



NOTION BARS LTD

8 VERNON STREET, STOCKPORT

NOISE ASSESSMENT

7 February 2024

AEC REPORT: P5119/R01/WJK

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DOCUMENT STATUS

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Revision	Date	Document Details	Author	Checked By
-	07/02/24	Original Document	WSK	DMT

1.0 INTRODUCTION

- 1.1 Acoustic & Engineering Consultants Limited (AEC) has been appointed to undertake a noise assessment at the licensed premises at 8 Vernon Street, Stockport as part of an application to extend the trading hours permitted under the existing planning permission to be consistent with the premises licensed hours.
- 1.2 This report provides details of the noise survey undertaken and an assessment of the potential noise impact as a result of the extended opening hours.
- 1.3 Acoustic terminology used throughout the report is described in Appendix A.

2.0 SITE AND ITS ENVIRONS

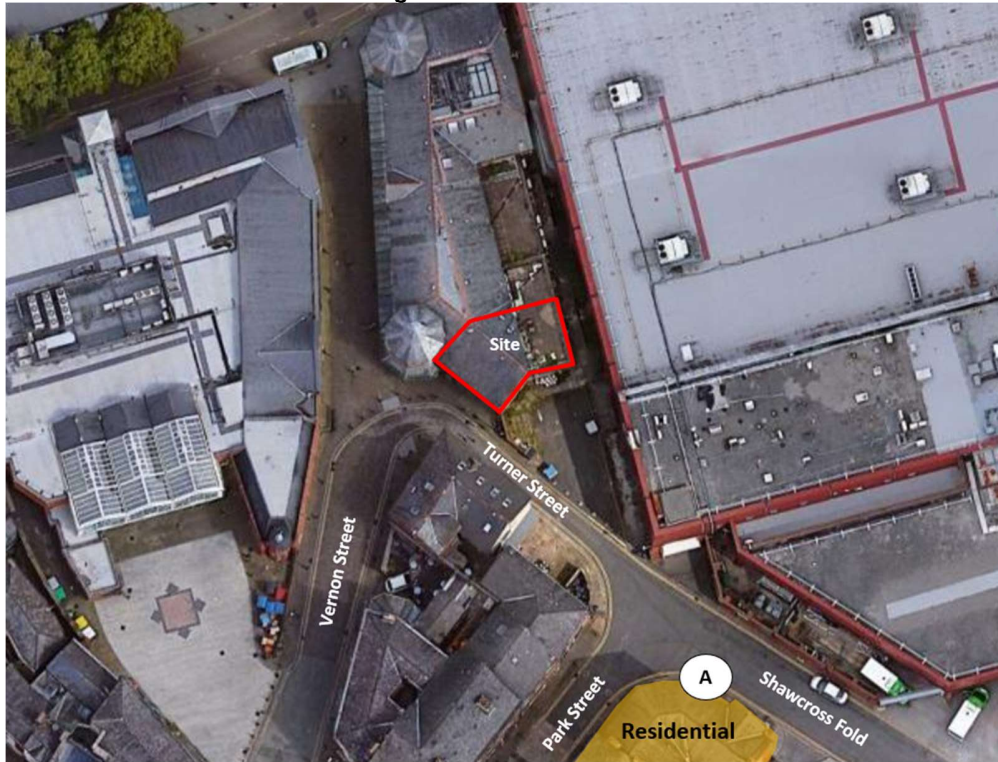
- 2.1 The establishment is a 96 capacity licensed premises consisting of ground floor and first floor bars located on Vernon Street in central Stockport.
- 2.2 The existing planning permission allows the premises to be open for trading between the following hours:

Mondays to Fridays (including bank and public holidays) 08:00 to 00:00 (midnight);
Saturdays 00:00 (midnight) to 01:00 and 08:00 to 00:00 (midnight); and
Sundays 00:00 (midnight) to 01:00 and 08:00 to 00:00 (midnight).
- 2.3 The premises licence permits licensable activities between the following hours:

Mon - Weds 11:00-00:30
Thurs - Sat 11:00 - 04:30
Sun 11:00 - 23:00
- 2.4 The application seeks to extend the trading hours as follows:

