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8 July 2026

Units 2 and 6A, Handsworth Street

Noise planning report

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Version	Date	Comments	Author	Reviewer
A	26 Jun 26		JP	JA
B	29 Jun 26	Minor revision to rectify erroneous L_{AR} values presented within Section 7.	JP	JA
C	1 Jul 26	Updated following Carter Jonas comments	JP	JA
D	8 Jul 26	Updated following Carter Jonas comments	GM	JA

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Summary

Sandy Brown has been commissioned to provide an assessment of noise in relation to the proposed change of use planning application for Units 2 and 6A, Handsworth Street in Manchester. A noise survey and assessment has been carried out to support the planning application for change of use from B8 Storage and Distribution to B2 Industrial

An environmental noise survey has been carried out at the site. The noise survey was carried out on 16 June 2026. Based on the measurement results obtained on site, operational noise egress criteria have been determined at nearby noise sensitive receptors.

A 3D environmental noise model of the site has been produced using the computational acoustic modelling package CadnaA (version 2026). This model has been used to assess operational noise egress based on the expected noise levels.

The worst case operational noise levels proposed are during drill press, lathe and CNC machinery operation, which can produce maximum noise levels of L_{AFmax} 90 dB. Operations are proposed to be limited to be during the day only (09:00 - 17:30), on weekdays.

The recommended noise egress criteria are predicted to be exceeded at the commercial offices (Pittbrook Street) and at RCCG The Limelight Church during periods where the drill press, lathe and CNC machinery is in operation, if the roller shutters/doors to the units are held open. It is therefore recommended that during such activities, the roller shutters/doors be closed to minimise risk of disturbance at nearby noise sensitive receptors.

For all other assessed activities, the predicted noise levels at the nearby noise sensitive receptors are predicted to comply with operational noise criteria with the roller shutters open.

For future occupants, it is recommended that noise egress associated with each unit be limited to be at least 8 dB below the background noise level at the closest noise sensitive receptors. Corrections for attention catching features in line with BS4142 would also need to be considered as appropriate. Future occupant operational noise egress limits for each noise sensitive receptor are set out within this report, these limits could be adopted by MCC for an appropriate planning condition to control future occupant noise egress.

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1 Introduction

Sandy Brown has been commissioned by HS2 C/O Carter Jonas, 81 Colmore Row, Birmingham B3 2AP to provide an assessment of noise in relation to the proposed change of use at Units 2 and 6A, Handsworth Street in Manchester. As part of this, an environmental noise survey has been undertaken to establish existing background noise levels at strategic locations around the site during the day.

An assessment of operational noise egress has been undertaken to assess the noise impact to nearby office buildings and residential receptors

This report presents the assessment methodology, assumptions and findings.

2 Site description

The site location in relation to its surroundings is shown in Figure 1, with Units 2 and 6A outlined in red. The site is bounded by Midland Street to the west. The units are located within an industrial area.

