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Acoustic Survey and Assessment for Proposed drinking establishment at Salvage House, Abbot Works, Salvage House, Back King Street, Whalley, BB7 9SP.

Prepared for:

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1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a planning application for a retrospective change of use of Salvage House, Back King Street, Whalley to a drinking establishment.

Site Location and Context

1.2. The development site is situated towards the rear and west of the wider industrial estate. To the west is the grave yard of St Mary's Church which extends to the north where the church is located. To the immediate north of the site is a car park serving the industrial units to the north. Beyond the graveyard is the primary school and Whalley Abbey. To the immediate south a gym, with bar and late-night opening and beyond additional industrial units. With residential located over 80m away. To the east more industrial units with commercial units beyond fronting onto King Street.

1.3. An aerial Photograph is enclosed in Figure 1.

1.4. The report has been produced to clarify the potential impact on the proposed development and to identify mitigation measures if required to ensure the development is appropriate in terms of noise impact.

2. Policy and Guidance

2.1. The impact of noise can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. It is recognised that on occasions it will be difficult to reconcile some land uses, such as housing, hospitals, or schools, with other activities that generate high levels of noise. However, the planning system is tasked to ensure that, wherever practicable, noise-sensitive developments are separated from major sources of noise (such as road, rail and air transport and certain types of industrial development).

2.2. The Government's publication of the National Planning Policy Framework (NPPF), updated in December 2023, states that planning policies and decisions should prevent new and existing development from contributing to or being put at unacceptable risk from, of being adversely affected by unacceptable levels of noise pollution.

2.3. The Government have also issued the Noise Policy Statement for England (NPSE). The NPSE clarifies the Government's underlying principles and aims in relation to noise and sets a vision to promote good health and a good quality of life through the effective management of noise while having regard to the Government's sustainable development strategy. The NPSE aims to mitigate and minimise adverse impacts on health and quality of life through the effective management and control of noise.

2.4. The NPSE introduces the following terms, although no sound levels are given to represent these, many authorities have identified the sound level criteria in line with the World Health Organisation, BS8233:2014 and BS4142: 2014 levels. The terms introduced by the NPSE are:

NOEL – No Observed Effect Level (<30dB(A)inside <50dB(A) outside, 10dB below background)
LOAEL – Lowest Observed Adverse Effect Level (30-35dB(A) inside 50-55dB(A) outside, background to +5dB)
SOAEL – Significant Observed Adverse Effect Level (>35dB(A) inside, >55dB(A) outside, >+10dB above background)

2.5. The sound levels within the brackets of the previous paragraph are those determined as appropriate levels to indicate the relevant effect levels represented by the NPSE.

2.6. Other commonly used examples of standards utilised by Local Planning authorities for the consideration of noise impacts include comparison of the likely noise levels to be experienced at a development, with levels that have been recommended by the World Health Organisation (WHO) as Guidelines for the prevention of Community Noise Annoyance and within BS8233: 2014.

2.7. The WHO recommended noise levels for outdoor amenity areas (gardens) that should not be exceeded are 55dB(A) $L_{Aeq,16hr}$ in order to avoid 'Serious Community Annoyance or 50dB(A) $L_{Aeq,16hr}$ to avoid 'Moderate Community Annoyance' during the day. For indoor levels WHO set 35dB(A) $L_{Aeq,16hr}$ during the day to prevent Moderate Annoyance and 30 dB(A) $L_{Aeq,8hr}$ at night to prevent sleep disturbance.

2.8. The WHO guidance also recommends that maximum sound levels at night should not regularly exceed 45dB(A) within bedrooms to prevent sleep disturbance. Regularly is considered to be more than 10 times during any 8-hour night-time period.

2.9. BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' also specifies desirable noise levels to be achieved inside dwellings.

2.10. BS 8233:2014 'Sound insulation and noise reduction for buildings – Code of Practice' also specifies desirable noise levels to be achieved inside dwellings. BS 8233 presents two levels, the first between the hours of 07:00 – 23:00 and the second between 23:00 -07:00.

2.11. The daytime period suggests internal noise levels of 35dB $L_{Aeq,16hr}$, for resting in living rooms and bedrooms while for night-time a level of 30dB LAeq,8hr is recommended. Criteria for external areas mirrors that within the WHO guidance.

2.12. In addition, the 'ProPG Planning & Noise, Professional Practice Guidance on Planning & Noise, New Residential Development' provides a 4-staged approach to undertaking a risk assessment in relation to anticipated sound levels at new residential development and the provision of mitigation measures. The guidance is principally aimed at sites exposed predominantly to noise from transportation sources.

2.13. The first stage consists of an initial noise risk assessment, based on indicative day and night-time *noise* levels. Simply put, the higher the ambient noise in an area the greater the impact. The levels given are shown below although it should be noted that these are in excess of both the WHO and BS 8233: 2014 guidance.

