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NOISE IMPACT ASSESSMENT FOR PROPOSED DEVELOPMENT:

293 Roundhay Road, Leeds, West Yorkshire LS8 4HS

Prepared for:

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Institute of Acoustics number: 43468

Test Report Number: AS22-59

1.00 INTRODUCTION

1.1

293 Roundhay Road, AKA Shimlas, Leeds is a restaurant/takeaway. Acoustic Solutions has been commissioned by Mr Javid to undertake a noise impact assessment for the proposed premises licence application, reference, PREM/04962/001 for a change of operational hours from 11:00 - 23:00 hours (seven days per week) to 11:00 – 03:00 hours (Monday to Saturday) and 11:00 – 02:30 hours (Sundays) at 293 Roundhay Road, Leeds. It is also proposed that amplified music will be played within the premises between 11:00 – 00:00 hours (seven days per week).

Concern has been raised by Leeds City Council about potential noise disturbance arising from this change of hours. In particular, the following noise sources occurring after 00:00 hours have been identified as being potentially problematic:

- Customers (in the street);
- Delivery drivers and vehicles arriving and leaving;
- Car doors slamming;
- Music from delivery/customers' car radios which would continue into hours where it may adversely affect sleep and other loss of the use and enjoyment of a property;
- Recorded music coming from the premises;
- The kitchen extract ventilation system;
- General activities of the business transmitting through the structure to the residents in the surrounding properties.

1.2

The objectives for the noise impact assessment were as follows:

- At the nearest identified noise-sensitive dwelling to 293 Roundhay Road, 137 Harehills Lane, establish the noise impact of each of the noise sources identified;
- Establish the current 00:00 to 03:00 hours noise environment in the vicinity of the nearest noise-sensitive dwelling to 293 Roundhay Road.
- At the nearest noise-sensitive dwelling, predict the likely noise impact from the identified noise sources at 293 Roundhay Road, between the hours of 23:00 and 03:00 hours.

1.3

This report details the methodology and results of the assessment. It has been prepared to accompany an application for planning permission that is to be submitted to Leeds City Council for the proposed development of the application site.

1.4

This report has been prepared for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult Mr Javid and Acoustic Solutions as to the extent to which the findings may be appropriate for their use.

1.05

A glossary of acoustic terms used in the main body of the text is contained in Appendix One.

2.00 NOISE IMPACT ASSESSMENT CRITERIA

2.1

In terms of noise impact assessment criteria, Paragraph 170e of the National Planning Policy Framework (NPPF) 2018 states that planning policies and decisions should contribute to and enhance the natural local environment by '*preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.'*

2.2

Planning Practice Guidance specifically dealing with noise was uploaded to the Government's Planning Portal in March 2014 as an accompaniment to the National Planning Policy Framework. This guidance is summarised herein.

2.3

The guidance states that noise needs to be considered when new developments may create additional noise. Whilst noise can override other planning concerns, neither the Noise Policy Statement for England nor the National Planning Policy Framework (which reflects the Noise Policy Statement for England) expects noise to be considered in isolation, separately from the economic, social and other environmental dimensions of proposed development.

2.4

In order to determine noise impact, local planning authorities' plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur, and;
- Whether or not a good standard of amenity can be achieved.

2.5

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

2.6

In terms of Observed Effect Levels:

- No Observed Adverse Effect Level (NOAEL) – This is the level of noise exposure below which no effect at all on health or quality of life can be detected;

- Lowest Observed Adverse Effect Level (LOAEL) – This is the level of noise exposure above which adverse effects on health and quality of life can be detected, and;

- Significant Observed Adverse Effect Level (SOAEL) – This is the level of noise exposure above which significant adverse effects on health and quality of life occur.

2.7

At the lowest extreme, when noise is not noticeable, there is by definition no effect. As the noise exposure increases, it will cross the ‘no observed’ effect level as it becomes noticeable. However, the noise has no adverse effect so long as the exposure is such that it does not cause any change in behaviour or attitude. The noise can slightly affect the acoustic character of an area but not to the extent there is a perceived change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

2.8

As the exposure increases further, it crosses the lowest observed adverse effect level boundary above which the noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

2.9

Increasing noise exposure will at some point cause the significant observed adverse effect level boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is above this level the planning process should be used to avoid this effect occurring, by use of appropriate mitigation such as
by altering the design and layout. Such decisions must be made taking account of the economic and social benefit of the activity causing the noise, but it is undesirable for such exposure to be caused.

