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27 March 2026

Old Granada Studios, Manchester

Planning condition 23 discharge report

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ACOUSTICS

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Version	Date	Comments	Author	Reviewer
A	11 Dec 25		JMG	JA
B	17 Dec 25	Updates to Section 4 and Section 9	KM	JA
C	27 Mar 26	Further measurements and assessment	JMG	JA

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Summary

Sandy Brown has been appointed by Manchester Quays Developments (OGS) Ltd to carry out acoustic verification measurements to demonstrate compliance with planning condition 23 under 138820/JO/2023. The planning condition relates to entertainment noise breakout from the Old Granada Studios development, for all areas of Zone 4 and Zone 5, excluding the gymnasium.

Entertainment noise breakout associated with the following Soho House and Mollie's Motel spaces has been measured to satisfy the condition:

- Levels 7 to 9 at Soho House (includes flexible event space, private members club and lounge spaces)
- Lower ground bar at Mollie's Motel.

The planning condition received from Manchester City Council (MCC) requires verification measurements be carried out to demonstrate that entertainment noise break out from the development is controlled to be no higher than 5 dB below the background noise level in octave bands outside the nearby noise sensitive receptors.

This report details the entertainment noise measurement methodology, includes observations relating to the site conditions and amplified sound systems, and presents an entertainment noise breakout assessment, along with appropriate limits for the amplified sound systems.

Attended sample noise measurements were carried out between 20:05 and 23:25 on 17 November 2025 at Soho House and between 17:30 and 23:00 at Mollie's Motel lower ground bar. Further, attended sample noise measurements have also been carried out on 13, 16 and 17 March 2026 at Soho House level 8, Mollies bar and at a Bauhaus residential apartment.

3D acoustic modelling has been carried out and internal amplified sound limits finalised to ensure that amplified sound break out is controlled such that the amplified sound egress limits as per planning condition 23 are adhered to.

Based on the verification measurement results and the internal limits for amplified sound systems being adhered to, the cumulative levels of amplified sound breakout comply with the requirements of the planning condition.

It has been confirmed by the operators that the installed PA sound systems to each area are controlled via digital signal processing software. These systems are set such that staff will be unable to change the system settings to exceed the maximum limits. There is a in-house engineer to support the operation of the installed systems, however, they do not have access to the DSP software. It is the responsibility of the operator to ensure that the PA systems are controlled to meet the limitations set out within this report.

On the basis that the internal amplified sound limits set out in this report are adhered to, planning condition 23 can be discharged.

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1 Introduction

Sandy Brown has been appointed by Manchester Quays Developments (OGS) Ltd to carry out acoustic verification measurements to demonstrate compliance with planning condition 23 under 138820/JO/2023. This condition relates to entertainment noise breakout from the Old Granada Studios development, for all areas of Zone 4 and Zone 5, excluding the gymnasium.

As part of this, attended sample measurements were carried out on 17 November 2025 and on 13, 16 and 17 March 2026 at levels 7 to 9 Soho House, the Mollie's Motel lower ground bar and nearby noise sensitive receptors.

The measurement results have been used to assess amplified noise break out at the nearby noise sensitive premises.

This report presents the survey methodology, results, limits for the amplified sound systems and an assessment of break out to the nearby noise sensitive premises.

2 Site description

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

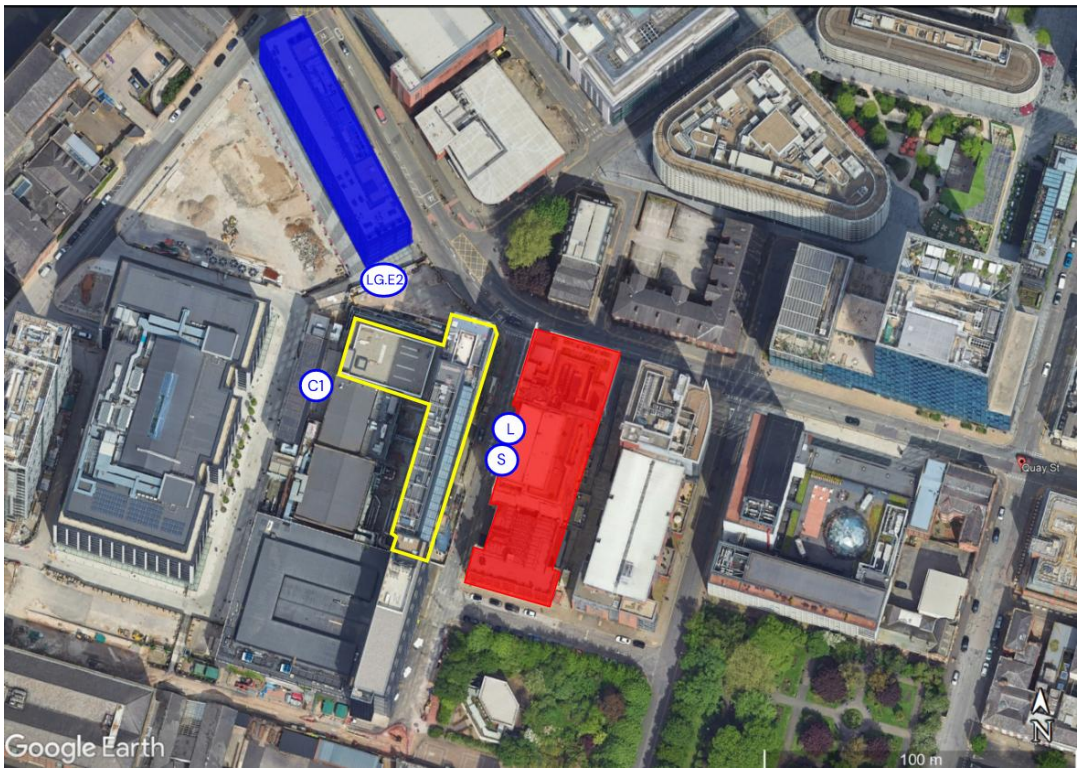


Figure 1 Aerial view of site (courtesy of Google Earth Pro)

2.1 Adjacent premises

The nearest and worst affected receptor is Bauhaus apartments on Atherton Street, highlighted in red in Figure 1. This receptor is noise sensitive during the day (07:00-23:00) and night (23:00-07:00).