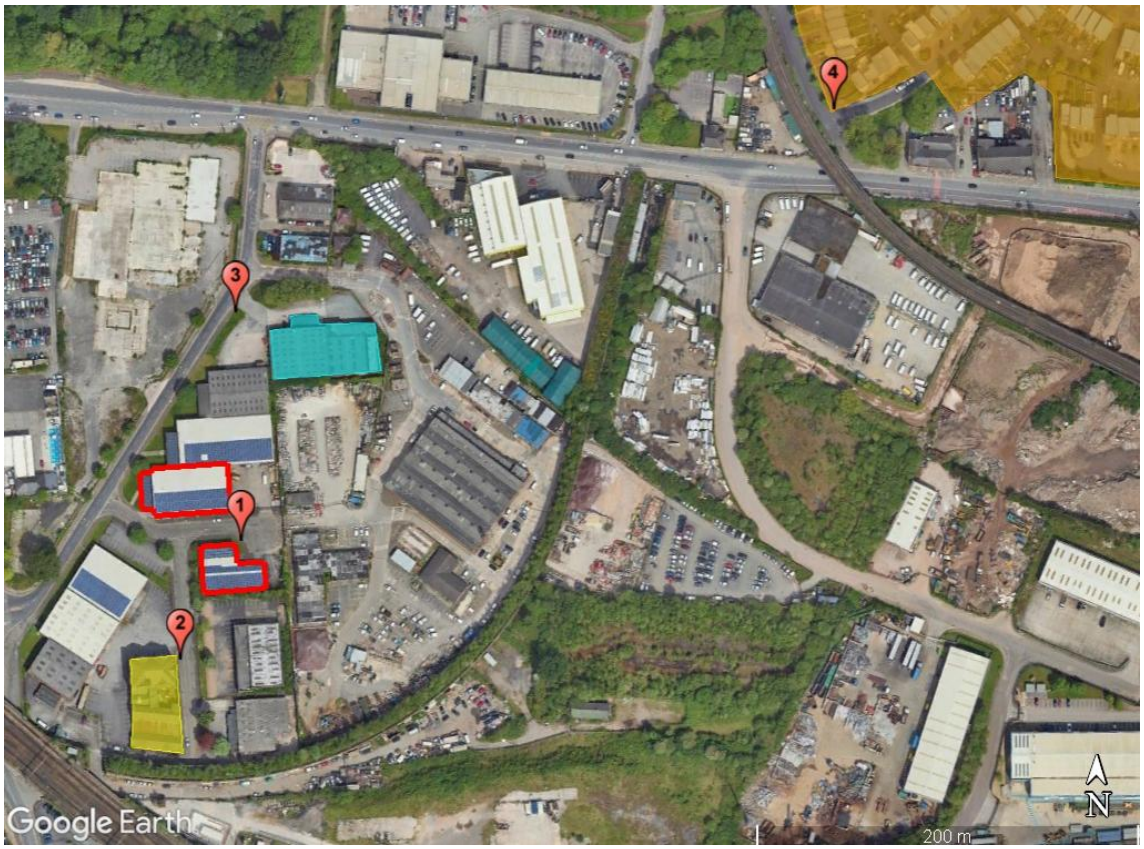


Figure 1 Aerial view of site (courtesy of Google Earth Pro)

Nearby noise sensitive receptors are summarised below:

- Commercial offices located approximately 40 m southwest of the site (highlighted in yellow in Figure 1) on Pittbrook Street.
- RCCG The Limelight Church Manchester located approximately 20 m northeast of the site (highlighted in blue).
- Residential premises located along Paxton Place approximately 350 m northeast of the site (highlighted in orange).

3 Criteria

3.1 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 the nearest noise sensitive premises.

BS 4142 suggests that if the rating 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 rating noise level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the rating noise level does not exceed the background sound level, it is an indication of having a low impact.

The rating noise level is defined as the sum of the specific sound level associated with the operation of the building services plant (or other commercial/industrial activity), and corrections based on the type and impact of 'attention catching features' such as tones, and intermittency.

3.2 Local authority guidance

Manchester City Council (MCC) guidance states the following in regards to noise egress from industrial / commercial developments:

> *'The development should be designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (LA90) level at the nearest noise sensitive location.'*
>
> *'In addition to the above, maximum noise levels should also be adequately controlled. Where particular uses generate high noise levels of a short duration (e.g. loud bangs) on a regular basis, these should aim to be controlled so as not to exceed 60 dB (LAmax) at the façade of noise sensitive premises nearby in accordance with the recommendations of the WHO'*

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4 Proposed operations

The following light industrial operations are understood to be proposed by the future tenants of Unit 2 (Cellerate Ltd). For the purpose of the assessment, both units have been assumed to be operational simultaneously, undertaking the same proposed activities:

- Benchtop robotic systems with light mechanical motion in the form of actuating arms
- Short duration testing activities such as battery system and cell testing.
- Drill press, lathe and CNC machine use typically a few times per month, when reworking or rapid prototyping new parts

It is understood that there are no large presses, stamping operations, foundry processes, heavy machining lines, or continuously loud production equipment currently proposed.

Operations are proposed to be limited to occur during the day only (09:00- 17:30), on weekdays.