2.10

At the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be prevented from occurring.

2.11

The following table summarises noise exposure hierarchy, based on likely average response.

Table 2.1 Guideline "Absolute" Sound Level[1]

Absolute Sound Level	**Absolute Level:**	**≤40Db**	**41 - 45dB**	**46 - 50dB**	**51 - 55dB**	**56 - 60dB**	**≥60dB**
	Daytime Effect:[2]	**NOAEL**	**NOAEL**	**NOAEL**	**LOAEL**	**SOAEL**	**SOAEL+**
	Evening Effect:[3]	**NOAEL**	**NOAEL**	**LOAEL**	**SOAEL**	**SOAEL**	**SOAEL+**
	Night-time Effect:[4]	**NOAEL**	**LOAEL**	**SOAEL**	**SOAEL**	**SOAEL**	**SOAEL+**
	Effect / Impact Description:	No observed effect on health or quality of life.	Sleep disturbance in bedrooms with window open.	Speech intelligibility within living areas with windows open resulting in moderate annoyance. Greater potential for sleep disturbance and adverse health impact.	Increased potential for sleep disturbance, including significant adverse health effects. Gardens and amenity spaces affected.	Significant adverse health effects likely to all habitable rooms. Occupants unable to open windows due to noise ingress and unable to enjoy garden / amenity areas.	High risk of significant adverse health impact. Unable to use garden and amenity space or have windows open for ventilation.
Mitigation Considerations:		**A1** Use design, layout and landscaping (DLL) to create and preserve areas of amenity and tranquillity to enhance the noise environment.	**A2** Protect bedroom facades from noise through DLL. Provide minimum double-glazing with trickle vents to bedrooms.	**A3** Protect habitable room facades from noise through DLL with greater protection for bedrooms. Provide higher spec double-glazing with trickle-vents to all habitable rooms.	**A4** Bedroom facades to be protected through DLL to bring below LOAEL. Provide higher spec double-glazing with trickle vents to all habitable rooms. Protection of gardens and amenity space through DLL and acoustic fencing.	**A5** Bespoke assessment of noise mitigation needs, including consideration of alternative to open window ventilation provision to protect internal noise environment and protection of garden / amenity areas through DLL to bring below LOAEL.	**A6** Bespoke assessment of noise impact and mitigation, including DLL, protection of building envelope and provision of alternative amenity space.
Planning Consideration:		No objection	No objection subject to Approved Plans and/or conditions to include satisfactory window specification to bedrooms with facades exposed to LOAEL noise.	No objection subject to Approved Plans and/or conditions to include satisfactory window specification to all habitable rooms with facades exposed to LOAEL noise.	Details of noise mitigation to be supplied as part of planning approval process. Conditions required to implement control measures within the noise report. Refusal if noise report is inadequate.	Details of noise mitigation to be supplied as part of planning approval process. Conditions required to implement control measures within the noise report. Refusal if noise report is inadequate.	Presumption against planning permission being granted, unless detailed noise impact assessment and approved mitigation measures implemented through conditions. Post completion verification of mitigation measures required.

[1] Free-field, outdoor noise level expressed as dB LAeq(T), where T is the reference time period for the relevant Day, Evening or Night-time period.
[2] Day is from 07:00 to 19:00 and the reference time period (T) is 8 hours.
[3] Evening is from 19:00 to 23:00 and the reference time period (T) is 4 hours.
[4] Night is from 23:00 to 07:00 and the reference time period (T) is 8 hours.

2.12

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation. These factors include:

- The source and absolute level of the noise together with the time of day it occurs;

- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;

- The spectral content of the noise (i.e. whether or not the noise contains particular high or low frequency content) and the general character of the noise (i.e. whether or not the noise contains particular tonal characteristics or other particular features);

- The local acoustic character of the area.