To the north of the site, the nearest noise sensitive premises is 88-100 Quay Street (Globe and Simpson) highlighted in blue in Figure 1. These comprise office premises and are considered to be a noise sensitive on weekdays (Monday to Friday) between 07:00 and 19:00.

3 Original environmental noise survey and limits

An environmental noise survey has previously been undertaken at the site to determine the existing noise levels in the vicinity of the site and nearby noise sensitive premises. Full details of this survey can be found in Sandy Brown report 15037-R03-E *Acoustic planning report* dated 5 October 2020. The representative background noise levels measured as part of the original noise survey, applicable to nearest noise sensitive receptors are set out in Table 1.

Table 1 Typical background noise levels at the nearest noise sensitive premises

Time of day	Typical background noise level, L_{90} (dB) Octave-band centre frequency (Hz)						
	63	125	250	500	1000	2000	4000
Day (07:00-23:00)	60	54	48	46	48	42	35
Night (23:00 – 07:00)	60	55	43	40	40	34	27

Planning Condition 23 received from Manchester City Council for the development requires cumulative amplified sound egress to be 5 dB below the typical background noise level in octave bands outside the nearby noise sensitive premises.

As such, the cumulative amplified sound egress from the development (excluding the gym) are set out in Table 2. These limits are applicable at 1 m from the facades of the surrounding noise sensitive premises. The design of the development and internal limits have been based on compliance with these limits.

Table 2 Maximum amplified sound egress limits at the nearest sensitive premises

Time of day	Maximum amplified sound level, L_{eq} (dB) Octave-band centre frequency (Hz)						
	63	125	250	500	1k	2k	4k
Day / Evening (07:00-23:00)	55	49	43	41	43	37	30
Night (23:00-07:00)	55	50	38	35	35	29	22

4 Operations

4.1 Soho House

The proposed operations include the use of the private members club, bar and events space individually or simultaneously. Level 8 includes a pool lounge leading to the external pool deck area. The flexible events space is located at level 7. Levels 7 to 9 are interconnected via an internal staircase. The proposed operations include amplified music including DJs.

The proposed hours of Soho House operation are set out below:

- Monday to Wednesday 12:00 to 00:00 hrs
- Thursday 12:00 to 01:00 hrs
- Friday and Saturday 12:00 to 03:00 hrs
- Sunday 12:00 to 00:00 hrs.

4.2 Mollie's Motel

The Mollie's Motel bar is located on the lower ground with proposed operations include amplified music including DJs.

The proposed hours of operations which may include entertainment noise for the Mollies bar are set out below:

- Sunday to Thursday 13:00 to 23:00 hrs
- Friday and Saturday 13:00 to 01:30 hrs.

5 Amplified sound systems and settings

The installed amplified systems on each space are controlled via digital signal processing (DSP) software. This allows the sound system within each space to be managed/controlled independently.

The sound system engineer will need to commission each sound system to ensure that the limits set out in this report are not exceeded. It is understood that once these limits are set, staff will be unable to modify the settings.

The sound systems comprise wall mounted mid-high frequency speakers and low frequency speakers located at different strategic locations at floor level, some of which are hidden within furniture at Soho House and Mollies.

6 Measurement methodology

6.1 Music system/track

6.1.1 Soho House

The sound system engineering team confirmed that the worst-case scenario in terms of volume levels consist of amplified electronic music being played simultaneously in all spaces. For the purpose of the measurements and assessment, representative tracks with continuous and significant low and mid frequency content were selected and played on repeat.

6.1.2 Mollies' bar

The bar manager confirmed that the worst-case scenario in terms of volume levels consist of amplified music played when the bar is at a high capacity, typically during the weekend nights. For the measurements and assessment, the in-house day track list with continuous low and mid frequency content were selected and played.

6.2 Timings and locations

6.2.1 Measurements in November 2025

Sample measurements within the development were carried out during the evenings of 17 and 20 November 2025. The measurement locations are summarised below:

- Soho House level 9 at locations indicated as L9.1 to L9.3 indicated in Figure 2
- Soho House level 8 at the locations indicated as L8.1 to L8.3, and externally at locations indicated as E8.1 and E8.2 in Figure 3
- Soho House level 7 at the locations indicated as L7.1 to L7.3 in Figure 4
- Level 6 outside windows at guestrooms 605 and 604 indicated as E6.1 and E6.2 in Figure 5
- Within lower ground level Mollies bar space indicated as LG.1 and externally at location indicated as LG.E1 and LG.B1 in Figure 6.

