



ACOUSTIC DESIGN TECHNOLOGY
Noise and Vibration Consultants

ADT 3340

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THE WHITE LION, 43 LIVERPOOL ROAD, MANCHESTER

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

ACOUSTIC CONSULTANCY REPORT ADT 3340/ENIA

Revision	Date	Issued By	Revision Notes
-	30 March 2022	Chris Middleton	first issue

1.0 INTRODUCTION

The proposal is to replace the existing outdoor seating furniture at the White Lion, 43 Liverpool Road, Manchester.

The purpose of this report is to assess the environmental noise impact, as requested by Manchester City Council. The proximity to the Castlefield Urban Heritage Park and the flats on Collier Street have been mentioned by MCC officers, and the following notes have been provided:

“In relation to residential amenity, the beer garden is extremely close to residential properties to the rear, and your proposals are likely to intensify the use of the area, thereby giving rise to potential disturbance, particularly in the evenings.”

The premises license was renewed in November 2021, including drinking in the external area until 23:00 hours. The performance of plays and live music is permitted from 15:00 hours to 20:00 hours, with recorded music to be played indoors only. Annex 3 of the license stipulates that ‘regulated entertainment may be performed externally between midday and 4pm between May to September, and at no other time. It is assumed that this more stringent control overrides the main text of the license in relation to outdoor performances / bands.

The planning application is for the replacement of the existing outdoor seating furniture, with no amendments to the external activities proposed. The scope of the assessment therefore covers the environmental noise impact of the proposed outdoor seating as compared with the existing outdoor seating, as the principle of an outdoor seating area for drinking is already well established and covered by the license.

2.0 ENVIRONMENTAL NOISE IMPACT ASSESSMENT

2.1 Basis of Assessment

The existing outdoor paved seating area features 24 tables surrounded by wooden planters and covered by a series of large awnings, 16830mm wide by 10897mm long.

The proposed seating area will be paving with 20 tables surrounded by wooden planters, 11800mm wide by 11400mm long. There will be a retractable awning over about half of the seating area.

The proposed hours of operation and the schedule of activities are the same as the existing, in accordance with the license, as outlined in Section 1.0 above.

The nearest noise sensitive properties are the flats on Collier Street, approximately 8 metres away from the centre of the existing seating area, and 11 metres away from the centre of the proposed seating area. The existing and proposed seating areas directly adjoin the Castlefield Urban Heritage Park.

2.2 Noise Criteria

There are no widely recognised standards or guidance documents specifically applicable to the noise from outdoor seating areas serving licensed premises.

The Manchester City Council document 'Planning & Noise : Technical Guidance' (2015) includes a section (3.6.1.2) relating to entertainment venues, although the guidance relates to amplified music rather than patrons.

BS 4142:2014+A1:2019 provides a method for assessing the noise from industrial and commercial sources, although the noise generated by people is specifically excluded from the scope of the standard.

The BS 82833:2014 guideline values of 50 – 55 dB $L_{Aeq, 16 \text{ hour}}$ outside dwellings, from general environmental noise, although the standard makes it clear that these are not applicable in all circumstances, and most city centre flats are exposed to higher incident noise levels.

2.3 Baseline Noise Data

The DEFRA commissioned Extrium England noise maps for this area indicate that the existing day time traffic noise levels are at or above 60 dB $L_{Aeq, 16 \text{ hour}}$ outside the Collier Street flats, and 55 – 59.9 dB $L_{Aeq, 16 \text{ hour}}$ across the Castlefield Urban Heritage Park.

The noise source being assessed is people talking as they use the outdoor seating area. Noise data for normal and raised voices is provided in the speech transmission calculation notes appended to the 2003 issue of the widely used Building Bulletin 93, as follows:

Table 2 contains the sound pressure levels at 1m in free field that should be used for normal and raised voice effort. These values have been averaged from data for male and female speakers, and hence should be used in the model to represent either male or female speakers. (N.B. The 125Hz octave band value is not defined in ANSI 3.5-1997, and therefore its value has been chosen to be 6dB lower than the 250Hz octave band.)