2.13

In addition, further useful contextual guidance is provided in:

- British Standard 4142:2014 'Methods for Rating and Assessing Industrial and Commercial Sound' (BS 4142);

- British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233);

- World Health Organisation (WHO) Guidelines for Community Noise (1999)

2.14

BS 4142 states:

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs'. Typically, the greater this difference, the greater the magnitude of the impact. For example:

- *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*
- *Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact. Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the absolute level of sound. For a given*
- *difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low. Where background sound levels and rating levels are low, absolute levels might be as, or*

more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

2.15

British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' sets indoor ambient noise levels from residential dwellings (see table below).

Table 2.2 – Indoor Ambient Noise Levels in Dwellings (BS 8233): 2014

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700–2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700–2300)}$	30 dB $L_{Aeq\ (2300–0700)}$

2.16

With regard to sound attenuation through the building envelope, the 'weak points' in the building façade are generally considered to be the windows. The worked example (G.1) at Annex G of BS 8233 suggests that a partially opened window would provide sound attenuation of approximately 15 dB R_w. The Standard also suggests that *"..standard insulating glass units have an insulation value of approximately 30 dB Rw"* when closed.

2.17

With respect to noise affecting external areas, i.e. gardens, BS 8233 states that *".. it is desirable that the steady noise level does not exceed 50 dB L_{Aeq}, and 55 dB L_{Aeq} should be regarded as the upper limit".*

2.18

The World Health Organisation's Guidelines for Community Noise (1999) sets indoor ambient noise levels from residential dwellings (see table below).

Table 2.3 – Indoor Ambient Noise Levels in Dwellings (WHO 1999)

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700–2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700–2300)}$	30 dB $L_{Aeq\ (2300–0700)}$

3.0 BASELINE NOISE SURVEY

3.1

The application site is 293 Roundhay Road (Appendix Two). The premises is located in a detached building that stands on the junction of two busy highways: Roundhay Road and Harehills Lane. The premises' access to the public is situated on its south-eastern (front) façade. Directly outside this is an off-road bus stop bay. It is anticipated that between the hours of 23:00 and 03:00 hours when no buses are operating, this bay will be used by customers' and delivery staff vehicles. The nearest noise-sensitive dwellings to this south-eastern façade are the properties located above the Continental Supermarket at the Din Building: 43 metres distance.

The premises' kitchen extraction system and its air conditioning fans are located on the wall of its north-west façade. Also to the north-west is an enclosed courtyard. It is anticipated that delivery staff vehicles may also use this courtyard. The nearest noise-sensitive dwellings to this north-western façade is 137 Harehills Lane: 15 metres distance.

3.2

In order to establish the 23:00-03:00 hours background noise levels at the application site and its surrounding environs, a baseline noise survey was undertaken on Sunday 11 September between these hours.

In order to establish the 21:00-23:00 hours noise levels associated with the operation of restaurant/takeaway activities at the application site and its surrounding environs, a noise survey was undertaken on Monday 12 September between these hours.

3.2

For the purpose of the assessment, four noise monitoring positions, MP1, MP2, MP3 and MP4 were adopted in free field environments at over 1.5 metres above ground and over 3 metres from any vertical reflective surface.

- MP1. Outside north-western façade of the Din Building. The monitoring position was selected to assess evening noise levels associated with the operation of the restaurant/takeaway's activities at 293 Roundhay Road, and night time 'baseline' night time noise levels in the vicinity of these dwellings.

- MP2. Outside south-eastern gable-end façade of 137 Harehills Lane. The monitoring position was selected to assess evening noise levels associated with the operation of the restaurant/takeaway's activities at 293 Roundhay Road.

- MP3. Courtyard outside the north-western (rear) façade of 293 Roundhay Road. The monitoring position was selected to assess the ambient noise level in the presence of noise associated with the operation of the restaurant's air extraction and air conditioning systems. Measurements conducted for the purposes of a BS4142+A1 assessment of the air extraction system. For the assessment, MP3 was located 3 metres from the kitchen extraction flue's outlet terminal.