Mon - Weds 11:00-00:30 (30 minutes to be in keeping with the premises licence).
Thurs – 11:00 – 02:00 (2 hours – the premises licence permits trading until 0430h).
Friday– Sat- 11:00 - 04:30 (4.5 / 3.5 hours to be in keeping with the premises licence).
Sun 11:00 - 23:00 (60 minutes earlier than the current planning permission permits).
- 2.5 The premises is currently operating in accordance with the hours permitted within the premises licence, however, under the breach of condition notice, Stockport Metropolitan Borough Council require that the premises comply with the hours permitted in the planning consent by 10 February 2024.
- 2.6 The nearest noise sensitive properties are approximately 40m to the south-east of the premises on the corner of Shawcross Fold and Park Street. A plan showing the premises and the nearest noise sensitive properties is shown in the following Figure 2.1.

Figure 2.1 – Site Location Plan



2.7 In order to promote the objectives of the Licensing Act the following noise mitigation measures have been implemented by the premises owners.

- Locating the smoking area as far from noise sensitive properties as possible and restricting the number of people to no more than four at any time. Customers are not permitted to leave the premises with drinks.
- There is a written dispersal policy and signage at the exit requesting customers to leave quietly and respect the local neighbourhood.
- Covered and bolted closed all upstairs windows to prevent opening and installation of air conditioning system.
- Implemented a fenced queuing system on the opposite side to the premises so there is no clear line of sight from the nearest residential properties.
- Established a partnership with Lynx Taxis to provide a rapid taxi response and quicker exit from the area after leaving the premises.

3.0 NOISE ASSESSMENT

- 3.1 Attended noise measurements were undertaken on the night of Saturday 27 January 2024 at a location representative of the nearest residential properties to include times when the premises is currently permitted to open and during the extended hours being applied for. The measurement location is shown as A on Figure 2.1 above.
- 3.2 All measurements were undertaken in general accordance with BS7445-1: 2003 '*Description and measurement of environmental noise. Guide to quantities and procedures*'.
- 3.3 The premises was operating within the hours permitted within the premises licence during the noise survey.

Measured Noise Levels

- 3.4 A summary of the measured noise levels is shown in the following Table 3.1.

Table 3.1 – Measured Noise Levels

Date	Start Time	Duration	L _{Aeq,T} (dB)	L _{A90,T} (dB)	Comments
27/01/2024	23:00	00:15:00	62	48	No noise from Notion audible above background noise. Low level music noise from premises on Market Place. Aircraft and local road traffic.
27/01/2024	23:15	00:15:00	62	48	
27/01/2024	23:30	00:15:00	59	48	
28/01/2024	00:15	00:15:00	59	47	No noise from Notion audible above background noise. Music noise from premises on Market Place. Aircraft and local road traffic.
28/01/2024	00:30	00:15:00	57	46	No noise from Notion audible above background noise. Low level music noise from premises on Market Place. Aircraft and local road traffic. People in street.
28/01/2024	00:45	00:13:30	57	44	No noise from Notion audible above background noise. Music noise from premises on Market Place. Local road traffic.
28/01/2024	01:00	00:15:00	59	45	Road traffic and aircraft
28/01/2024	01:15	00:15:00	57	41	No noise from Notion audible above background noise. Premises on Market Place closed. Aircraft and local road traffic.
28/01/2024	01:30	00:15:00	50	41	Road traffic. No aircraft observed during measurement.
28/01/2024	01:45	00:15:00	45	42	Measurement of noise contribution from Notion only. All other noise sources paused out where possible. Music from premises barely audible when door open. Low level voices outside of premises.
28/01/2024	02:44	00:04:22	47	43	Measurement of noise contribution from Notion only. All other noise sources paused out. Low level voices outside of premises.
28/01/2024	03:01	00:05:48	44	41	Measurement of noise contribution from Notion only. All other noise sources paused out. Low level voices outside of premises.

