

JPM ACOUSTICS

FRANK'S BURGERS, RAMSBOTTOM

NOISE IMPACT ASSESSMENT
JUNE 2025





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1.0. INTRODUCTION

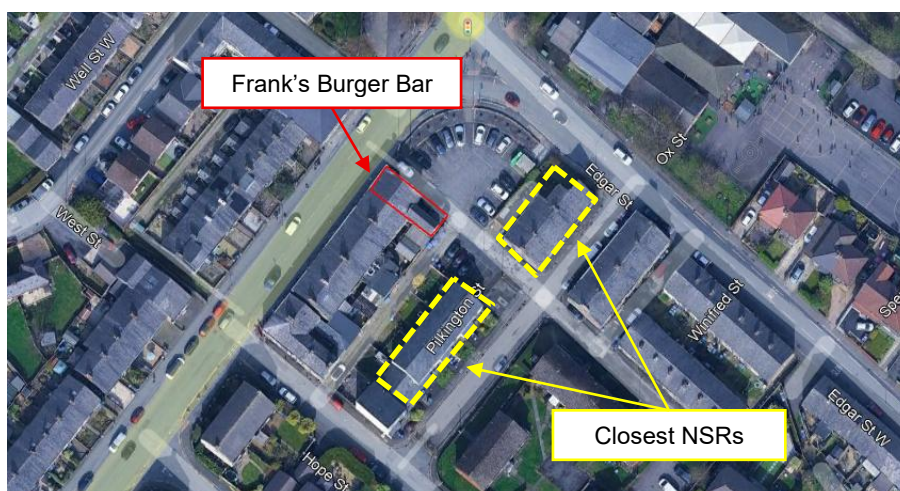
1.1. OVERVIEW

- 1.1.1. JPM Acoustics has been appointed to undertake a noise impact assessment in support of a planning application for a new kitchen extract system at the existing Frank's Burgers premises in Bury.
- 1.1.2. The proposed kitchen extract unit has the potential to cause an adverse noise impact at nearby noise-sensitive receptors.
- 1.1.3. This report presents an assessment of the potential noise impact associated with the proposed kitchen extract system. The assessment has been carried out in accordance with relevant British Standards and technical guidance documents relating to the assessment of environmental noise.
- 1.1.4. As this report is necessarily technical in nature, a glossary of relevant acoustic terminology is provided in **Appendix A** to assist the reader.

1.2. SITE SETTING AND PROPOSED DEVELOPMENT DESCRIPTION

- 1.2.1. Frank's Burgers is an existing hot food takeaway located at ground floor level at 9 Bolton Road West, Ramsbottom. The property is a two-storey, semi-detached unit, with commercial premises occupying the first floor.
- 1.2.2. Surrounding properties along Bolton Road West similarly comprise commercial or retail units at ground level, with either residential dwellings or commercial premises above.
- 1.2.3. **Figure 1.1** identifies the location of Frank's Burgers within its local context. The nearest noise-sensitive receptors are located on Pilkington Street, approximately 14 metres to the southeast, as shown in **Figure 1.1**.

Figure 1.1: Site Location Plan



- 1.2.4. The existing kitchen system at Frank's Burgers is located on the south-eastern elevation of the premises (to the rear) at ground floor level. The existing extract system comprises a wall mounted fan terminal and internal ductwork, as identified in **Figure 1.2**.

Figure 1.2: Existing Kitchen Extract Location



- 1.2.5. The kitchen extract fan typically operates during the following periods:

- Monday / Tuesday: Frank's Burgers closed (no operations)
- Wednesday / Thursday / Sunday: 13:00 – 21:00
- Friday / Saturday: 13:00 – 22:30.

- 1.2.6. It is proposed that the existing extract system will be replaced with an externally ducted flue system. The new system will penetrate the building façade at the same location as the existing unit but will incorporate a vertical duct section terminating in a high-level flue discharge above roof level.

2.0. ASSESSMENT CRITERIA

2.1. BS 4142:2014+A1:2019: METHODS FOR RATING AND ASSESSING INDUSTRIAL AND COMMERCIAL SOUND (BS 4142)

2.1.1. This British Standard describes methods for rating and assessing the following:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;
- Sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train movements on or around an industrial and/or commercial site.

2.1.2. The method uses outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

2.1.3. In accordance with the assessment methodology, the specific sound level ($L_{Aeq,T}$) of the noise source being assessed is corrected by the application of penalties for characteristic features, such as tonal qualities and/or distinct impulses, to give a rating level ($L_{Ar,Tr}$). The British Standard effectively compares the difference between the rating level and the typical background sound level ($L_{A90,T}$) in the absence of the noise source being assessed.

2.1.4. It is advised that the time interval ('T') of the background sound measurement should be sufficient to obtain a representative or typical value of the background sound level at the time(s) when the noise source in question is likely to operate or is proposed to operate in the future.