- MP4. Rear of 219A Roundhay Road. The monitoring position was selected to assess the residual and background noise levels in the absence of noise (inaudible at this location) associated with the operation of the restaurant's air extraction and air conditioning systems, and to replicate the sound levels within the courtyard at the rear of 293 Roundhay road, where the courtyard's wall reduce the influence of road traffic noise. Measurements conducted for the purposes of a BS4142+A1 assessment of the air extraction system.

3.3 Noise Assessment Measurements

A series of hourly 15-minute noise measurements were undertaken using a Type 1 integrating sound level meter (Appendix Three). The measurement system calibration was verified immediately before the commencement of the measurement sessions and again at the end. Weather conditions throughout the survey were dry and clear with a maximum southerly wind speed of 2 metres per second: appropriate for monitoring. Measurements consisted of A–weighted parameters: L_{Aeq} and L_{A90}.

3.4 MP1

MP1. Evening (21:00-23:00 hours) Evening sound levels can be described as noisy. The dominant noise source was from road traffic travelling along Roundhay Road. Patrons were seen entering and leaving from the front of 293 Roundhay Road. They were not audible from the microphone location. None of the noise sources associated with 293 Roundhay Road, as identified in Paragraph 1.1, were audible at the microphone location.

Table 3.1 summaries evening noise levels at MP1, including average L_{Aeq} / L_{A90} values and the maximum L_{AMax} value.

Table 3.1 – MP1: Evening Noise Measurements

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
20:00	70.3	55	78.5
21:00	69	55.1	80.5
22:00	67.6	54.6	81
23:00	68.9	54	77.8
Average	69	55	81

MP1. Night Time (23:00-03:00 hours) Night time sound levels can be described as moderate to moderately noisy. The dominant noise source was from road traffic travelling along Roundhay Road.

Table 3.2 summaries night time noise levels at MP1, including average L_{Aeq} / L_{A90} values and the maximum L_{AMax} value.

Table 3.2 – MP1: Night Time Baseline Noise Measurements

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
00:00	66.7	52.8	79
01:00	63.5	47.6	78.2
02:00	60.1	42	67.9
03:00	61	42.6	66
Average Background	63	46	79

MP2. Evening (21:00-23:00 hours) Evening sound levels can be described as noisy. The dominant noise source was from road traffic travelling along Roundhay Road and Harehills Lane. A small number of vehicles (four per hour) were seen entering and leaving the courtyard at the rear of 293 Roundhay Road. The sound of these vehicles was audible, but, in terms of measurement, it could not be differentiated from the sound of general road traffic. No amplified music playing at 293 Roundhay Road was audible. No cooking or kitchen-related noise was audible. No dining area-related noise was audible.

Table 3.3 summaries evening noise levels at MP2, including average L_{Aeq} / L_{A90} values and the maximum L_{AMax} value. Since noise from customer/staff vehicles (arriving, departing, music playing from within) could be differentiated from general sound, Table 3.4 summarises sound levels from these sources at 1 metre earlier in the day.

Table 3.3 – MP2: Evening Noise Measurements

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
20:00	68.3	53	81.1
21:00	67.7	53.4	77.6
22:00	68	52.5	79.9
23:00	67.1	53.1	80.4
Average	68	53	80.4

Table 3.4 Customer/Staff Vehicle-Related Noise Measurement

Noise Source	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
Car Door Closing @ 1 m	66.9	41.7	79.4
Car Arriving @ 1	54.9	44.9	67.5
Car Departing @ 1 m	59.4	45.6	71.6
Music from Car @ 1 m	63.5	59.0	68.2

MP2. Night Time (23:00-03:00 hours) Evening sound levels can be described as noisy. The dominant noise source was from road traffic travelling along Roundhay Road and Harehills Lane.

Table 3.5 summaries night time noise levels at MP2, including average L_{Aeq} / L_{A90} values and the maximum L_{AMax} value.