5 Noise survey method

The survey included attended noise measurements. The measurements and information provided in this report are in accordance with requirements of BS 7445, as referenced in Appendix A. Details of the equipment used and the noise indices measured are provided in Appendix A.

5.1 Attended measurements

Attended sample measurements were taken at 4 positions around the site. These are indicated in Figure 1 as positions 1 to 4. The measurements were carried out on 16 June 2026. All attended measurements were 15 minutes in duration. These measurements were carried out to determine the existing background noise levels around the site to determine appropriate operational noise egress limits

At each position the microphone was mounted on a tripod approximately 1.5 m above the ground level and at least 1.5 m from any other reflective surface. Dominant noise sources occurring during the measurements were noted. Photographs of the measurement positions are shown in Figure 3.

5.2 Weather Conditions

Weather conditions during the survey are described in Appendix A.



Figure 2 Photographs of attended measurement positions 1 to 2 (left to right)



Figure 3 Photographs of attended measurement positions 3 to 4 (left to right)

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6 Noise survey results

Traffic noise egress from Ashton Old Road and Midland Road was noted to be significant for the majority of measurement positions.

Railway noise egress from Piccadilly Station Approach was also noted to be significant with trains passing regularly. Less significant sources included general loading / unloading noise from nearby warehouse units Noise levels and key sources recorded during the attended measurements are summarised in Table 1.

Table 1 Noise levels and key noise sources from attended measurements

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,15min}$	$L_{AFmax,15min}$	$L_{A90,15min}$	
1	14:07	50	72	45	Measurements at this position were dominated by road traffic noise egress from Midland Road L_{max} caused by loading/unloading activity from nearby industrial units
	14:22	54	78	46	
2	13:35	51	70	42	Measurements at this position were dominated by railway noise egress from Manchester Piccadilly approach. L_{A90} measurements were likely driven by traffic noise egress from nearby busy roads (ie, Ashton Old Road, Midland Road)
	13:51	52	69	42	
3	14:50	66	93	50	Measurements at this position were dominated by road traffic noise egress from Midland Road L_{max} in this position was likely caused by sirens from emergency vehicles driving past measurement position
	15:06	63	82	50	
4	12:56	59	73	53	Measurements at this position were dominated by road traffic noise egress from Ashton Road. L_{max} in this position was likely caused by sirens from emergency vehicles or noise emissions from large HGVs. L_{A90} was likely driven by nearby external plant items serving restaurant along Ashton Old Road
	13:11	60	80	54	

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7 Assessment

7.1 Noise egress limits

Based on the above criteria and the measurement results, the cumulative noise level resulting from operational noise from both Units 2 and 6A at 1 m from the worst affected windows of the nearest noise sensitive premises should not exceed the limits set out in Table 2.

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 2 Operational noise egress limits

Location	Maximum noise rating level at 1 m from noise sensitive premises, L_{Ar} (dB), day (09:00 - 17:30)
Commercial offices (Pittbrook Street)	40
RCCG The Limelight Church	48
Residential premises (Paxton Place)	51

If the proposed operational noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), penalty corrections should be applied based on BS4142.

7.2 Methodology and assumptions

The expected operational noise levels associated with machinery within the proposed industrial units have been provided by the operator of Unit 2, Cellerate Ltd for the assessment.

For benchtop robotic systems the following noise levels were stated:

> *'The peak noise output measured at 1m from the machine is 70 dB… Notably, staff are not required to wear ear defenders for this.'*

For short duration system and cell testing:

> *'Noise is usually 70 dB, lasts 2-3 hours and is done frequently'*

For drill press, lathe and CNC machinery:

> *'operation typically lasts up to 1 hour. These are used infrequently, a few times per month, when reworking or rapid prototyping new parts. The noise of this activity can peak up to 90 dB, but is typically 80 dB or less.'*

The octave band spectrum for an engineering lathe obtained during previous measurements of similar equipment set out has been used to represent the worst-case

noise levels. This spectrum has been adjusted such that the overall level is equivalent to L_{AFmax} 90 dB at 1 m and is set out in Table 3. To ensure a worst-case scenario is assessed, this noise source has been modelled as an L_{eq} (dB) noise levels within the 3D acoustic modelling.

