



BRAIDEN ACOUSTICS LTD

Innovation Forum // 51 Frederick Road // Salford // Manchester // M6 6FP

NOISE VERIFICATION REPORT

Prepared for : F&B Fusion Ltd

Date : 19 Apr 2024

Site : 93-95 Beech Rd, Chorlton

Report No. : 11275

1 INTRODUCTION

Braiden Acoustics has been commissioned by F&B Fusion Ltd to undertake a Verification Noise Survey at the site of 93-95 Beech Rd, Chorlton in order to discharge planning conditions related to noise.

1.1 PLANNING PERMISSION

Planning application 124700/FO/2019 proposes “Installation of canopy to front and side of premises with associated access ramp including extend opening hours from 8am to 11.00 pm Monday to Saturday and Sunday 09.00 to 17.00.”. The pertinent conditions are.

6) a) The premises shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 10dB below the L A90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63Hz and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB, respectively.

b) Upon completion of development a verification report will be required to validate that work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that acceptable criteria have been met.

Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures to ensure compliance with the agreed noise criteria.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

7) Upon completion of the development and before any of the external plant is first operational, a verification report will be required to validate that work is undertaken in accordance with the acoustic report (Braiden Acoustics, 8 August 2020). The report shall give the results of post-completion testing to confirm that the proposed noise limits are being achieved once the plant and any mitigation measures have been installed.

Any instances of non-conformity with the above criteria shall be detailed along with any measures required to ensure compliance. These measures shall be approved in writing by the City Council as Local Planning Authority and the development shall be implemented in full in accordance with the approved details before the plant is first brought into use.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

Furthermore, an application for extension of hours has been or will be submitted. The application proposes “Variation of condition 4 (hours of opening) attached to planning permission referenced 124700/FO/2019 to allow the use of the cafe between 09:00 - 23:00 hrs daily.

Since the original planning application in 2019, the premises has changed hands and is no longer functioning as a bakery, except to make patties for sale on the premises.

****NB For a complete overview, this report should be read in conjunction with the original Braiden Acoustics report 10792_DRAFT, dated 8 Aug 2020.**

1.2 AIM

This report will assess the following:

- internal noise levels at the completed property,
- Sound Insulation test between ground and the first floor flat
- Noise emissions from the external plant.

Where compliance has not been met then there will be recommendations for solutions.

2 DESCRIPTION OF SITE

2.1 PROPOSED USE

The original application sought to install a canopy to front and side of the premises with associated access ramp including extended opening hours from 8am to 11.30 pm Monday to Sunday.

As part of the assessment, a range of external plant were assessed for noise (see previous report mentioned above).

Since the original report, there are new tenants in the unit and the bakery element has been drastically reduced.

2.1.1 Building services

All the previous condensers and fans are now defunct with only the kitchen extract system in operation.

The extract fan and silencer are as follows:

Kitchen Extract Fan

Weiguang YWF4E-400S

67 dBA (unsure SPL or SWL)

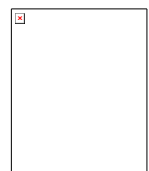
Extract silencer

Lindab SLU 400 900 50

3 ACOUSTIC CRITERIA AND METHODOLOGY

This is a residential development nearby that may be susceptible to noise. Potential mitigation measures are determined by recommended indoor noise levels from BS 8233 “Sound insulation and noise reduction for buildings” [1] which, in turn, takes guidance from the research-based World Health Organisation “Guidelines for Community Noise”.

Noise level thresholds are usually given for the night-time – 2300-0700 hrs and day time – 0700-2300 hrs.



3.1 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The National Planning Policy Framework is the current document for planning guidance. Paragraph 123 of the NPPF says that planning decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum, other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

3.2 BS 8233: 2014

The British Standard BS 8233:2014 “Guidance on sound insulation and noise reduction for buildings” gives guidance on recommended indoor ambient noise levels for residential dwellings.

Room	Criterion	$L_{Aeq,T}$	
		night	day
Bedroom	Sleeping	30	35
Dining Room/Area	Dining	--	40
Living Room	Resting	--	35

Table 1

Recommending indoor ambient noise level thresholds from anonymous noise (taken from Table 4, BS 8233:2014)

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

Internal noise levels in habitable rooms are calculated using either the simple or rigorous method as described in Annex G in BS 8233:2104.

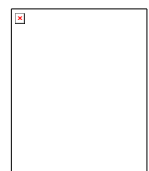
3.2.1 Noise levels in external living areas

For external living areas such as gardens and balconies, BS 8233:2014 § 7.7.3.2 recommends an upper limit of 55dB $L_{Aeq,day}$ although there is a caveat:

However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

3.2.2 Maximum noise levels

In the 2014 edition of the Standard, the criterion of 45dB L_{AFMax} inside bedrooms has been removed although there is Note 4:



NOTE 4 regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or LA_{max,P} depending on the character and number of events per night. Sporadic noise events could require separate values.

The use of the phrases ‘may be set’ and ‘could require’ imply that this is a discretionary criterion.