- 3.5 The dominant noise sources throughout the noise survey were observed to be aircraft and local road traffic.
- 3.6 Noise from inside the premises was not audible at the measurement location. It was observed during the noise survey that customers generally left the premises in small groups of between 2 and 4 people quickly and quietly.

Analysis of Noise Measurements

- 3.7 The measured ambient (L_{Aeq}) and background (L_{A90}) noise levels during the survey indicate the following:
- The significant differences between the ambient and background noise levels imply that the noise climate is dominated by relatively noisy, short-term events, such as aircraft. This is supported by the observations made during the noise survey.
 - During the measurement period when there were no aircraft, ambient noise levels were at least 7dB lower.
 - Although music noise from other premises on Market Place was audible when they were open, there was no significant reduction in the ambient noise level after they closed.
 - Therefore, the differences in the measured noise levels and onsite observations suggest that aircraft was the dominant noise source at residential properties.
 - The smaller differences measured when extraneous noise sources were paused out, are consistent with more steady, non-varying noise sources, not short-term noise events such as aircraft and people shouting.
 - The measured noise levels associated with the premises only were at least 3dB below the prevailing ambient noise levels. This would be considered to be a worst case.

Predicted Noise Breakout from Premises

- 3.8 In addition to the measured noise levels, noise breakout calculations have been carried out to determine the noise levels at the nearest noise sensitive properties and to corroborate the measurements and observations made during the baseline noise survey. The calculations are based on the typical noise levels measured inside the premises and the construction of the façades of the building facing the nearest residential properties.
- 3.9 The following Table 3.2 shows the source noise levels, the sound reduction performance of the building envelope and the predicted noise level at the nearest noise sensitive properties.

Table 3.2 – Calculated Noise Levels at Noise Sensitive Properties

Description	Noise Level, dB L _{eq} at Octave Band Centre Frequency, Hz							dBL _{Aeq}
	63	125	250	500	1k	2k	4k	
Ground Floor Bar								
Source (Internal Noise Level)	78	85	83	84	86	81	75	89
Sound Reduction Index (Front Elevation)	12	18	14	22	32	34	28	--
Sound Reduction Index (Side Elevation)	24	24	40	52	63	74	82	--
Calculated Noise Level at Nearest Residential Receiver (@40m)								33
First Floor Bar								
Source (Internal Noise Level)	72	83	84	83	83	78	72	86
Approximate Composite Sound Reduction Index (Front Facade)	19	25	21	29	39	41	35	--
Sound Reduction Index (Side Elevation)	24	24	40	52	63	74	82	
Calculated Noise Level at Nearest Residential Receiver (@40m)								25
Total (Ground Floor + First Floor)								34

External Patron Noise

- 3.10 Noise levels from customers outside the premises have been verified using the data and concept of group size presented in the J.H. Rindel, C.I Christensen, A.C. Grade research paper: ‘*Dynamic sound source for simulating the Lombard effect in room acoustic modelling software*’ (Proceedings of Inter-Noise 2012, New York, USA, (2012)).
- 3.11 The sound power level of a person speaking in a *raised* voice is approximately equal to 76dB_{L_{WA}} (ref. ANSI 3.5). The predicted noise levels from patrons are based on 4 people outside the premises.
- 3.12 Based on the above, the number of speaking persons (NS) at any one time, where N is the total number of persons (4) and G is the assumed group size (in this case 2 people per group) is obtained as follows:

$$\text{Number of speaking persons (NS)} = N/G$$

- 3.13 In this scenario, this equates to 2 people speaking (4/2). Taking into account the number of people speaking and the sound power level of raised conversation (76dB_{L_{WA}}) the resultant sound power level would be around 79dB_{L_{WA}}.
- 3.14 Based on a sound power level of 79dB_{L_{WA}} and distance attenuation, the ambient noise level external to the nearest proposed residential properties would be around 39dB_{L_{Aeq,T}}.

Summary

- 3.15 The combined calculated noise level from internal and external sources associated with the premises is **40dB_{L_{Aeq,T}}**.
- 3.16 Based on the analysed noise levels, onsite observations and calculations, it is considered reasonable to conclude that aircraft is the dominant noise source and that there is little or no increase in the prevailing noise level as a result of the operation of the premises.