Table 3 Spectral sound power levels used as part of assessment

Item	Sound power level, L_w (dB) Octave band centre frequency, Hz							
	63	125	250	500	1k	2k	4k	8k
Engineering lathe spectrum	80	70	78	83	88	81	76	72

It is understood that the building envelope of both units consist of brickwork walls with approximately 3 m tall roller shutters in the locations highlighted in red in Figure 4.



Figure 4 Locations of existing roller shutters

Desktop calculations have been undertaken to calculate the total noise level within the industrial units based on the predicted reverberation time and volume within the units. This noise level can then be used to calculate the noise transmission through each element of the facade based on assumed sound insulation performances of the following:

- Brickwork elements: R'_w 45 dB
- Roller shutters: R'_w 20 dB

Since the sound insulation performance of the brick walls is significantly greater, contributions from this facade element are not expected to dominate over noise transfer via the roller shutters. As such, just the roller shutters are modelled as an area source within CadnaA.

7.3 Results

A 3D environmental noise model of the site has been produced using the computational acoustic modelling package CadnaA (version 2026).

The software carries out calculations using a ray tracing technique, and considers the effects of topography, reflections, screening and distance attenuation for noise sources to predict noise levels in three dimensions. Calculations are carried out in accordance with ISO 9613 (2024) Attenuation of sound during propagation outdoors.

A screenshot of this model is provided in Figure 5.

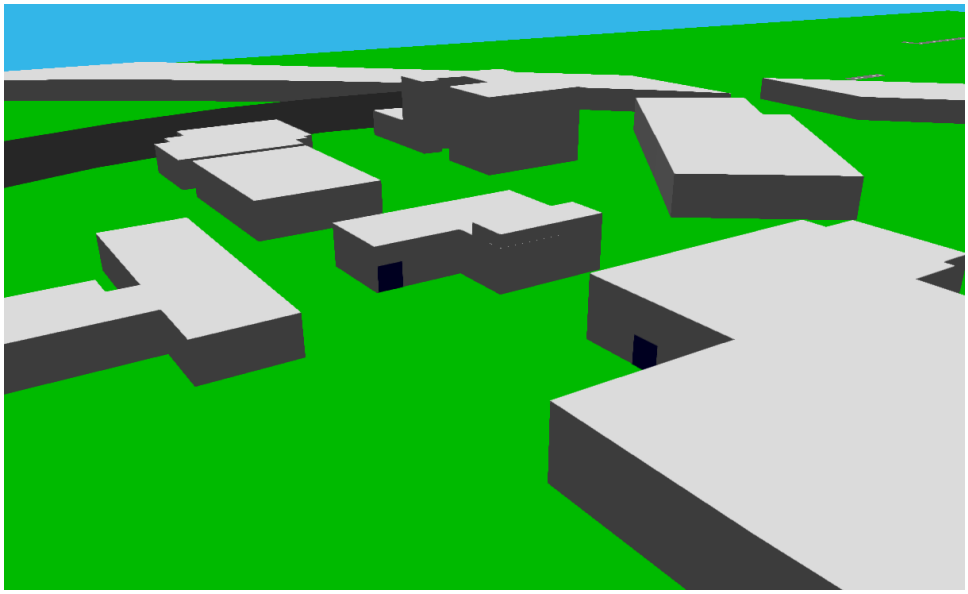


Figure 5 Screenshot of 3D environmental noise model

The predicted operational noise level at 1 m from the facade of nearby noise sensitive premises during drilling activities generating a sound pressure level of L_{Aeq} 90 dB at 1 m with the roller shutters open are summarised in Table 4. It should be noted that this is modelled as a constant noise source within the 3D modelling as a worst-case scenario.

It is noted that due to the nature of the work being undertaken within the industrial units, it is likely that noise egress may have potentially attention catching features. In accordance with BS 4142:2014+A1:2019, penalty corrections have been applied to the predicted operational noise egress levels that apply at the nearby receptors based on the type and impact of the features to derive a rating noise level. Based on a tonal and impulsive element being just perceptible, a 5 dB penalty has been applied.