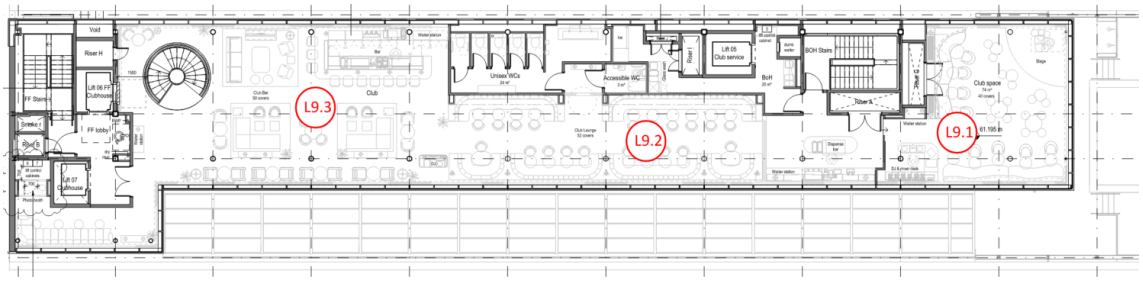


Figure 2 Level 9 location of internal measurements

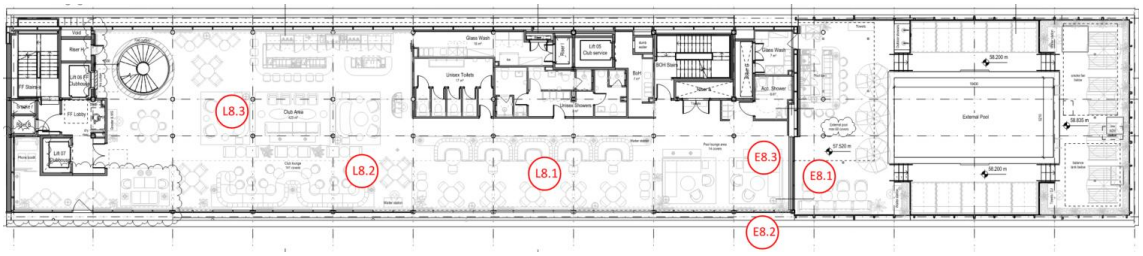


Figure 3 Level 8 location of internal and external measurements

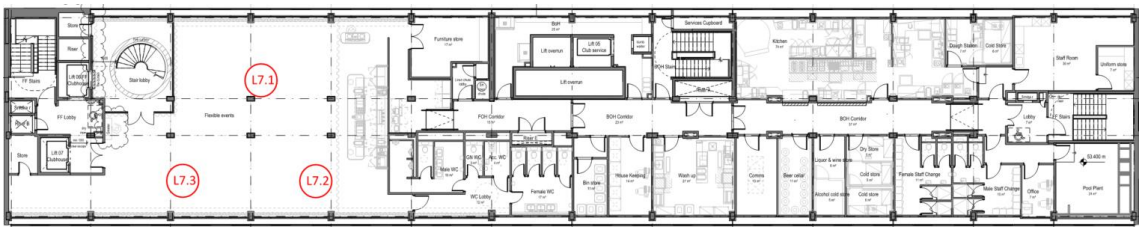


Figure 4 Level 7 location of internal and external measurements

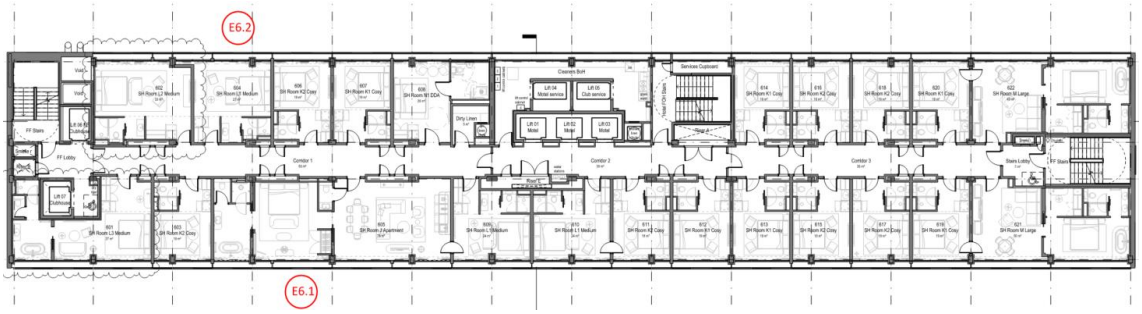


Figure 5 Level 6 location of external measurements



Figure 6 Lower ground level location of internal and external measurements

For internal measurements on levels 7 to 9, the sound level meter was mounted on a tripod approximately 1.5 m above the floor level.

For external measurements at level 6, the sound level meter was mounted on a pole and extended out of an open window approximately 1 m from the facade.

For internal and external measurements at lower ground Mollies bar, the sound level meter was held at approximately 1.5 m above the ground level.

For Soho House the sound systems were installed however not fully commissioned, for Mollies' bar, the sound system was installed though not in operation at the time of this visit.

The dominant sound sources were also noted.

6.2.2 Measurements in March 2026

Sample measurements within the development were carried out during:

- 13 March 2026: night and morning
- 16 March 2026. day and evening
- 17 March 2026: night

The measurement locations are summarised below:

- Soho House Level 9 at locations indicated as L9.1 to L9.3 indicated in Figure 2

- Soho House level 8 at the locations indicated as L8.1 to L8.3, and externally at locations indicated as R1 to R3 in Figure 7 (including above the open retractable roof)
- Soho House level 7 at the locations indicated as L7.1 and L7.3 in Figure 4

Within lower ground level Mollies bar space indicated as LG.2 to LG.5 and externally at the location indicated as LG.E1 and LG.E1 (nearest day noise sensitive premises to the north) in Figure 8 and location indicated as S in Figure 1.



