

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

23190-R05-A

18 July 2025

Upper and Lower Campfield, Manchester

Planning condition 12 discharge report

London, Manchester, Edinburgh, Birmingham, Leeds, Bristol

Sandy Brown Ltd

Registered in England & Wales

No. 13227735

post@sandybrown.com

www.sandybrown.com

Registered Office: 55 Charterhouse Street, London EC1M 6HA

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Version	Date	Comments	Author	Reviewer
A	18 Jul 25		GM	MR

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Summary

Sandy Brown has been commissioned by Allied London Campfield Development Ltd to provide acoustic advice in relation to the proposed development at Upper and Lower Campfields, 5 Liverpool Road, Manchester, M3 4FP.

The proposal comprises a combination of shared workspace, private offices, studios and cafe/event workspaces across the two former Campfield Market buildings.

Planning permission has been granted under application number 138377/FO/2023. Plant noise egress limits are set out in 23190-R02-E *Acoustic planning report* dated 4 March 2024, in line with the Manchester City Council requirements and the requirements of Planning condition 12.

Measurements of newly commissioned plant items were undertaken on 30 June 2025 and 7 July 2025. This report details the measurement methodology and results.

An assessment of plant noise egress has been undertaken to discharge Planning condition 12.

Due to the prevailing noise climate, direct noise contributions from plant associated with the Upper Campfield development was not able to be measured. This is a strong indicator that the cumulative plant noise level is at least 10 dB below the ambient noise levels. As such, it is considered that the plant noise egress limits at all noise sensitive receptors are met.

It is predicted that plant noise associated with the Lower Campfield development will comply with the plant noise egress criteria for day and night at all noise sensitive receptors.

On this basis, it is considered that this will be sufficient to discharge Planning condition 12.

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1 Introduction

Sandy Brown has been commissioned by Allied London Campfield Development Ltd to provide acoustic advice in relation to the proposed development at Upper and Lower Campfields, 5 Liverpool Road, Manchester, M3 4FP.

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2 Site description

2.1 The site and its surrounding

The site location in relation to its surroundings is shown in Figure 1.



Figure 1 Aerial view of site (Courtesy of Google Earth Pro)

The site is generally surrounded by busy city centre roads, quieter back streets and distant tram (Metrolink) and railway lines.

Upper Campfield, the smaller of the two, is bound by Liverpool Road to the south, Tonman Street to the north, Barton Street to the west and borders directly onto several restaurants to the east, with Deansgate slightly further east.

Lower Campfield, the larger of the two, is bound by Liverpool Road to the south, a pedestrianised section of Tonman Street to the north, Lower Byrom Street to the west, and Byrom Street to the east.

2.2 Adjacent premises

The closest noise sensitive receptors to the site are:

- Residential premises to the north shown in blue in Figure 1.
- Existing offices, shown in orange.
- White Lion pub and residential premises, shown in yellow.
- Oxnohle pub and residential premises, shown in green.

Other noise sensitive receptors are better screened and located at a greater distance from noise generating plant items.

3 Building services noise egress criteria

3.1 Planning condition 12

The wording of Planning condition 12 as per application number 138377/FO/2023 is as follows:

“(a) Prior to the first use of the development (for Upper or Lower Campfield Markets), details of any externally mounted ancillary plant, equipment and servicing shall be submitted for approval in writing by the City Council, as Local Planning Authority. For the avoidance of doubt, externally mounted 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.

(b) Prior to the first use of the development (For Upper or Lower Campfield Markets), a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. A verification report and measures shall be agreed until such as time as the development complies with part (a) of this planning condition”

3.2 Standard guidance

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 nearby noise sensitive premises.

BS 4142 suggests that if the noise level is 10 dB or more 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 sound level, it is an indication of having a low impact.

If the noise contains 'attention catching features' such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

3.3 Plant noise egress limits

The following plant noise egress limits were established following a baseline noise survey at the site between the 20 April 2023 and 24 April 2023, as detailed in 23190-R02-E *Acoustic planning report* dated 4 March 2024.