Table 3.5 – MP2: Night Time Baseline Noise Measurements

Measurement Time	Residual Noise Level, dB, $L_{Aeq, 15\ min}$	Background Noise Level, dB $L_{A90, 15\ min}$	Measured Noise Level, dB $L_{AMax, 15\ min}$
00:00	62.1	50	77.4
01:00	61.4	50.6	76.8
02:00	58.3	51.5	68.2
03:00	58	49.3	66.6
Average Background	60	50	77

MP3. Evening (22:00 hours) The dominant noise source was from the kitchen extraction flue serving 293 Roundhay Road. The sound consisted of a steady, unceasing hum. There was no tonal element to the noise. The air conditioning units were inaudible. Noise from road traffic travelling along Roundhay Road and Harehills Lane was also significant.

MP4. Evening (22:00 hours) The dominant noise source was from road traffic travelling along Roundhay Road and Harehills Lane was also significant.

Table 3.6 summarises the evening ambient sound level at MP3 and the residual and background noise level at MP4.

Table 3.6 – MP3 & MP4: Evening Ambient, Residual and Background Noise Levels

Period	Ambient Noise, dB, L_{Aeq}	Residual Noise, dB, $L_{Aeq, 15}$	Background Noise, dB, $L_{A90, 15}$
Evening	57	55	50

4.0 DISCUSSION

4.1 Noise from Patrons in the Street

It is understood that, between 23:00 and 03:00 hours, Shimlas Leeds will focus on home deliveries; however, to illustrate an absolute worse-case scenario, it will be assumed that 10x customers will leave the premises together at 03:00 hours and walk past the nearest noise-sensitive dwelling, 137 Harehill Lane.

The predicted noise impact of patrons talking is based upon "The Noise Manual" (Berger 2003), which cites the following sound level values:

- 1x Male 58/65dB, L_{Aeq} (normal/raised);
- 1x Female 55/63dB L_{Aeq} (normal/raised).

Assuming a 50:50 ratio between male and female patrons, each of these values have then been logarithmically multiplied by x5 (5x male, 5x female) to predict noise levels from patrons talking immediately outside number 137. Table 4.1 summaries the resulting sound level of twenty persons all either talking or shouting at once.

Table 4.1: Predicted Sound Level of 20 persons Talking or Shouting

Male/Female	SPL, Normal Voice, dB	SPL, Raised Voice, dB
Men	65	72
Women	62	70
Total	67	74

The long term and short term impacts are determined by calculating the change in current sound levels by the introduction of 10x persons. Table 4.2 summaries the impact values published by HS2 Phase 1 Environmental Statement).

Table 4.2 Table: 3.1 Impact from Changes in Sound Levels (Source: HS2 Phase 1 Environmental Statement)

Long Term Impact	Short Term Impact	Sound Level Change, dB, LAeq,T
Negligable	Negligable	=/>0 to <1
	Minor	=/>1 to <3
Minor	Moderate	=/>3 to <5
Moderate	Major	=/>5 to <10
Major		=/>10

The noise impact of patrons talking or shouting is assessed by comparing these sound levels with the current night time sound level, as measured. Table 4.3 summarises the change in the sound level resulting in 10x customers simultaneously talking and shouting outside 137 Harehills Lane at 03:00 hours. It suggests that 10x persons talking or shouting simultaneously would result in a Major noise impact at number 137.

Table 4.3 Predicted Sound Leve Change of 10x Persons

Existing SPL, dB	60	Existing SPL, dB	60
10x Customers Talking	67	10x Customers Shouting	74
Change	7	Change	14

4.2 Noise from Delivery Drivers

MP1

The equation

$$SPL2 = SPL1\text{-}20logr\text{-}8$$

(where SPL1 is the measured noise levels and r is the distance (m) between the noise source and the recipient)

describes the effect of distance in attenuating a noise.

Table 4.4 summarises the predicted noise level at Din Building arising from noise associated with delivery drivers. The prediction assumes that loud music

is playing in the vehicle. Note, where the newly introduced noise level is =/<10 dB relative to the existing noise level, it will be inaudible, and thus the perceived change in noise level will be zero.