Table 4 Predicted operational noise levels at 1 m from noise sensitive receptors (shutters open)

Location	Maximum rating noise at 1 m from noise sensitive premises, L_{Ar} (dB)	Predicted operational noise rating level at 1 m from noise sensitive premises, L_{Ar} (dB)
Commercial offices (Pittbrook Street)	40	58
RCCG The Limelight Church	48	60
Residential premises (Paxton Place)	51	44

The noise egress criteria are predicted to be exceeded at the commercial offices (Pittbrook Street) and at RCCG The Limelight Church . It is therefore recommended that during the stated loudest activities (ie drill press, lathe and CNC machinery), that the roller shutters be closed to minimise risk of disturbance at nearby noise sensitive receptors. The predicted operational noise levels at nearby noise sensitive receptors during drill press, lathe and CNC machinery operation with the shutters closed is given in Table 5.

Table 5 Predicted operational noise levels at 1 m from noise sensitive receptors (shutters closed)

Location	Maximum rating noise at 1 m from noise sensitive premises, L_{Ar} (dB)	Predicted operational noise rating level at 1 m from noise sensitive premises, L_{Ar} (dB)
Commercial offices (Pittbrook Street)	40	40
RCCG The Limelight Church	48	44
Residential premises (Paxton Place)	51	29

For all other activities, the predicted noise levels at the nearby noise sensitive receptors are not predicted to be exceeded with the roller shutters kept open.

2D noise contour plots of operational noise egress to nearby noise sensitive receptors are given in Figure 6 for drilling activities generating a sound pressure level of L_{Aeq} 90 dB at 1 m with the roller shutters open

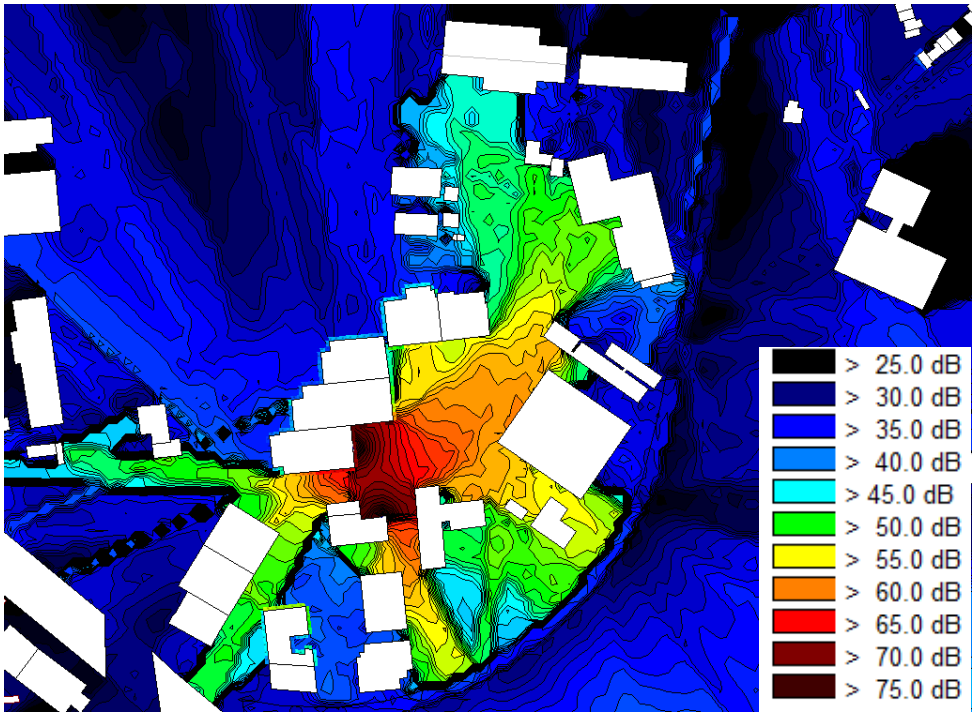


Figure 6 2D Noise contour plot (Shutters open)