3.3 COUNCIL CRITERIA

The Council have guidance for noise criteria and assessment methodologies that are described in their planning document [2]. It states:

The guidance aims to provide help and advice in relation to noise in a planning context to encourage good acoustic design. It outlines what is expected in relation to current guidance and policy with the aspiration that new developments achieve the highest possible standards without compromising the health and well-being of people that live and work within the City of Manchester.

3.3.1 Residential Developments

Section 3.6.1.1 of the Council’s guidance states:

Manchester City Council has adopted the following internal noise limits for residential properties:

- **Bedrooms**
 - **30 dB LAeq (night time - 23.00 - 07.00)**
 - **45 dB LA_{max,F} (individual noise events should not normally exceed by more than 15 times)**
- **Living Rooms (daytime - 07.00 - 23.00) 35 dB LAeq**
- **Gardens and terraces (daytime - 07.00 - 23.00) 55 dB LAeq**

3.3.2 Noise and Vibration from Fixed Plant / Equipment

Section 3.6.1.5.1 of the Council’s planning guidance states:

Any noise assessment needs to consider not only the overall level of noise emitted but also its particular characteristics. The noise assessment should be based on BS 4142: 2014 and any application for fixed plant, equipment or machinery must demonstrate that:

‘Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location’.

By designing the sound pressure level of any plant items to generate a noise impact of at least 5dB below the existing background level, any plant noise impact should be of a negligible level which should not give rise to complaints from users or occupiers of existing noise-sensitive usages.

4 MONITORING DETAILS

4.1 MONITORING DETAILS

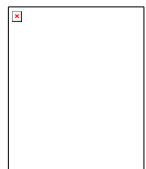
Personnel: John Braiden, BSc & MSc Acoustics, MIOA.

Equipment: NTi XL2 integrated real time analyser & B&K 4231 calibrator.

The sound level meter was calibrated before after the measurements with no significant drift reported.

4.2 VISIT 1 – INTERNAL NOISE LEVELS

Noise measurements focussed on noise within the cafe.



Monitoring was unmanned.

4.2.1 Location

The microphone was placed in a location that was away from any nearby reflective surfaces as possible and about 0.5m from the side wall.

4.2.2 Results

Noise monitoring took place during a weekday.

The internal noise levels within the cafe are shown in Figure 1.

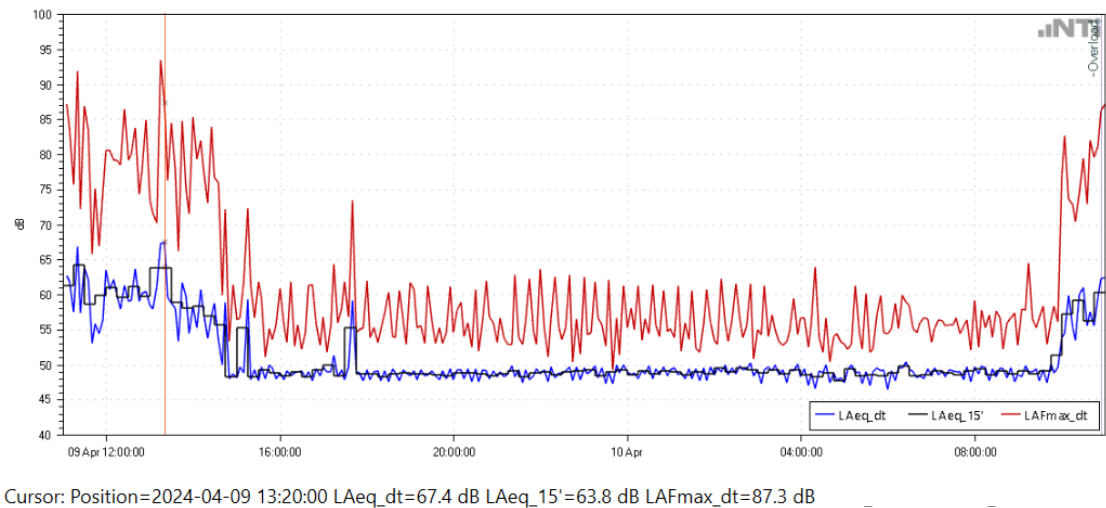


Figure 1
Internal time history – cafe

The highest 15-minutre noise level with the cafe was:

65 dB(A).

However, on the day of monitoring it seems that the café shut early and unfortunately, the recording stopped the next day before it the evening session when it might have been busier.

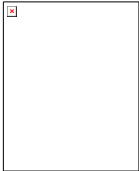
Nevertheless, noise data from previous busy cafes reveals that the likely upper limit will be more like 75dB.

4.3 VISIT 1 – NOISE MEASUREMENT FROM EXTRACT DUCT

A short term measurement one metre from the duct termination was undertaken with the fan on and then off.

Noise Measurement (Extract Coel)	Value	dB
Noise Measurement	Fan ON	42.8
Noise Measurement	Fan OFF	42.1

Table 2
Noise Measurements of Extract Cowl



There was no discernible audible noise from the extract cowl when the extract duct was on, and this is borne out in the results in the Table above.