2.1.5. Comparing the rating level with the background sound level, BS 4142 states:

“Typically, the greater this difference, the greater the magnitude of impact.

A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.

A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.

The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”

3.0. BASELINE NOISE SURVEY

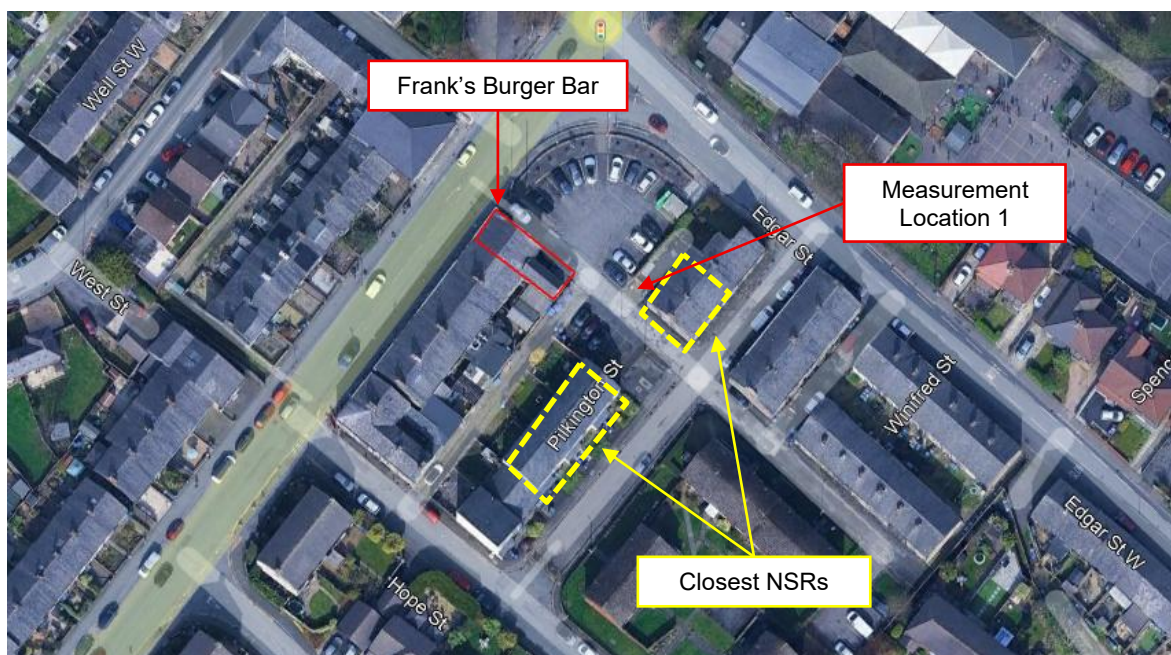
3.1. OVERVIEW

- 3.1.1. A baseline noise survey has been undertaken to determine noise levels at a location representative of the closest noise sensitive receptors with the existing fan in operation.

3.2. MEASUREMENT LOCATIONS

- 3.2.1. Attended noise monitoring was undertaken at the measurement position identified in **Figure 3.1**.

Figure 3.1: Baseline Noise Measurement Location



Measurement Location 1 (ML1)

- 3.2.2. Attended noise monitoring was undertaken at ML1 over two 30-minute periods to capture the prevailing noise climate at a location representative of the closest / worst affected noise sensitive receptors to the existing kitchen extract fan. Monitoring was undertaken between 21:10 – 21:40 on Friday 13th June 2025, and between 21:20 – 21:50 on Saturday 14th June 2025.
- 3.2.3. The microphone at ML1 was established at 1.5 m above local ground level in free-field conditions.
- 3.2.4. The noise climate at ML1 during the survey was noted to be dominated by road traffic noise on Bolton Road West and noise from raised voices in a pub beer garden to the rear of 13 Bolton Road West. Noise from the extract fan at Frank's Burgers was noted to be audible during the survey.

3.3. EQUIPMENT

- 3.3.1. The baseline noise survey was undertaken using the Class 1 specification noise measurement equipment detailed in **Table 3.1**. The measurement equipment was calibrated using a portable calibrator immediately before and after the measurements with no significant drift in calibration observed.
- 3.3.2. The sound level meters, pre-amplifiers and microphones were calibrated to traceable standards within 24 months prior to the measurements. The portable calibrator was calibrated within 12 months prior to the measurements.

Table 3.1: Noise measurement equipment details

Equipment	Make and Model	Serial Number	Calibration due Date
Sound Level Meter	Svantek 971A	113221	21/02/2026
Microphone	Aco Pacific 7152	80629	
Preamp	Svantek SV18A	113722	
Sound Level Meter	SVAN 971	60745	06/09/2025
Microphone	ACO 7052E	66815	
Preamp	SV18	64535	
Calibrator	Svantek SV33A	90275	21/02/2025

3.4. WEATHER CONDITIONS

- 3.4.1. Weather conditions during the survey were conducive to the measurement of environmental noise and vibration, it being dry with low wind speeds ($<5 \text{ ms}^{-1}$).