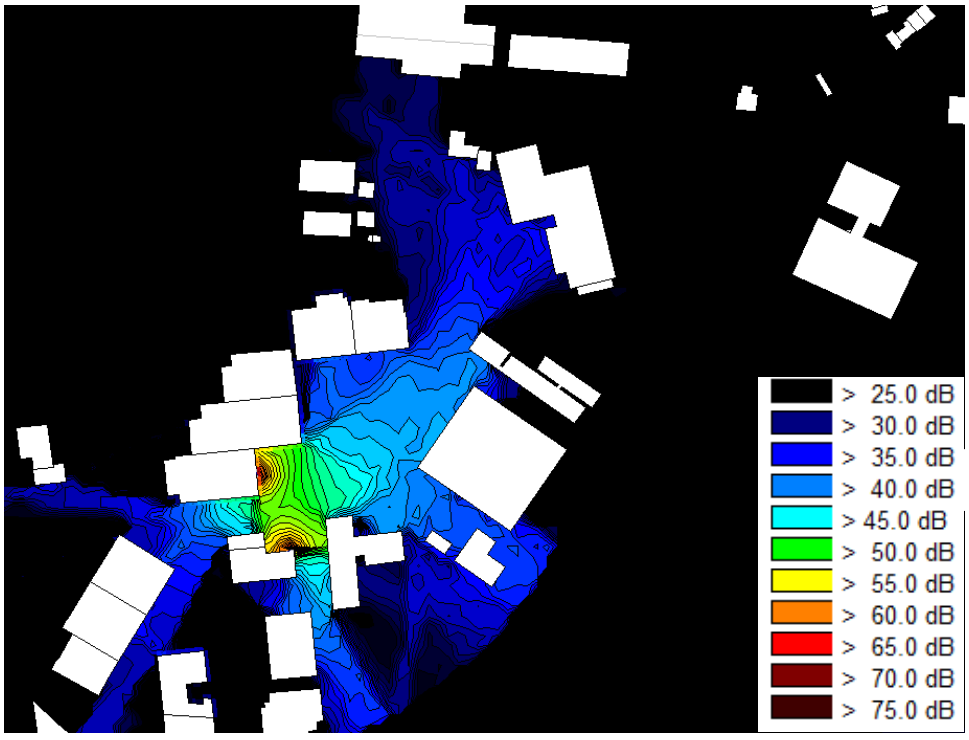


Figure 7 2D Noise contour plot (Shutters closed)

It should be noted that the above assessment and noise contour plots are based the cumulative noise level generated from both units 2 and 6A operating simultaneously, as a worst-case scenario. In practice, the units are to operate independently from each other and would likely be undertaking different activities at any one time, which is expected to reduce operational noise egress from the site.

7.4 Limits for future occupiers

For any future occupants, noise emissions from each unit should be controlled to be at least 8 dB below background at the nearest noise sensitive receptors. The future operational noise egress for each unit should not exceed the limits set out in Table 6.

Table 6 Future occupant noise emission limits

Location	Maximum noise rating level at 1 m from noise sensitive premises, L_{Ar} (dB), day (09:00 - 17:30)
Commercial offices (Pittbrook Street)	37
RCCG The Limelight Church	45
Residential premises (Paxton Place)	48

The limits above apply to each unit individually.

MCC may want to use the limits set out in Table 6 to provide an appropriate planning condition to control noise egress from future occupants.

Corrections for any attention catching features would also need to be considered in line with BS4142 as appropriate.

8 Conclusion

Sandy Brown has been commissioned to provide an assessment of noise in relation to the proposed development at Unit 2 and 6A, Handsworth Street. A noise survey and assessment has been undertaken to support a planning application for change of use from B8 Storage and Distribution to B2 Industrial

An environmental noise survey has been carried out at the site. The noise survey was carried out on 16 June 2026. Based on the measurement results obtained on site, operational noise egress criteria have been determined at nearby noise sensitive receptors.

A 3D environmental noise model of the site has been produced using the computational acoustic modelling package CadnaA (version 2026). This model has been used to assess operational noise egress based on the expected noise levels.