4.4 VISIT 2 SOUND INSULATION TEST OF SEPARATING FLOOR

A previous Sound Insulation Test was taken at the adjacent unit, 97 Beech Road. The construction of the ceilings of the adjacent units (93/95 & 97 Beech Road) are identical. Therefore, it is reasonable to take the results from the Sound Insulation Test at 97 Beech Road.

A sound insulation test of the separating floor was taken according to relevant Standards and Guidance. The result from the sound insulation test is (full details shown in Appendix):

$$55 \text{ dB } D_{nT,w}$$

As there will not be any noticeable low frequency noise, then the C_{tr} weighting has not been used.

5 ACOUSTIC ASSESSMENT

5.1 SOUND INSULATION OF SEPARATING FLOOR

The typical upper noise level within the cafe was deemed to be 75 dB and the sound insulation of the floor was measured to be 55 dB; therefore, the noise level with the first floor flat was calculated to be 20 dB. This is well below the daytime threshold of 35 dB.

Hence no further mitigation is required for sound insulation and Condition 6 – Acoustic Insulation, can be fully discharged.

5.2 EXTERNAL PLANT NOISE

Noise measured at 1m from the extract cowl was, at least, 10 less than the Background Noise Level and was inaudible.

Therefore, Condition 7 should also be discharged.

6 CONCLUSION

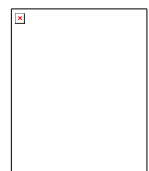
A verification acoustic survey has taken place at 93-95 Beech Rd, Chorlton to discharge condition 6 (Acoustic Insulation) and Condition 7 (External Plant) of planning application 124700/FO/2019 .

The results show that noise levels are within acceptable thresholds; hence Condition 6 and Condition 7 can be discharged.

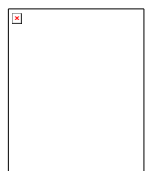
7 REFERENCES

[1] BS8233: 2014
Sound Insulation and noise reduction for buildings – Code of Practice,
British Standards Institute, 2014.

[2] Environmental Protection
Planning & Noise - Technical Guidance
Manchester City Council, Dec 2015.



Appendix



A1 SOUND INSULATION TEST RESULTS

Standardized Level difference according to ISO 140-4 Field measurements of airborne sound insulation between rooms																																													
Client: Goldring Communications Source Room Ground Floor Description: Shop Volume: m ³ Construction: Floorboards on 200mm timber joists w/ l&p then independent ceiling with 2x12.5mm Fireline creating 200mm cavity	Date of Test: 18-Mar-17 Receiver Room First Floor Description: Lounge Volume: m ³																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">1/3rd OBCF (Hz)</th> <th style="text-align: center;">D_{nT} (dB)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">50</td><td style="text-align: center;">31.4</td></tr> <tr><td style="text-align: center;">63</td><td style="text-align: center;">38.0</td></tr> <tr><td style="text-align: center;">80</td><td style="text-align: center;">33.8</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: center;">37.7</td></tr> <tr><td style="text-align: center;">125</td><td style="text-align: center;">35.8</td></tr> <tr><td style="text-align: center;">160</td><td style="text-align: center;">41.6</td></tr> <tr><td style="text-align: center;">200</td><td style="text-align: center;">41.5</td></tr> <tr><td style="text-align: center;">250</td><td style="text-align: center;">41.1</td></tr> <tr><td style="text-align: center;">315</td><td style="text-align: center;">42.8</td></tr> <tr><td style="text-align: center;">400</td><td style="text-align: center;">48.1</td></tr> <tr><td style="text-align: center;">500</td><td style="text-align: center;">50.6</td></tr> <tr><td style="text-align: center;">630</td><td style="text-align: center;">56.1</td></tr> <tr><td style="text-align: center;">800</td><td style="text-align: center;">57.7</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">58.2</td></tr> <tr><td style="text-align: center;">1250</td><td style="text-align: center;">59.7</td></tr> <tr><td style="text-align: center;">1600</td><td style="text-align: center;">66.2</td></tr> <tr><td style="text-align: center;">2000</td><td style="text-align: center;">69.6</td></tr> <tr><td style="text-align: center;">2500</td><td style="text-align: center;">75.0</td></tr> <tr><td style="text-align: center;">3150</td><td style="text-align: center;">77.5</td></tr> <tr><td style="text-align: center;">4000</td><td style="text-align: center;">76.5</td></tr> <tr><td style="text-align: center;">5000</td><td style="text-align: center;">76.9</td></tr> </tbody> </table>		1/3rd OBCF (Hz)	D_{nT} (dB)	50	31.4	63	38.0	80	33.8	100	37.7	125	35.8	160	41.6	200	41.5	250	41.1	315	42.8	400	48.1	500	50.6	630	56.1	800	57.7	1000	58.2	1250	59.7	1600	66.2	2000	69.6	2500	75.0	3150	77.5	4000	76.5	5000	76.9
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No. of test report: 10530_SI_1	Name of test institute: Braiden Acoustics Limited																																												