The cumulative noise levels from the operation of all plant should not exceed the limits set out in Table 1. These limits apply at 1 m from the worst affected windows of the nearest noise sensitive premises and are presented as facade levels. These have been corrected relative to the measured free-field background sound levels by the addition of 3 dB (as per the guidance provided in BS 8233:2014 Section G.2.1).

Table 1 Plant noise limits at 1 m from the nearest noise sensitive premises

Time of day	Location	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)
Day (07:00-23:00)	Rear	39
	Liverpool Road	44
Night (23:00-07:00)	Rear	35
	Liverpool Road	40

4 The development

The development is to comprise a combination of shared workspace, private offices, studios and cafe/event spaces across the two former Campfield Market buildings.

Upper Campfields has a plant room on the top floor, with noise emitting louvres at roof level. Lower Campfields has two plant rooms on the ground floor, with noise emitting louvres at street level. The locations of plant rooms in relation to their surroundings are shown in red in Figure 2.

Plant units at Lower Campfields have been adjusted to operate at a setback duty, which has been confirmed to be the correct duty for the development in operation. It has been confirmed that all plant was correctly balanced and commissioned at the time of testing.



Figure 2 Plant room locations

The location of plant rooms within the development for Upper and Lower Campfields are shown in Figure 3 and Figure 4 , respectively.

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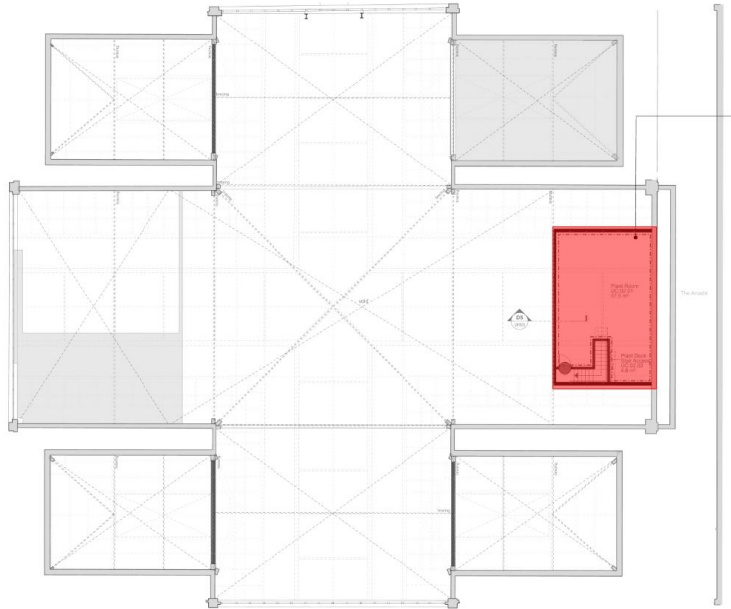