SPL (dB re $2 \cdot 10^{-5}$ Pa)	Octave band centre frequency (Hz)							dB(A)
	125	250	500	1k	2k	4k	8k	
Normal voice effort	51.2	57.2	59.8	53.5	48.8	43.8	38.6	59.5
Raised voice effort	55.5	61.5	65.6	62.3	56.8	51.3	42.6	66.5

Table 2: Speech spectra in terms of the sound pressure level at a distance of 1m in front of the speaker's lips in the free-field

Transforming these levels into source levels for the proposed outdoor seating area requires assumptions to be made as to how many people are talking at the same time, and how loudly. For the purposes of this assessment, it is assumed that there are on average 2 people at each table, with half the tables talking in normal voices, and the remainder using raised voices. This is an estimate of the conditions on a busy evening – for many periods not all of the tables will be occupied.

The effect of the proposed canopy is impossible to accurately calculate. The fabric will block the sound to some extent, although the sound will still radiate out from the open sides. On that basis the sound attenuating effect of the proposed canopy and the existing umbrellas has been assumed to be negligible.

The notes provided by Manchester City Council suggest that the proposed seating area will intensify the use, although as the number of tables is less than before and the seating area is smaller than before, the capacity is actually reduced. A new seating area will of course attract more customers in the short term, although over time this will revert to a more normal operating condition similar to the existing seating area.

2.4 Predicted Noise Levels

Based on the information in the preceding sections, calculations predict the following estimated resultant noise levels at the Collier Street flats:

	Existing (25 normal voices, 25 raised voices, 8 metres away)	Proposed (20 normal voices, 20 raised voices, 11 metres away)
$L_{Aeq,T}$ at 1 metre, 1 normal voice	60 dB	60 dB
Correction for number of voices	+ 14 dB	+ 13 dB
$L_{Aeq,T}$ at 1 metre, all normal voices	74 dB	73 dB
$L_{Aeq,T}$ at 1 metre, 1 raised voice	67 dB	67 dB
Correction for number of voices	+ 14 dB	+ 13 dB
$L_{Aeq,T}$ at 1 metre, all raised voices	81 dB	80 dB
$L_{Aeq,T}$ at 1 metre, normal and raised	82 dB	81 dB
Distance correction, point source	- 18 dB	- 21 dB
$L_{Aeq,T}$ at Collier Street flats.	64 dB	60 dB

The estimated levels outside the nearest flats are above the BS 8233 range of 50 – 55 dB $L_{Aeq, 16 \text{ hour}}$, which is unavoidable as with the existing seating area, although the otherwise prevailing traffic noise levels are already over 60 dB. The conversation noise would therefore be broadly similar to the traffic noise.

The noise levels across most of the Castlefield Urban Heritage Park should be within the BS 8233 range, as the noise level reduce with increased distance from the outdoor seating area. In the general sense, the noise from people using a pub outdoor seating area is entirely normal for a city centre public amenity space.

In relative terms, the noise levels from the proposed outdoor seating area would be 4 dB lower than the existing seating area, as the proposed seating area is smaller and further away from the flats than the existing seating area.

2.5 Conclusions

The existing seating area is well established, and the operations are subject to the terms of the premises license. No changes to those operations are proposed.

The proposed outdoor seating area provides a similar mixture of seating, covered areas and planting to the existing seating area. In that respect there should be no net change in noise emissions resulting from the construction materials.

The proposed seating area is smaller than the existing seating area, and set further away from the nearest flats, which will yield a net reduction in noise emissions. The absolute sound levels are justifiable in the context of the BS 8233 criteria and the existing road traffic noise.

On that basis it is reasonable to conclude that the replacement outdoor seating area should be acoustically suitable in this context.

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