Figure 7 Level 8 location of internal, external and roof measurements

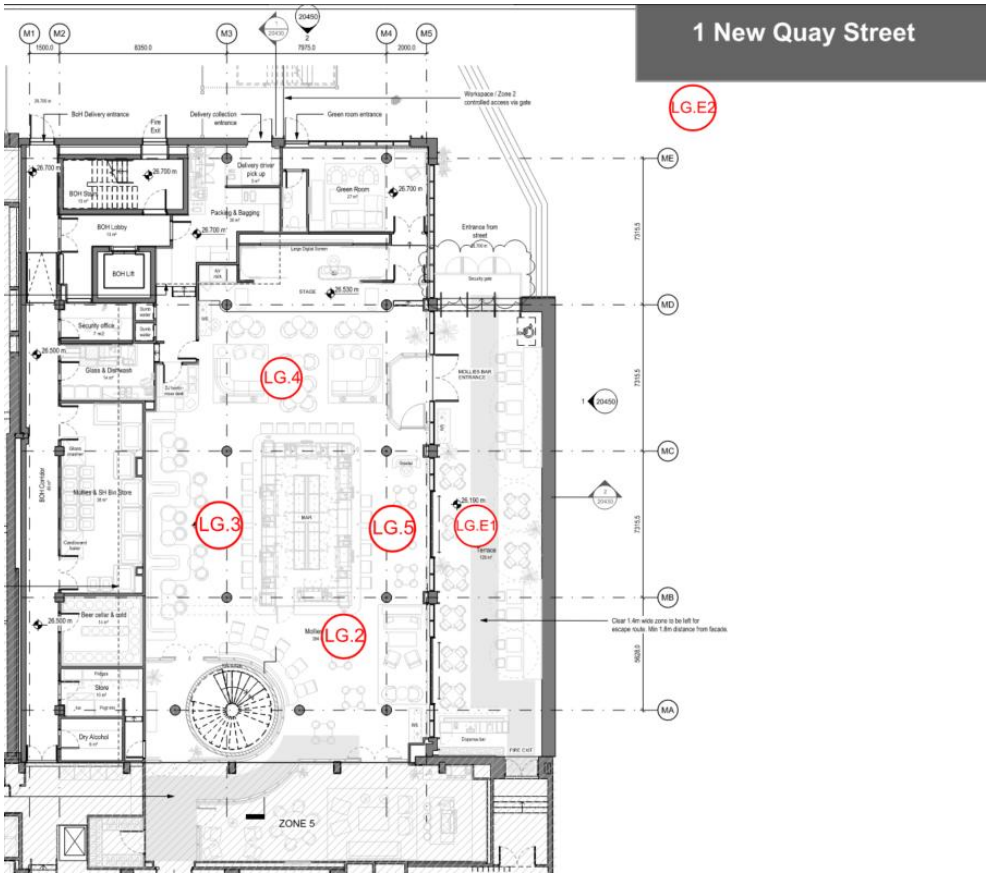


Figure 8 Lower ground level Mollies' bar location of internal and external measurements

For internal measurements on levels 7-9, the sound level meter was mounted on a tripod approximately 1.5 m above the floor level.

For external sample measurements at the nearest noise sensitive premises, the sound level meter was mounted on a tripod approximately 1m from the facade

For internal and external measurements at lower ground Mollies bar, the sound level meter was mounted on a tripod approximately 1.5 m above the floor level.

6.3 Method

The measurement method consisted of the following:

- Setting amplified sound system within each space to operate within the previously agreed sound pressure level limits for day / night operation. This exercise was carried out with the Soho House/Mollies sound engineers in attendance with appropriate spectral levels set for the sound systems.
- Sample noise measurements at the internal and external locations described above
- Background noise level measurements at the external locations.
- All measurements were carried out in octave bands.

For the Mollies Motel lower ground level bar, the permanent sound system was not operational in the November 2025 site visit. As such, a QSC 12.2 2KW active loudspeaker was used to reproduce amplified music and carry out measurements to set appropriate limits for the sound systems in this space. On the March 2026 site visit, the sound system was fully commissioned and in operation, therefore additional measurements were carried out to measure amplified music internal levels within the bar and ensure they met internal limits.

In November 2025, to set the internal sound levels/limits in each space, the sound system engineer was present and adjusted the laptop-controlled DSP software to increase or reduce the music levels to the required levels taking into account the desired spectral content for electronic music.

In March 2026, the Soho House sound technician was present and adjusted the system using the zone volume controller within a table application and DJ mixing desks on Levels 7-9. For Mollies' bar, the bar manager on duty during the site visit adjusted the sound system using a master volume controller tablet application.

Following the internal measurements, external measurements were undertaken at key locations. Background noise measurements were also taken at strategic locations to account for environmental noise contributions from other sources.

The measurement results have been included within a 3D environmental noise model of the site and the nearest noise sensitive premises, to carry out a noise break out assessment.

6.4 Weather conditions

During the external measurements in November 2025, the weather was clear, and dry and no rain occurred. Wind speeds were measured to be less than 1 m/s at each position. The weather conditions are considered suitable for obtaining representative measurement results.

In March 2026, the weather was generally dry, though with intermittent light rain on 16 March 2026. Wind speeds were measured to be less than 1.5 m/s at each measurement positions. The weather conditions are considered suitable for obtaining representative measurement results

7 Measurement results

7.1 Measurements (November 2025)

The measurement results are set out in Table 3. Internal measurements were carried out over 1 minute periods and external measurements were carried out over 5 minute periods.

Table 3 Measurement results November 2025

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
Day operation (07:00-23:00)					
L9.1	20:05	78	84	72	Internal level 9 Dominated by amplified music
L9.2	20:09	78	83	73	As above
L9.3	20:14	80	85	75	As above
L8.1	20:19	79	84	75	As above
L8.2	20:22	80	87	74	As above
L8.3	20:25	80	84	76	As above
L7.1	20:29	81	87	77	Internal level 7 Dominated by amplified music
L7.2	20:32	80	85	77	As above
L7.3	20:37	80	85	75	As above

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
E8.1	21:31	56	65	49	External pool deck Amplified music breakout via doors noted. Contributions from road traffic on Quay St also notable.
E8.2	21:50	59	64	55	As above
E8.3	21:40	57	69	54	As above
C.1	22:05	51	60	48	External cabin walkway to west Dominated by road traffic on Quay St. Amplified sound breakout not audible
E6.1	21:16	59	67	54	External from level 6 window to west Dominated by road traffic from Quay St. Amplified sound breakout not audible
E6.2	21:03	56	71	51	External from level 6 window to east Amplified sound breakout not audible
LG.1	18:42	78	84	76	Internal lower ground Mollies bar Dominated by amplified music
LG.E1	18:50	60	65	57	External outside Mollies bar Entertainment noise break out noted with contributions from road traffic on Quay St