Figure 3 Upper Campfields plant room

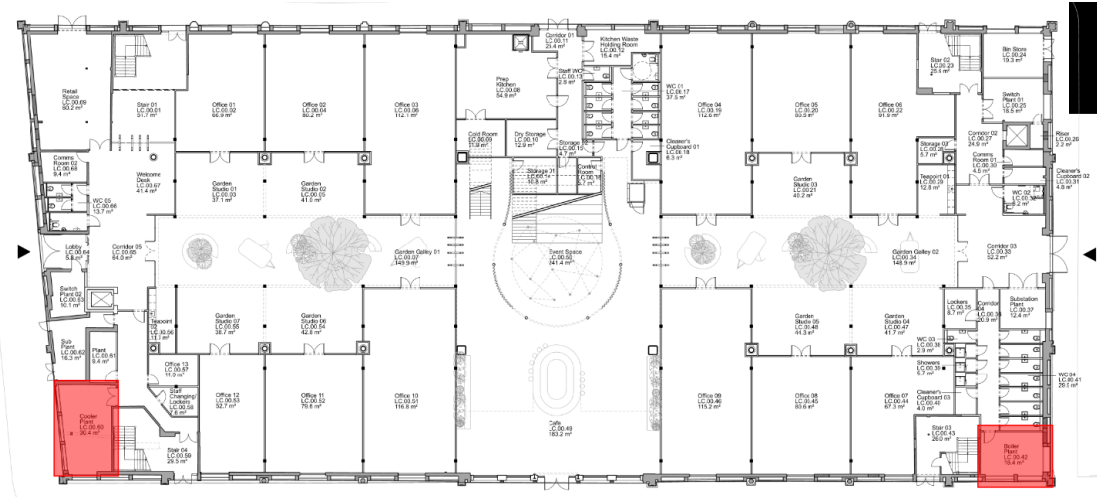


Figure 4 Lower Campfields plant rooms

5 Attended noise measurements

Attended noise measurements were taken outside the plant room louvres and at locations representative of the closest noise sensitive receptors.

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

5.1 Methodology

Attended sample measurements were taken at 8 positions around the site. These are indicated in Figure 1 as positions 1 to 8. The measurements at Position 1 were 5 minutes in duration and carried out on 30 June 2025. Measurements at positions 2 to 8 were all 1 minute in duration and carried out on the 7 July 2025.

At each position the microphone was mounted on a tripod approximately 1.5 m above the ground level. At Position 1 the microphone was located approximately 3.5 m from any other reflective surface. At positions 2 to 5, the microphone was located approximately 1 m from the plant room louvres. At positions 6 to 8, the microphone was located approximately 1 m from a reflective surface.

Measurements were taken with plant and without plant in operation.

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

Dominant noise sources occurring during the measurements were noted.

5.1.1 Weather conditions

During the attended noise measurements, the weather was generally clear and dry and no rain occurred. These weather conditions are considered suitable for obtaining representative measurements.

5.2 Measurement results

A summary of noise levels and key sources recorded with and without plant in operation are presented in in Table 2. No attention catching features from plant were observed.

Table 2 Noise levels and key noise sources from attended measurements

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,1min}^{[2]}$	$L_{A90,1min}^{[2]}$	$L_{AFmax,1min}^{[3]}$	
<i>Without plant in operation</i>					
1 ^[1]	11:35	56	48	66	Road traffic on Deansgate, Liverpool Road, and Tonman Street
2	16:42	61	65	70	Road traffic on Liverpool Rd
3	16:42	61	65	70	Road traffic on Liverpool Rd
4	17:37	64	62	71	Road traffic on Liverpool Rd
5	17:31	63	59	72	Road traffic on Liverpool Rd and Lower Byron St
6	17:47	56	53	68	Road traffic on Liverpool Rd
7	17:51	61	58	70	Road traffic on Liverpool Rd
8	17:56	66	60	75	Road traffic on Liverpool Rd and Lower Byron St
<i>With plant in operation</i>					
1 ^[1]	11:02	52	48	65	Road traffic on Deansgate, Liverpool Road, and Tonman Street. Plant noise could not be perceived at this location.
2	16:41	64	57	74	Boiler room plant louvre, Road traffic on Liverpool Rd
3	16:45	66	59	75	Boiler room plant louvre, Road traffic on Liverpool Rd

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,1min}^{[2]}$	$L_{A90,1min}^{[2]}$	$L_{AFmax,1min}^{[3]}$	
4	17:21	64	62	76	Cooling plant room louvre, Road traffic on Liverpool Rd
5	17:13	64	61	80	Cooling plant room louvre, Road traffic on Liverpool Rd and Lower Byron St
6	16:58	58	51	66	Boiler room plant louvre, Road traffic on Liverpool Rd
7	16:51	66	54	75	Road traffic on Liverpool Rd. Plant noise could not be perceived at this location.
8	17:27	64	60	76	Road traffic on Liverpool Rd. Plant noise could not be perceived at this location.

[1] Presented results for measurement Position 1 are based on one 5 minute measurement

[2] Presented results are the arithmetic average of 3 x 1 minute measurements at the measurement position.

[3] Presented result is the highest measured L_{AFmax} out of the 3 x 1 minute measurements at the measurement position

6 Noise Impact Assessment

6.1 Noise level comparison

An analysis of measured noise levels with the plant on and off has been shown in Table 3.