3.5. RESULTS

- 3.5.1. **Tables 3.2** presents a summary of the measured noise levels at ML1.

Table 3.2: Summary of measured sound pressure levels at ML1 (free-field)

Description	Start Time	Period (T)	Measured Sound Pressure Levels		
			dB $L_{Aeq,T}$	dB $L_{A90,T}^2$	dB L_{AFmax}^3
Evening 1	13/06/2025 21:00	30-mins	46	40	65
Evening 2	14/06/2025 21:00	30-mins	43	40	67

4.0. ASSESSMENT

4.1. APPROACH

- 4.1.1. The proposed kitchen extract system at Frank's Burgers is intended to replace the existing wall-mounted fan with a new high-level, externally ducted flue system. The flue will penetrate the same location on the south-eastern elevation of the building and will discharge vertically above roof level.
- 4.1.2. Baseline noise monitoring was undertaken at a position representative of the nearest noise-sensitive receptor (NSR) on Pilkington Street, approximately 20 metres from the proposed plant location. The survey was conducted during normal evening operating hours of the premises, with the existing extract fan in use.
- 4.1.3. As the existing kitchen extract fan is already operational, its contribution is considered part of the prevailing acoustic environment. In line with the methodology set out in BS 4142, if the rating level of the new system does not exceed the representative background sound level at the closest NSR, the impact is likely to be low.
- 4.1.4. The measured background sound level ($L_{A90,T}$) at the NSR during the most sensitive operating hours was 40 dB. Therefore, to ensure a low noise impact, emissions from the proposed kitchen extract system (when assessed in accordance with BS 4142) should not exceed a rating level of 40 dB $L_{A,T,r}$ at the receptor.
- 4.1.5. At the time of writing, detailed specifications of the proposed extract system (e.g. fan model, in-duct silencers, terminal type) are not available. As such, a full quantitative BS 4142 assessment cannot yet be completed.
- 4.1.6. However, it is considered technically feasible for the proposed system to be designed or specified such that its noise emissions remain at or below the existing background sound level. This could be controlled by a suitably worded planning condition requiring that:

"The noise rating level of the kitchen extract system shall not exceed 40 dB $L_{A,T,r}$ at the nearest noise-sensitive receptor, when assessed in accordance with BS 4142:2014+A1:2019."
- 4.1.7. Implementation of such a condition would ensure the development results in no adverse noise impact, consistent with the aims of the National Planning Policy Framework (NPPF) and associated planning guidance.

5.0. CONCLUSION

- 5.1.1. JPM Acoustics has undertaken a noise impact assessment to support the planning application for a new kitchen extract system at Frank's Burgers, 9 Bolton Road West, Ramsbottom.
- 5.1.2. The assessment considered the potential impact of the proposed externally ducted flue system on the nearest noise-sensitive receptors, with reference to the methodology outlined in BS 4142.
- 5.1.3. Baseline noise monitoring was carried out at a location representative of the closest residential receptors. The measured background sound level during sensitive evening periods was 40 dB L_{A90} .
- 5.1.4. While detailed design specifications for the proposed extract system (such as fan model, silencers, and termination details) are not yet available, it is considered technically feasible for the system to be specified such that noise emissions do not exceed the prevailing background level.
- 5.1.5. It is therefore recommended that noise from the proposed system be controlled via a suitably worded planning condition. This would ensure that the rating level does not exceed the existing background sound level, resulting in a low noise impact at nearby sensitive receptors in accordance with BS 4142.

APPENDIX A: GLOSSARY

Table A.1: Noise terminology

Terminology	Description
A-weighting, dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' - weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
Decibel, (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s_1 and s_2 is given by $20 \log_{10} (s_1/s_2)$. The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20 Pa.
Façade	At a distance of 1m in front of a large sound reflecting object such as a building façade.
Fast Time Weighting (F)	Averaging time constant used in sound level meters and commonly used in the measurement of environmental noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m away.
$L_{10,T}$	A noise level index. The noise level exceeded for 10% of the time over the period, T. L_{10} may be thought of as the "average maximum" noise level. Generally used to describe road traffic noise.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period, T. L_{90} may be thought of as the "average minimum" noise level. Generally used to describe background noise.

Terminology	Description
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period, T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,T}$	A noise level index defined as the maximum noise level during the period, T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
Sound Power	The sound energy radiated per unit time by a sound source. Measured in watts (W).
Sound Power Level, L_w	Sound power measured on a decibel scale, relative to a reference value of 10^{-12} W.
Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure. Measured in pascals (Pa).
Sound Pressure Level (Sound Level), L_p	The sound level is the sound pressure on a decibel scale, relative to a reference value of 20×10^{-6} Pascals.