Table 4.4 MP1 Vehicle Noise. Predicted Sound Level Change

Noise Source	Residual Noise Level, dB, $L_{Aeq,\ 15\ min}$	Sound Level at Din Buildings, dB	Existing Average Night Time Noise Level at MP1	Change in Noise Level, dB	Impact
Car Door Closing @ 1 m	66.9				
Car Arriving @ 1 m	54.9				
Car Departing @ 1 m	59.4				
Music from Car @ 1 m	63.5				
Total @ 1 m	69	28	63	0	Negligable

MP2

Table 4.5 summarises the predicted noise level at 137 Harehills Lane arising from noise associated with delivery drivers. The prediction assumes that loud music is playing in the vehicle.

Table 4.5 MP2 Vehicle Noise. Predicted Sound Level Change

Noise Source	Residual Noise Level, dB, $L_{Aeq,\ 15\ min}$	Sound Level at 137 Harehills Lane, dB	Existing Average Night Time Noise Level at MP1	Change in Noise Level, dB	Impact
Car Door Closing @ 1 m	66.9				
Car Arriving @ 1 m	54.9				
Car Departing @ 1 m	59.4				
Music from Car @ 1 m	63.5				
Total @ 1 m	69	38	60	0	Negligable

4.3 Recorded Music Coming from the Premises

No music was audible at MP1 or MP2.

4.4 Kitchen Extraction Ventilation System

Table 4.6 summarises the predicted Noise Rating at 137 Harehills Lane.

Table 4.6 MP2 BS4141+A1 noise impact

Period	Specific Noise, dB, L_{Aeq}	Background Noise, dB, $L_{A90,15}$	Rating, dB	Comments
Night time	53	50	3	Minor Adverse Impact

4.5

General activities of the business transmitting through the structure to the residents in the surrounding properties.

At MP3, 3 metres from the rear façade of 293 Roundhay Road, no noise from internal activities at the premises was audible. This being the case, it is predicted that between the hours of 23:00 and 03:00, no such noise will be audible at 137 Harehills Lane.

5.0 CONCLUSION

5.1 Noise Impact of Patrons Leaving 293 Roundhay Road

The noise impact associated with 10x patrons leaving the premises en-masse is predicted to be major at 137 Harehills Lane. Other than signage advising patrons to leave the premises quietly, there are little or no noise attenuation options available to address this issue.

In mitigation, the predictions assume an absolute worse-case scenario, where ten persons leave the premises as one single group, where the group stands outside the nearest noise sensitive premises, and where each person within this ten-person group is either talking or shouting simultaneously.

Any significantly sized group of people shouting simultaneously suggests serious public disorder such as a mass brawl. Assuming, therefore, that the noise impact will be caused by patrons talking only, Table 5.1 summaries the predicted noise impact based upon a stepped rising scale of 2, 4, 6, 8 & 10 talking at once.

It suggests that a mixed group of ten or more persons talking together would result in a major short and long term adverse noise impact upon the occupiers of 137 Harehills Lane. It is impossible to predict whether groups of this size are likely to congregate outside this premises at 03:00 hours. It is thought likely that any late-night customers will have driven to the premises therefore the likelihood of large groups of customers leaving on foot will be very slight.

Table 5.1 Likely Impact of 2 to 10 persons talking simultaneously outside 137 Harehills Lane

Patrons	Talking SPL, dB	Night Time Baseline SPL, dB	Change, dB	Long Term Impact	Short Term Impact
10	67	60	7	Major	Major
8	66	60	6	Moderate	Major
6	65	60	5	Moderate	Major
4	64	60	4	Minimum	Moderate
2	63	60	3	Minimum	Moderate

5.2 Noise from Vehicles

No adverse impact is predicted.

5.3 Noise from Recorded Music Coming from the Premises

No adverse impact is predicted.

5.4 Kitchen Extraction Ventilation System

Minor adverse noise impact is predicted externally. Internal noise impact will be negligible.

5.5 General activities of the business transmitting through the structure to the residents in the surrounding properties.

No adverse impact is predicted.