Premises Noise Management

- 3.17 The venue has already implemented a number of mitigation measures to minimise noise associated with the premises. It was observed that the procedures in place were effective in minimising the noise impact and it is anticipated that it would continue to be effectively managed as a result of the extended opening hours.

4.0 CONCLUSION

- 4.1 Acoustic & Engineering Consultants Limited (AEC) has undertaken an assessment of the potential noise impact as part of an application to extend the trading hours permitted under the existing planning consent at the premises at 8 Vernon Street, Stockport so that they are consistent with the premises licence.
- 4.2 Attended noise measurements were carried out on the night of Saturday 27 January 2024 at a location representative of the nearest residential properties in order to assess the potential noise impact resulting from the extended opening hours.
- 4.3 An assessment of noise associated with the premises has been carried out based the measured noise levels and observations made onsite. These are supported by calculated noise levels breaking out from the premises and from customers outside the premises at the nearest noise sensitive properties.
- 4.4 The observations made onsite and the noise breakout calculations demonstrate that noise from the premises was, at worst barely audible at the closest residential properties.
- 4.5 The premises owners have implemented a number of mitigation and management measures to effectively control noise associated with the operation of the premises. It is anticipated that it would continue to be effectively managed as a result of the extended opening hours.

APPENDIX A – Acoustic Terminology

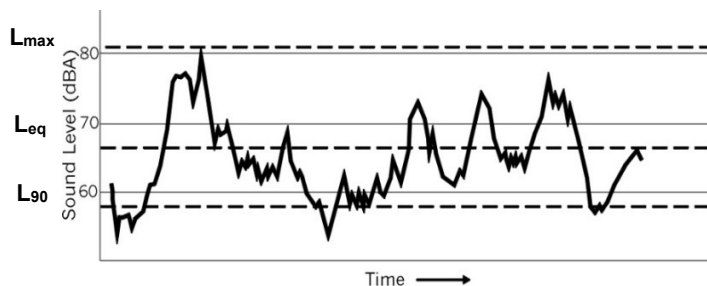
General

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The rate at which the pressure fluctuations occur determines the pitch or *frequency* of the sound. The frequency is expressed in Hertz (*Hz*), that is, cycles per second. The human ear is sensitive to sounds from about 20 Hertz to 20,000 Hertz. Although sound can be of one discrete frequency - a 'pure tone' - most noise is made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same subjective way. This is the basis of the A-weighted sound pressure level *dBA*, normally used to assess the effect of noise on people. The *dBA* weighting emphasizes or reduces the importance of certain frequencies within the audible range

Sound / Noise Units

The figure below shows an example of sound level varying with time. Because of this variation over time the same period of noise can be described by several different levels. The most common of these are described below.



Commonly Used Descriptors for Sound / Noise

The maximum (A-weighted) sound level measured during a given time. 'Fast' or 'Slow' meter response should be cited.

The equivalent continuous (A-weighted) sound level. It may be thought of as the "average" sound level over a given time, *T*. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises. **It can be considered as the "ambient" noise level.**

The (A-weighted) sound level exceeded for 90% of a measurement period. **It is the value often used to describe the "background" noise.**

The (A-weighted) sound level exceeded for 10% of a measurement period. It is the value often used to describe traffic noise.

The (A-weighted) sound level exceeded for 1% of a measurement period. It is the value generally used to indicate a 'typical' maximum noise level.

The sound exposure level is a notional noise level and describes the average L_{Aeq} noise level of an event over a given time period as if it occurred during a one second period. This allows the L_{Aeq} to be determined over a time period with a number of distinct events

This refers to the sound level measured outside, away from reflecting surfaces.

This refers to the sound level measured outside, at 1m from a hard reflecting surface, typically 3dB greater than the free-field level.

Other Common Acoustics Descriptors
Single number rating used to describe the <u>laboratory</u> airborne sound insulation properties of a material or building element over a range of frequencies, typically 100-3150Hz.
Apparent sound reduction index - Single number rating used to describe the sound reduction index of an on-site construction over a range of frequencies, typically 100-3150Hz.