2: 1991 *Description and measurement of environmental noise, Part 2. Guide to the acquisition of data pertinent to land use*.

Equipment

The unattended and attended noise measurements were taken using Rion NL-52 sound level meters.

Calibration details for the equipment used during the surveys are provided in Table A1.

Table A1 Equipment calibration data

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Sound level meter	NL-52/01010788	Rion	24 Sep 27	TRAC25/09422
Microphone	UC-59/20416	Rion	24 Sep 27	TRAC25/09422
Pre-amp	NH-25/11436	Rion	24 Sep 27	TRAC25/09422
Calibrator	SV30A/10559	Svantek	24 Sep 27	TRAC25/09422
Sound level meter	NL-52/00932326	Rion	8 May 28	TCRT26/2310
Microphone	UC-59/09251	Rion	8 May 28	TCRT26/2310
Pre-amp	NH-25/32354	Rion	8 May 28	TCRT26/2310
Calibrator	NC-74/34536129	Rion	8 May 28	TCRT26/2309

Calibration of the meters used for the measurements is traceable to national standards. Calibration certificates for the sound level meter used in this survey are available upon request.

Calibration checks were carried out on the meters and their measurement chains at the beginning and end of the survey. No significant calibration deviation occurred.

Noise indices

Noise indices recorded included the following:

- $L_{Aeq,T}$ The A-weighted equivalent continuous sound pressure level over a period of time, T.
- $L_{AFmax,T}$ The A-weighted maximum sound pressure level that occurred during a given period, T, with a fast time weighting.
- $L_{A90,T}$ The A-weighted sound pressure level exceeded for 90% of the measurement period. Indicative of the background sound level.

Sound pressure level measurements are normally taken with an A-weighting (denoted by a subscript 'A', eg, L_{A90}) to approximate the frequency response of the human ear.

A more detailed explanation of these quantities can be found in BS 7445: Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures*.

Weather conditions

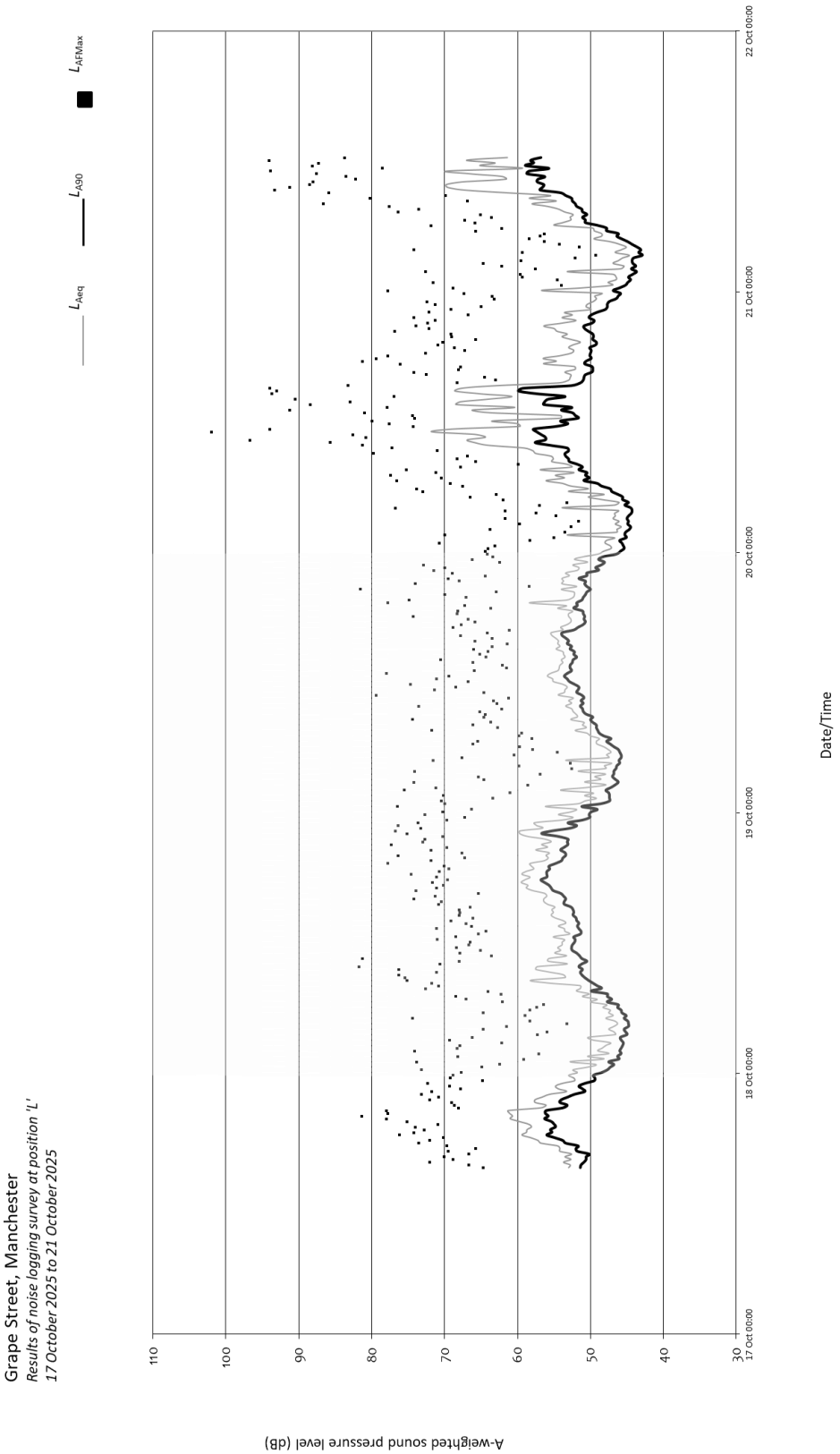
During the unattended noise measurements, weather reports for the area indicated that temperatures varied between 11°C at night and 16°C during the day, and the wind speed was less than 5 m/s.

These weather conditions are considered suitable for obtaining representative measurements.

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Appendix B

Results of unattended measurements at Position L


Grape Street, Manchester
Results of noise logging survey at position 'L'
17 October 2025 to 21 October 2025
L_{Aeq}
L_{A90}
L_{AFMax}
A-weighted sound pressure level (dB)
110
100
90
80
70
60
50
40
30
17 Oct 00:00
18 Oct 00:00
19 Oct 00:00
20 Oct 00:00
21 Oct 00:00
22 Oct 00:00
Date/Time

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