6.0 RECOMMENDATIONS

7.1 Noise from Patrons leaving the premises

Prominent signage should advise customers to leave the premises quietly

Appendix 1
Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 µPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$L_p = 20 \log_{10}(p/p_0)$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p0 = reference sound pressure (20 µPa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The A-weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified period of time. In other words, L_{Aeq} is the level if a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period. L_{Aeq} is increasing being used as the preferred parameter for all forms of environmental noise.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{A\ max}$

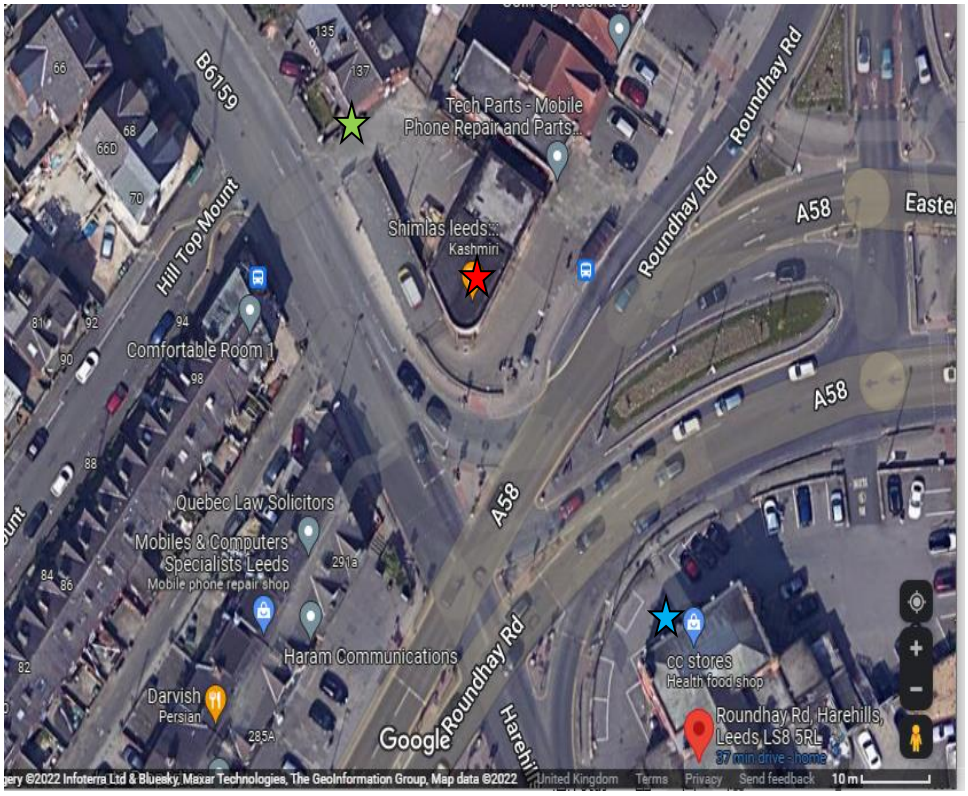
The maximum A-weighted noise level recorded during the measurement period.

Hz

The unit of frequency. The number of cycles (in the context of acoustics, the number of complete sound waves generated) per second.

Appendix 2

Location Plan showing 293 Roundhay Road and the Nearest Noise-Sensitive Dwellings



293 Roundhay Road

Din Buildings

137 Harehills Lane

Appendix 3
Equipment Used

Noise measurements were undertaken using a precision grade sound level meter:

Norsonic Nor145 Model integrating sound level meter.
Serial Number 14529307
Certificate Number U35939/U35940
Last Laboratory Calibrated 07/10/20

B & K 4230 Model calibrator
Serial Number 724157
Last Laboratory Calibrated 13/2/20

The Sound Level Meter was calibrated before and after both measurement periods, with no significant change in calibration. All calibrations took place at the measurement position.

The SLM met the requirements of BS EN 60651: 1994 and BS EN 60804: 2001 IEC 60804: 2000. It was capable of simultaneously measuring Leq and Ln values. Batteries for the SLM and calibrator were checked prior to all measurements.

Appendix 4
References

West Yorkshire Planning Consultation Guidance (Condensed Version) Noise & Vibration (2016) [Online]. Available at: PLN 82 Noise Design Advice leeds version.pdf [Accessed 13 September 2022];