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
LG.E1	19:03	56	74	55	Background outside Mollies bar Dominated by road traffic on Quay Street with contributions from pedestrians talking
Night operation (23:00-07:00)					
L9.1	22:39	74	82	66	Internal level 9 Dominated by amplified music
L9.2	22:42	72	77	68	As above
L9.3	22:45	72	79	66	As above
L8.1	22:48	74	79	70	Internal level 8 Dominated by amplified music
L8.2	22:50	67	75	34	As above
L8.3	20:52	70	75	36	As above
L7.1	23:03	73	78	68	Internal level 7 Dominated by amplified music
L7.2	23:05	71	76	67	As above
L7.3	23:07	71	77	64	As above
LG.1	19:13	75	81	72	Internal lower ground bar Dominated by amplified music
LG.E1	19:19	57	63	55	External outside Mollies bar Dominated by noise break out with contributions from road traffic on Quay Street

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
LG.E1	19:28	56	67	52	Background outside Mollies bar Dominated by road traffic on Quay Street with contributions from pedestrians talking

Based on the measurements results, the octave band internal amplified sound limits are set out in Table 6.

Further measurements with the installed and operational PA systems at Mollies have since been undertake in March 2026, as detailed in Section 7.2.

7.2 Measurement results (March 2026)

The measurement results for the site visits in March 2026 are set out in Table 4.

- The internal measurements within L7-9 in Soho House and Mollie's LG bar were carried out over 1 minute periods.
- The external measurements outside level 8 Soho house pool door and retractable roof were carried out over 1 minute periods.
- The external measurements outside Mollies bar and at the nearest noise sensitive premises were carried out over 5 minute periods.

The sound systems levels for level 8 open door operation and retractable rooftop operation are reduced to meet with the internal octave band limits for these operation modes.

Table 4 Measurement results – March 2026

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
Day/evening operation (07:00-23:00) level 8 (door open mode)					
L8.1	05:38	58	62	56	Internal level 8 Dominated by level 8 amplified music
L8.2	05:42	58	62	55	As above

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
L8.3	05:48	53	56	51	External level 8 At 1 m from pool door open, dominated by amplified music with contributions from road traffic on Quay Street and pool running water
	05:49	53	56	52	As above
	05:51	51	56	50	At 1 m from pool door closed, dominated by road traffic on Quay Street and pool running water with faintly audible low freq amplified music
	05:52	52	55	50	As above
	05:55	50	57	49	At 1 m from pool door closed, dominated by road traffic on Quay Street and pool running water, this is considered a measurement of existing background levels
	05:56	50	55	49	As above
L8.I1	06:09	61	66	58	Internal level 8 Dominated by amplified music
	06:13	62	66	60	As above
	06:15	61	65	57	As above
L8.I2	06:17	60	65	57	Internal level 8 Dominated by amplified music
	06:18	60	65	58	As above
	06:19	60	65	57	As above

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
L8.I3	06:21	57	62	53	Internal level 8 Dominated by amplified music
	06:23	58	64	55	As above
	06:25	58	62	56	As above
R1 (roof open mode)	06:54	58	61	56	External level 8 rooftop
	06:55	58	61	56	At approximately 1.5 m above the level 8 retractable roof open, dominated by amplified music with contributions from road traffic on Quay St
	06:56	59	69	57	
	06:57	58	61	56	
	06:58	59	62	57	
R2 (roof open mode)	06:44	59	66	56	External level 8 rooftop
	06:45	57	62	55	At approximately 1.5 m above the level 8 retractable roof open, dominated by amplified music with contributions from road traffic on Quay St
	06:46	58	61	55	
	06:47	58	60	56	
	06:48	57	61	55	
R3 (roof open mode)	07:02	57	61	55	External level 8 above open roof At approximately 1.5 m above the level 8 retractable roof open, dominated by amplified music with contributions from road traffic on Quay St
	07:03	58	61	56	
	07:04	58	62	56	
	07:05	58	62	56	
	07:06	58	60	56	
LG.2 (day mode)	15:16	77	84	73	Internal LG Mollies' bar Dominated by amplified music (day internal limits)
LG.3 (day mode)	15:18	82	87	77	
LG.4 (day mode)	15:20	77	83	71	
LG.5 (day mode)	15:22	80	86	73	

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
LG.E1	16:20	60	75	56	External LG Mollies' bar At 1.5 m from door, dominated by road traffic on Quay Street with contributions from mid-low frequencies from amplified music
LG.E2	16:27	64	75	58	External ground 1 New Quay Street Dominated by road traffic on Quay St, with less contributions from pedestrians passing by talking. Amplified music breakout faintly audible when no road traffic
	16:33	64	73	57	As above with constant distant loading noise
	16:39	65	73	58	Dominated by road traffic on Quay St, with contributions from distant loading noise
Evening operation (19:00-23:00)					
LG.2	15:38	83	89	78	Internal LG Mollies' bar Dominated by amplified music (evening internal limits)
LG.3	15:41	91	97	83	As above
LG.4	15:43	86	93	82	As above
LG.5	15:45	85	91	80	As above

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
LG.E1	17:58	60	75	57	External LG Mollies' bar At 1.5 m from door, dominated by road traffic on Quay Street with contributions from mid-low frequencies from amplified music
LG.E2	18:03	60	74	55	External ground 1 New Quay Street Dominated by road traffic on Quay St, with less contributions from pedestrians passing by talking. Amplified music breakout faintly audible when lulls in road traffic
	18:08	61	69	57	As above
	18:14	63	79	56	As above
	18:22	63	72	55	External ground 1 New Quay Street (background) Dominated by road traffic on Quay St, with less contributions from pedestrians passing by talking.
Night operation (23:00-02:00)					
L7.1	00:44	70	74	66	Internal SH level 7 Dominated by amplified music (night internal limits)
L7.3	00:46	69	74	66	As above
L8.1	01:07	68	72	65	Internal SH level 8 Dominated by amplified music (night internal limits)

