

Client: Arc Inspirations Limited
Project: The Box, Deansgate, Manchester
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ACOUSTIC ASSESSMENT OF THE PROPOSED EXTENSION OF HOURS FOR AN EXISTING LICENSED BAR

1 INTRODUCTION

The Box, Deansgate has submitted an application for an extension of permitted opening hours for the licensed premises.

ACA Acoustics have been commissioned by the client to carry out a sound level survey of noise emissions from the bar at the nearest noise-sensitive properties to provide evidence to Manchester City Council that noise emissions due to the proposed extended opening hours will not cause loss of amenity to nearby residents.

This report contains results of the sound level survey, and assessment.

2 ACOUSTIC CRITERIA

2.1 Institute of Acoustics – Good Practice Guide on the Control of Noise from Pubs and Clubs

A general requirement of many Local Authorities is that any music noise breakout should not cause a nuisance to any nearby residents.

In March 2003 the Institute of Acoustics (IOA) published a Good Practice Guide on the Control of Noise from Pubs and Clubs. The guide is a useful document; however, it does not provide objective noise criteria or measurement procedures for assessment of entertainment noise. To address this, a working group of the IOA has produced a working draft annex on criteria and measurement guidelines. This was published in the Institute of Acoustics Bulletin (Volume 28 No 6 Nov/Dec 2003) and includes suggested numerical limits for music emissions such that the noise will be generally audible but not obtrusive at residential properties and will not cause nuisance.

For situations where music might occur more than once per week or beyond 23:00 hours, the draft annex proposes the LAeq of the entertainment noise should not exceed the representative background sound level LA90 (without entertainment noise), and the L10 of the entertainment noise should not exceed the representative background noise level L90 (without entertainment noise) in any 1/3rd octave band between 40Hz and 160Hz.

Adhering to this criteria will ensure that noise emissions from the development should not be detrimental to the amenity of any nearby residents.

3 SOUND LEVEL SURVEY

A sound level survey was undertaken on 5th of July 2024 by Alfie Morgan of ACA Acoustics Limited.

Sound level measurements were taken with the bar open, and with it closed. The survey of music levels was undertaken between the hours of 23:30 – 00:00 hours, and background sound levels measured between 00:00 – 00:30. Background sound levels were also measured between 02:30 hours – 03:00 hours to obtain sound levels during the proposed latest opening hours.

Figure 1 below shows the sound level measurement locations.