The software carries out calculations using a ray tracing technique, and considers the effects of topography, reflections, screening and distance attenuation for noise sources to

predict noise levels in three dimensions. Calculations are carried out in accordance with ISO 9613 (2024) Attenuation of sound during propagation outdoors.

Based on email correspondence with Carter Jonas referencing information provided by the proposed operator of Unit 2 (Cellerate Ltd), the worst case noise levels are considered to be achieved during drill press, lathe and CNC machinery operation for up to an hour at a time which can produce maximum noise levels of L_{Fmax} 90 dB.

Cumulative operational noise criteria is predicted to be exceeded at the commercial offices (Pittbrook Street) and at RCCG The Limelight Church during periods where the drill press, lathe and CNC machinery is in operation within both units simultaneously. It is therefore recommended that during the stated loudest activities, that the roller shutters are closed for both units to minimise risk of disturbance at nearby noise sensitive receptors.

For all other activities, the predicted cumulative noise levels due to operational noise egress at the nearby noise sensitive receptors are predicted to comply with operational noise criteria with the roller shutters kept open.

It should be noted that the noise egress assessment is based the cumulative noise level generated from both units 2 and 6A operating simultaneously, as a worst-case scenario. In practice, the units are to operate independently from each other and would likely be undertaking different activities at any one time, which is expected to reduce operational noise egress from the site.

It is noted that due to the nature of the work being undertaken within the industrial units, it is likely that noise egress may have potentially attention catching features. In accordance with BS 4142:2014+A1:2019, penalty corrections have been applied to the predicted operational noise egress levels that apply at the nearby receptors based on the type and impact of the features to derive a rating noise level. Based on a tonal and impulsive element being just perceptible, a 5 dB penalty has been applied.

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Appendix A

Survey details

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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 a Rion NL-52 sound level meter.

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
Sound level meter	NL-52/01143564	Rion	12 Dec 26	TCRT24/1898
Microphone	UC-59/10153	Rion	12 Dec 26	TCRT24/1898
Pre-amp	NH-25/43581	Rion	12 Dec 26	TCRT24/1898
Calibrator	NC-74/34257023	Rion	12 Dec 26	TCRT24/1895

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 attended noise measurements, the weather was generally clear and dry and no rain occurred. Wind speeds were measured at each position and varied between 2 m/s and 3 m/s.

These weather conditions are considered suitable for obtaining representative measurements.

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Appendix B

BS 4142 corrections for attention catching features

The following applies where plant noise is assessed in accordance with BS 4142:2014+A1:2019.

If the proposed plant noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), penalty corrections should be applied based on the type and impact of the features to derive a rating noise level.

If appropriate, a subjective assessment of the plant features can be adopted. Where the plant noise contains tonal elements, the following corrections can be made depending on how perceptible the tone is at the residential receptor:

- 0 dB where the tone is not perceptible
- 2 dB where the tone is just perceptible
- 4 dB where the tone is clearly perceptible
- 6 dB where the tone is highly perceptible.

Where the plant noise is impulsive, the following corrections can be made depending on how perceptible the impulsivity is at the residential receptor:

- 0 dB where the impulse is not perceptible
- 3 dB where the impulse is just perceptible
- 6 dB where the impulse is clearly perceptible
- 9 dB where the impulse is highly perceptible.

For noise which is equally both impulsive and tonal, then both features can be accounted for by linearly summing the corrections for both characteristics.

If the plant has other distinctive characteristics, such as intermittency, then a 3 dB correction can be made.

If a subjective assessment of tonality is not appropriate, an objective assessment can be made by analysis of time-averaged, third-octave band sound pressure levels. A noise source is deemed to be tonal if the level in a third-octave band exceeds the level in adjacent third-octave bands by the level differences given below:

- 15 dB in the low frequency third-octave bands (25 Hz to 125 Hz)
- 8 dB in the mid frequency third-octave bands (160 Hz to 400 Hz)
- 5 dB in the high frequency third-octave bands (500 Hz to 10000 Hz).

If an objective assessment identifies the plant noise to be tonal then a 6 dB correction must be made.

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