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
L8.2	01:05	71	76	63	As above
L8.3	01:03	71	76	68	As above
L9.1	01:23	70	76	67	Internal SH level 9 Dominated by amplified music (night internal limits)
L9.2	01:13	74	80	71	As above
L9.3	01:12	72	76	70	As above
LG.2	16:06	72	78	68	Internal LG Mollies' bar Dominated by amplified music (night internal limits)
LG.3	16:08	75	84	70	As above
LG.4	16:11	74	80	71	As above
LG.5	16:13	73	81	69	As above
S	01:30	54	64	47	Dominated by road traffic on Quay St, faintly audible amplified music during lulls in traffic
	01:35	54	68	46	As above with less contributions from distant pedestrian talking loudly
	01:40	53	63	46	As above
	01:45	53	69	45	As above
	01:50	54	71	46	As above, maximum level due to car horn
	01:55	55	71	45	As above, maximum level due to car horn
	02:00	52	62	45	As above, cars passing by and distant contributions from distant car engine
	02:05	52	64	45	As above with contributions from car passing by
	02:10	50	62	43	As above

Position/ operation	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A90,T}$	
	02:15	52	65	45	As above, maximum level due to car horn
	02:20	74	89	50	Dominated by road sweeper passing
	02:25	59	73	43	Dominated by distant road sweeper

7.3 Unattended measurements at Bauhaus

On 13, 16 and 17 March 2026 unattended measurements were undertaken at the balcony of a level 10 Bauhaus residential apartment on Atherton St, in the absence of any loud amplified music at the site between:

- 04:30- 05:30, and 07:20-07:40 on 13 March 2026
- 23:30 on 16 March 2026 and 00:30 on 17 March 2026, and 02:35 – 03:35 on 17 March 2026

The measurement location is indicated as L in Figure 1. The measurement results are summarised in Table 5.

Table 5 Measurement results from unattended measurements at Bauhaus

Position	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
13 March 2026					
L	04:30	52	68	47	Dominated by road traffic on Quay Street
	04:35	53	68	46	
	04:40	53	68	47	
	04:45	54	66	48	
	04:50	52	60	48	
	04:55	57	74	48	
	05:00	55	67	48	
	05:05	55	65	48	
	05:10	53	64	49	
	05:15	52	61	48	

Position	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
	05:20	55	69	49	Dominated by road traffic on Quay Street
	05:25	55	66	48	
	05:30	55	65	49	
	07:20	60	67	55	
	07:25	59	65	55	
	07:30	60	70	56	
	07:35	61	72	55	
	07:40	60	72	55	
16 March 2026					
L	23:30	57	65	51	Dominated by road traffic on Quay Street
	23:35	56	65	51	
	23:40	56	65	51	
	23:45	56	63	51	
	23:50	57	66	52	
	23:55	55	71	51	
17 March 2026					
L	00:00	57	68	52	Dominated by road traffic on Quay Street
	00:05	56	68	51	
	00:10	56	65	50	
	00:15	54	63	50	
	00:20	55	67	50	
	00:25	55	61	50	
	02:35	52	61	46	
	02:40	52	64	45	
	02:45	50	58	45	
	02:50	50	57	46	
	02:55	52	62	45	
	03:00	48	62	45	

Position	Start time	Sound pressure levels (dB)			Noise sources and comments
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
	03:05	53	69	47	
	03:10	53	65	46	
	03:15	54	73	47	
	03:20	52	69	46	
	03:25	51	65	45	
	03:30	49	60	46	

7.4 Spectral sound pressure level limits for PA systems

Based on the measurements results, the internal octave band internal amplified sound limits are set out in Table 6.

Table 6 Octave band sound pressure level limits (internal)

Location /period	Sound pressure level limits, $L_{eq,1min}$ (dB) Octave-band centre frequency (Hz)						
	63	125	250	500	1000	2000	4000
Day/evening operation (07:00-23:00)							
Soho House level 9	83	83	80	77	72	69	66
Soho House level 8 (retractable roof and door to pool terrace closed)	82	80	82	78	74	70	65
Soho House level 7	85	84	81	79	74	68	67
Soho House level 8 pool lounge – door open 10% of the time	55	66	59	53	52	50	45
Soho House level 8 - Retractable roof open	59	66	62	55	54	51	48
Mollies bar limits - weekday day (Mon-Fri 0700-1900)	81	80	75	76	76	71	65
Mollies bar limits - weekday evening (1900-2300) and weekend day (0700-2300)	82	85	83	81	84	80	74

Location /period	Sound pressure level limits, $L_{eq,1min}$ (dB) Octave-band centre frequency (Hz)						
	63	125	250	500	1000	2000	4000
Night operation (23:00-07:00)							
Soho House level 9	78	83	75	71	68	63	60
Soho House level 8 (door and roof closed)	72	77	74	70	66	63	58
Soho House level 7	76	76	72	70	67	60	60
Mollies bar	75	79	74	71	68	63	58

8 Entertainment noise break out assessment

8.1 3D modelling

A 3D environmental noise model was created using CadnaA by Datakustik to assess amplified sound breakout.

The software carries out calculation using a ray tracing technique. This takes into account the effects to topography, reflections, screening and distance attenuation for noise sources to predicts noise levels in three dimensions.

Calculations are carried out in accordance with ISO 9613 (2024) Attenuation of sound during propagation outdoors. A screenshot from this model is provided in Figure 9.