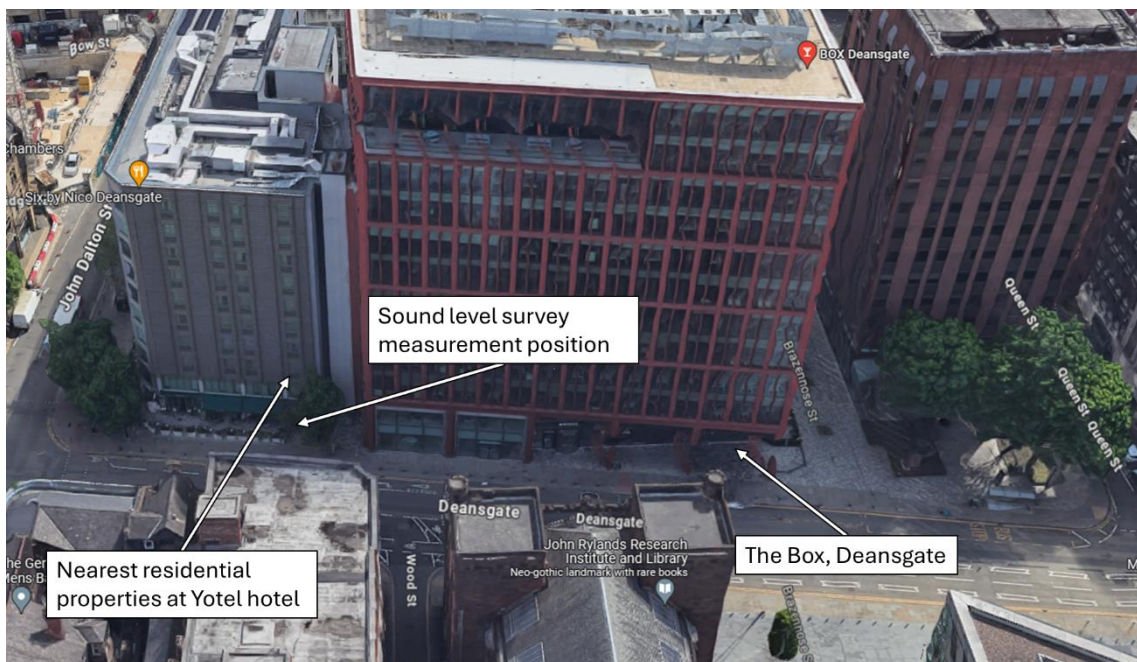


Figure 1: Assessment locations (image available at www.google.com/maps)

The following equipment was used for the survey. The sound level meter was calibrated before the survey and checked after, with no fluctuation noted.

Equipment	Serial Number
NTi Audio Class 1 sound level meter type XL2-TA	A2A-16877-E0
Svantek calibrator type SV33B. Compliant to IEC 60942:2003	57595

Table 1: Equipment used

Results were stored in terms of LAeq, LA90, LA10, and LAfmax statistical indices, along with one-third octave band spectra.

Summary sound level survey results are shown in Table 2 below.

Measurement Position & Description of Measurement	Measured Sound levels
Nearest residential property, Yotel Hotel, during The Box opening hours at 23:45 hours, shortly before the bar closed	LAeq 63dB LA90 52dB
Nearest residential property, Yotel Hotel, after The Box had closed at 00:00 hours	LAeq 62dB LA90 53dB L90 63Hz 55dB L90 125Hz 50dB
Background sound levels at nearest residential property, Yotel Hotel, at proposed closing time of 03:00 hours	LAeq 58dB LA90 47dB L90 63Hz 54dB L90 125Hz 48dB

Table 2: Summary sound level survey results

In addition to the sound level measurements outside the closest noise-sensitive property, whilst on site ACA Acoustics' consultant also measured source sound levels to the front of The Box entrance. Sound levels were recorded as LAeq 72dB at a distance of 5 meters from the entrance The Box. The measurement included music noise and also patrons congregating outside.

During the survey at the Yotel Hotel, noise emissions from The Box were subjectively inaudible at the measurement position at all times. Sound levels from other, non-associated bars in the area were audible along with high volumes of pedestrians in the area and traffic on nearby routes, and remained so during both the survey of The Box open and closed, and during the later background sound level survey.

The Box is oriented away and screened from the windows of Yotel Hotel, and sound levels from patrons of The Box immediately leaving the premises once the bar closed were also inaudible at the measurement position.

Sound levels dropped slightly after between the immediate period after the bar closed at 00:00 hours and the proposed opening time of 03:00 hours. This was due to slightly reduced traffic activity.

4 ASSESSMENT OF THE RESULTS

Sound levels from The Box were inaudible at the nearest residential properties, and measured sound levels comprise exclusively of noise from road traffic, along with pedestrians in the vicinity and other bars in the area.

Background sound levels during the late night, between midnight and 03:00 hours drop by around 5dBA but by only 1-2dB in the low frequency spectra.

During the survey the low frequency noise from music playing in the bar was completely inaudible at the receptor position. As measured low-frequency background sound levels change by at most 1-2dB from the time the bar closed on the night of the survey to the proposed latest opening time then it is reasonable to deduce that low frequency noise is likely to remain inaudible even during the later operating period.

A computer model has been developed to calculate specific sound emissions from the bar and patrons in the immediate vicinity to outside the closest noise-sensitive properties. Allowing for a distance correction to 60m along with the screening provided by the orientation of the building façade, sound levels to outside Yotel Hotel due to The Box will be at least 25dBA lower than values measured at 5m in front of the entrance. This equates to a level of LAeq <47dB and does not exceed the background sound level. In accordance with the IOA Draft Annex, this indicates a low likelihood of adverse impact.

Due to the consistency of the acoustic climate to the proposed extended opening time of 03:00 hours, and the similarity of the existing acoustic character of the area to that of the development venue, it is recommended that the extension of hours of The Box will not adversely impact the amenity of nearby residential occupants.