Table 3 Measured noise level comparison

Position	Sound pressure level, L_{Aeq} (dB)		Specific noise level, L_{Aeq} (dB)
	Plant on	Plant off	
1	52	56	< 42
2	64	61	61

Position	Sound pressure level, L_{Aeq} (dB)		Specific noise level, L_{Aeq} (dB)
	Plant on	Plant off	
3	66	61	64
4	64	64	< 54
5	64	63	57
6	58	56	54
7	66	61	64
8	64	66	< 54

6.2 Upper Campfield

A comparison of measurements at Position 1 shows higher noise levels were measured when the plant was switched off.

Given the lack of feasibility of measuring close to the rooftop louvre, and the prevailing noise climate, it was not possible to measure the direct noise from the Upper Campfield plant room. The measurement is a strong indication that the cumulative plant noise is at least 10 dB below the ambient noise level. This indicates that the plant noise egress limits have been met.

6.3 Lower Campfield

Based on the measured noise levels at positions 2 to 5, the sound level at 1 m from each plant room louvre is:

- Boiler room – L_{Aeq} 64 dB at 1 m
- Cooler plant room – L_{Aeq} 57 dB at 1 m.

Based on the above, the noise level predicted at the closest noise sensitive receptors are shown in Table 4. These calculations consider distance attenuation.

As the existing offices are a commercial premises, these have only been considered against plant noise egress limits for day periods.

All other noise sensitive receptors benefit from acoustic screening or greater distance attenuation than the receptors considered, as such, the noise levels will be less than those presented below.

Table 4 Predicted noise levels at closest noise sensitive receptors

Noise sensitive receptor	Predicted noise level , L_{Aeq} (dB)	Plant noise egress limits, L_{Aeq} (dB)
Residential premises (north)	29	39 (day), 35 (night)
White Lion Pub	40	44 (day), 40 (night)
Oxnoble Pub	35	44 (day), 40 (night)
Offices between developments	41	44 (day)

For plant associated with Lower Campfields, it is predicted that the plant noise egress criteria will be achieved at all noise sensitive receptors for day and night periods.

7 Conclusion

Plant noise measurements have been carried out to determine whether plant associated with the Upper and Lower Campfield developments comply with the plant noise egress criteria, in accordance with Planning condition 12. The post-completion measurements were undertaken on 30 June 2025 and 7 July 2025.

Due to the prevailing noise climate, direct noise from plant associated with the Upper Campfield development was not able to be measured. This is a strong indicator that the cumulative plant noise level is at least 10 dB below the ambient noise levels. As such, it is considered that the plant noise egress criteria at all noise sensitive receptors are met.

It is predicted that plant noise associated with the Lower Campfield development will comply with the plant noise egress criteria for day and night at all noise sensitive receptors.

On this basis, it is considered that this will be sufficient to discharge Planning condition 12.

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 noise measurements on the 30 June 2025 and 7 July 2025 were taken using a NTi XL3 sound level meter and a Rion NL-52 sound level meter, respectively.

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

Table A1 Equipment calibration data

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
<i>30 June 2025</i>				
Sound level meter	XL3/ A3A-01221-F0	NTi	2 Dec 26	UCRT24/2613ATR UCRT24/2615
Microphone	MC230A/A280 47	NTi	2 Dec 26	UCRT24/2613ATR
Pre-amp	MA220-230/14610	NTi	2 Dec 26	UCRT24/2613ATR
Calibrator	SV30A/10567	Svantek	20 Sep 26	UCRT24/2251
<i>7 July 2025</i>				
Sound level meter	NL-52/01010788	Rion	20 Sep 25	TCRT23/1666
Microphone	UC-59/20416	Rion	20 Sep 25	TCRT23/1666
Pre-amp	NH-25/11436	Rion	20 Sep 25	TCRT23/1666
Calibrator	SV30A/10559	Svantek	20 Sep 25	TCRT23/1665

^[1] Calibration of the meters used for the measurements is traceable to national standards. Calibration certificates for the sound level meters 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 attended noise measurements, the weather was generally clear and dry and no rain occurred.

These weather conditions are considered suitable for obtaining representative measurements.