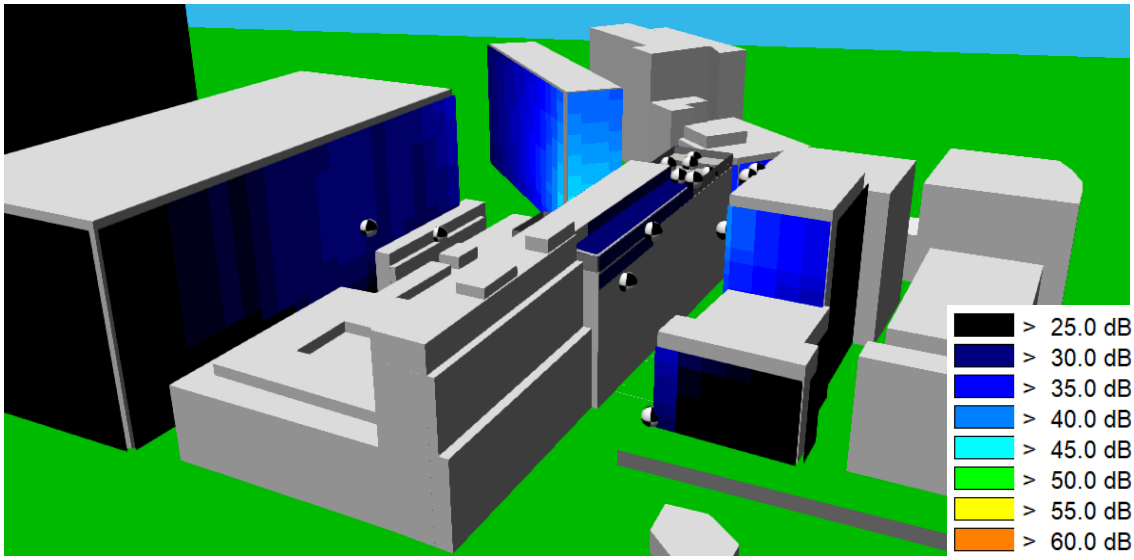


Figure 9 3D environmental noise model (day operation)

The entertainment noise break out modelling includes the measured amplified sound breakout levels from Soho House and Mollie's bar with internal amplified music levels set out in Table 6.

The predicted levels based on the verification measurements and 3D modelling align with the entertainment noise criteria set out in Section 3. As such, in addition to the DSP limiters installed to control the PA systems, volume controls in each space should be set up to ensure the octave band sound pressure levels set out in Table 2 are not exceeded.

The 3D modelling results have also been verified with additional measurements at the nearby receptors during the following key periods/modes of operation, as requested by MCC:

- Bauhaus Apartments during the night
- Bauhaus Apartments during the day with the retractable roof/L8 terrace door open
- 1 New Quay Street during the day.

These measurements and assessments summarised in the following sections of the report.

8.2 Bauhaus Apartments

8.2.1 Night operations

Based on the additional verification measurements carried out on 17 March 2026, the average measured sound pressure levels at Bauhaus, both without and with amplified music operations at Old Granada Studios are presented in Table 7.

Representative measurement periods have been taken from the night measurements. These include:

- (23:30 to 00:30) periods prior to the PA systems being set to generate loud amplified music. These measurements are considered representative of the background noise levels at the Bauhaus apartments in the absence of any amplified music contribution from Old Granada Studios.
- With the PA systems being set to operate at the internal night limitations as set out in Table 6.

Table 7 Average sound pressure measurement results at Bauhaus (night operation)

	Measured sound pressure levels L_{90} (dB) Octave-band centre frequency (Hz)						
Condition and measurement time	63	125	250	500	1000	2000	4000
Background noise level (23:30 -00:30)	50	51	48	46	48	40	30
PA systems operational in night mode operation (retractable roof and terrace door closed) (01:30-02:20)	49	51	46	43	44	38	29

The measured L_{90} (dB) sound pressure levels at Bauhaus are equal to or lower in every octave band with the music operating.

As there is no increase in background levels observed at Bauhaus residential premises as a result of the amplified music, this provides a positive indication that contributions from amplified music is at least 5 dB below the background levels, in line with the requirements of the planning condition When comparing the measurement results with the originally recommended night limits (based on the original noise survey), the measured low frequency (63Hz and 125Hz) octave bands are equal to or within measurement tolerance of the criteria. For 250Hz to 4kHz octave bands, the measured background levels were higher than the originally agreed limits but these did not increase with the music operating.

8.2.2 Level 8 retractable roof open (day/evening)

Verification measurements were carried out at level 8 commissioned PA system on level 8 in operation and at the nearest noise sensitive premises. The average sound pressure levels are represented in Table 8. The DSP limiters on the PA systems will need to be configured to ensure that these limits are not exceeded when the retractable roof is open.

Table 8 Average sound pressure level measurement results at Bauhaus

	Measured sound pressure levels, background L_{90} (dB) Octave-band centre frequency (Hz)						
Mode and measurement time	63	125	250	500	1000	2000	4000
Background noise level (07:30)	54	55	53	51	52	45	35
Amplified music operating at retractable roof open mode (with roof open) (06:10 to 07:15)	54	54	51	50	51	44	35

The measurement results indicate the following:

- With level 8 open roof and amplified internal noise levels set to achieve the previously limits set out for roof open mode/operation, the measured sound pressure levels at Bauhaus are equal to or lower than the background noise levels
- As there is no increase in background levels observed at Bauhaus residential premises as a result of amplified music from level 8 with the retractable roof open, this provides a positive indication that contributions from amplified music is at least 5 dB below the exiting background levels, in line with the requirements of the planning condition.

The DSP limiters on the PA systems will need to be configured to ensure that the relevant limits are not exceeded when the retractable roof is open. Confirmation of this arrangement will be required from Soho House.

8.2.3 Door to level 8 pool deck

It is understood that Soho House team will manage the sliding door to the pool deck area such that it remains open no more than 10% of the time while internal amplified music levels are being achieved. However, the practical implementation of this control measure is currently unclear.

Verification measurements were carried out at 1 m from level 8 sliding door to the outdoor pool terrace, and at the nearest noise sensitive premises. In all cases level 8 retractable roof was closed.

Table 9 presents a comparison of measured sound pressure levels at the nearest noise sensitive premises (Bauhaus) during the following conditions:

- Sliding door to pool area open, with internal amplified music limits set to pool lounge limits (07:00-23:00) given in Table 6
- No amplified music, representative background measurement.

Table 9 Sound pressure level measurement results at Bauhaus

	Measured sound pressure levels, L_{90} (dB) Octave-band centre frequency (Hz)						
Scenario and measurement time	63	125	250	500	1000	2000	4000
Pool lounge door open (05:50 to 05:55)	50	51	48	46	48	40	30
Background noise level (05:55 to 06:00)	50	51	48	47	48	41	30

The measured sound pressure levels at Bauhaus with the music operating at recommended limits are equal to or lower than the background noise level. This indicates that, provided the internal amplified music limits are met, and the sliding door to pool area is not opened more than 10% of the day and evening trading hours (07:00-23:00), background noise levels at the Bauhaus residential premises are expected to be maintained.

This provides a positive indication that contributions from amplified music via the level 8 sliding door open is controlled to be in line with the requirements of the planning condition.

8.3 1 New Quay Street (day operation)

Verification measurements were carried out at 1 New Quay Street with the commissioned PA system in Mollies bar set up such that internal amplified music levels met the internal day and evening limits. These internal levels were also aligned with the levels used in the 3D acoustic model.

Representative measurement periods have been taken from the day and evening measurements. These include measurement results after to the PA systems in Mollies bar being set to generate loud amplified music, which are considered representative of the background noise levels at 1 New Quay Street in the absence of any amplified music contributions, and with the PA systems being set to operate at the internal limits as set out in Table 6. The measured background level L_{90} (dB) at 1 New Quay Street (the receptor) are set out in Table 10.

Table 10 Average sound pressure level measurement results at 1 New Quay Street

	Measured sound pressure levels, L_{90} (dB) Octave-band centre frequency (Hz)						
Condition and measurement time	63	125	250	500	1000	2000	4000
Mollies bar with weekday day mode amplified sound (18:08 to 18:23)	62	58	56	53	53	50	43
Background noise level (18.22 to 18:27)	60	56	54	52	52	47	38

Based on the average measurement results, it can be concluded that the measured sound pressure levels at 1 New Quay St are within measurement tolerance in every octave band, and therefore comparable with and without amplified music in operation. The slightly higher levels at 63 Hz with music operating is expected to be due to variable traffic flows at Quay Street rather than music breakout. Music was masked by road traffic and only subjectively faintly audible during lulls in road traffic.

On the basis that internal amplified music levels are controlled to meet the day, evening and night limits, and that no outdoor sound system is in operation on the terrace, amplified noise breakout from Mollies bar is expected to comply with the requirement planning condition.

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9 Conclusion

Sandy Brown has been appointed by Manchester Quays Developments (OGS) Ltd to carry out acoustic verification measurements to demonstrate compliance with planning condition 23 under 138820/JO/2023. This condition relates to entertainment noise breakout verification measurements for the Old Granada Studios development, for all areas of Zone 4 and Zone 5, excluding the gymnasium.

Amplified sound noise breakout associated with the following Soho House and Mollie's Motel spaces has been measured to satisfy the condition:

- Levels 7 to 9 at Soho House (includes flexible event space, private members club and lounge spaces)
- Lower ground floor Mollie's Motel bar.

Manchester City Council (MCC) require verification measurements be carried out to demonstrate that entertainment noise break out from the development is controlled to be no higher than 5 dB below the background noise levels outside the nearby noise sensitive receptors.

This report details the entertainment noise measurement methodology, includes observations relating to the site conditions and amplified sound systems, and presents an entertainment noise breakout assessment.

Internal amplified sound system limits have been set based on the measurements and the amplified sound egress limits as per planning condition 23.

It is the responsibility of the operator to ensure that the PA systems are controlled to meet the limitations set out within this report.

On the basis that the internal amplified sound limits set out in this report are adhered to, planning condition 23 can be discharged.

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Appendix A

Survey details

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Equipment

In November 2025, the noise measurements were taken using a B&K 2250, NTi XL3 and Rion NL-52 sound level meters.

In March 2026, the noise measurements were taken using Rion NL-52 sound level meters.

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	2250/3011964	Brüel & Kjær	14 April 27	UCRT25/1609 UCRT25/1610
Microphone	4189/3100176	Brüel & Kjær	14 April 27	UCRT25/1609 UCRT25/1610
Pre-amp	ZC0032/26376	Brüel & Kjær	14 April 27	UCRT25/1609 UCRT25/1610
Calibrator	4231/3019123	Brüel & Kjær	14 April 27	UCRT25/1603
Sound level meter	XL3/ A3A-01221-F0	NTi	2 Dec 26	UCRT24/2613ATR UCRT24/2615
Microphone	MC230A/A28047	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
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
Loudspeaker	K12	QSC	N/A	N/A
Sound level meter	NL-52/00932326	Rion	24 Apr 26	TCRT23/1806
Microphone	UC-59/09251	Rion	24 Apr 26	TCRT23/1806
Pre-amp	NH-25/32354	Rion	24 Apr 26	TCRT23/1806

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Calibrator	NC-74/34536129	Rion	24 Apr 26	TCRT23/1576
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

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

In November 2025, during the attended external noise measurements, the weather was generally clear and dry and no rain occurred. Wind speeds were measured at each position and varied between 0 m/s and 1.5 m/s.

These weather conditions are considered suitable for obtaining representative measurements.

During the attended noise measurements, the weather was generally clear and dry and no rain occurred during the attended measurements. Wind speeds were measured at each position and varied between 0 m/s and 1.5 m/s.

These weather conditions are considered suitable for obtaining representative measurements.

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