Noise Risk Category*	Potential Effect if Unmitigated	Pre-Planning Application Guidance
0 – Negligible $L_{Aeq,16hr}$ <50dB $L_{Aeq,8hr}$ <40dB	May be noticeable but no adverse effect on health and quality of life	In this category the development is likely to be acceptable from a noise perspective, nevertheless a good acoustic design process is encouraged to improve the existing environment and/or safeguard against possible future deterioration and to protect any designated tranquil areas. A noise assessment may be requested to demonstrate no adverse impact from noise. Application need not normally be delayed on noise grounds.
1 – Low $L_{Aeq,16hr}$ 50-63dB $L_{Aeq,8hr}$ 40-55dB	Adverse effect on health and quality of life	In this category the development may be refused unless a good acoustic design process is followed and is demonstrated via a Level 1 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised and that a significant adverse impact will not arise in the finished development. Planning conditions and other measures to control noise may be required.
2 – Medium $L_{Aeq,16hr}$ 63-69dB $L_{Aeq,8hr}$ 55-60dB L_{AFmax} >80dB**	Significant adverse effect on health and quality of life	In this category the development is likely to be refused unless good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised, and clearly demonstrates that a significant adverse noise impact will not arise in the finished development. Planning conditions and other measures to control noise will normally be required.
3 – High $L_{Aeq,16hr}$ >69dB $L_{Aeq,8hr}$ >60dB L_{AFmax} >80dB**	Unacceptable adverse effect of health and quality of life	In this category the development is very likely to be refused on noise grounds, even if a good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement. Applicants are advised to seek expert advice on possible mitigation measures. Advice on the circumstances when the refusal of a new housing on noise grounds should normally be anticipated is included in the ProPG.

2.14. Stage 2, consists of a full assessment of the prevailing ambient noise and requires 4 elements to be considered:

I. Element 1 – Good Acoustic Design
II. Element 2 – Internal Noise Level Guidelines
III. Element 3 – External Amenity Area Noise Assessment
IV. Element 4 – Assessment of Other Relevant Issues

2.15. A good acoustic design is implicit in meeting the requirements of the NPPF and can help to resolve many potential acoustic issues.

2.16. Details of the criteria considered suitable are provided above for both internal and external sound levels. Element 4 includes such issues as local and national policy, likely occupants, wider planning objectives.

3. The Assessment

The development

3.1 The proposed development will see the regularisation of the existing drinking establishment and restaurant and change of use to Sui Generis. No changes to the current operations of the site are to be made.

3.2 Operating hours are currently restricted, with the site closing at 23:00. This is typically understood to be classed as daytime operation with no night-time (23:00-07:00) operation of the site.

Existing Situation.

3.3 In order to determine the current sound levels for the area and the development site monitoring was undertaken over the 28th*29th June 2024. This covered two busy weekend evenings in the town.

3.4 Two Cirrus Optimus Green sound level meters were utilised for the monitoring. The first was placed internally in a free field environment near the bar, while the second was placed in the rear "beer garden" area near to the door.

3.5 The meter was field calibrated at the start and end of the monitoring period with no significant variation and full laboratory calibration certificates are available on request.

3.6 The weather during the monitoring was mainly dry with little to no wind <5m/s. Some light showers occurred over night but during operational hours and preceding it was dry.

3.7 The full results are shown in Appendix A, internal sound levels ranged from 70.8-89.6dB$L_{Aeq,1hr}$ during operational hours, consistent with previously gathered data for a busy bar/restaurant. Externally sound levels

3.8 External sound levels were for the main dictated by plant noise from the industrial units and the movement of vehicles, only during the late evening did activities on site become the dominant source of noise at the monitoring location (within the beer garden).

3.9 Sound levels at this location ranged from 57.9-73.8dB $L_{Aeq,1hr}$ during the operational hours. The highest hours being people talking within the beer garden (and adjacent to

the microphone). A little music could be heard in the background through the open door.

3.10 The nearest residential properties are located to the east along the main King Street, 68m away with intervening industrial buildings and 50m to the south, again with intervening buildings. Those to the east are also located in an area with at least three kitchen extraction fans and six refrigeration units operating adjacent to the them.

3.11 Given these distances sound levels from beer garden will be will be 33.6/36.8dB lower, in additional the intervening buildings will provide a barrier attenuation of at least 15dB, resulting in façade sound levels of 24.8dB(A) to the east and 22.1dB(A) to the south, based on the highest obtained readings. Thus, a worse-case situation.

3.12 Given a 15dB attenuation[1] for an open window the internal sound levels to be experienced by the nearest noise sensitive receptors (NSR) will be below 10dB(A).

3.13 The external and internal sound levels at the nearest NSR will be significantly below the recommended external and internal sound levels identified in section 2 above.

3.14 A consideration of the potential for low frequency noise to result in an adverse impact has also been undertaken. Many authorities use the guidance from the Salford University Guidance for the assessment of noise from Pubs and clubs and the NANR45 curve as a suitable level for preventing adverse impact from low frequency noise.

3.15 The measured external data from the site has been compared against the NANR45 curve and the resulting sound levels will not, when considering the distance and barrier attenuation, exceed the NANR45 curve at the NSR.

[1] BS8233: 2014; Guidance on sound insulation and noise reduction for buildings

4 Conclusion

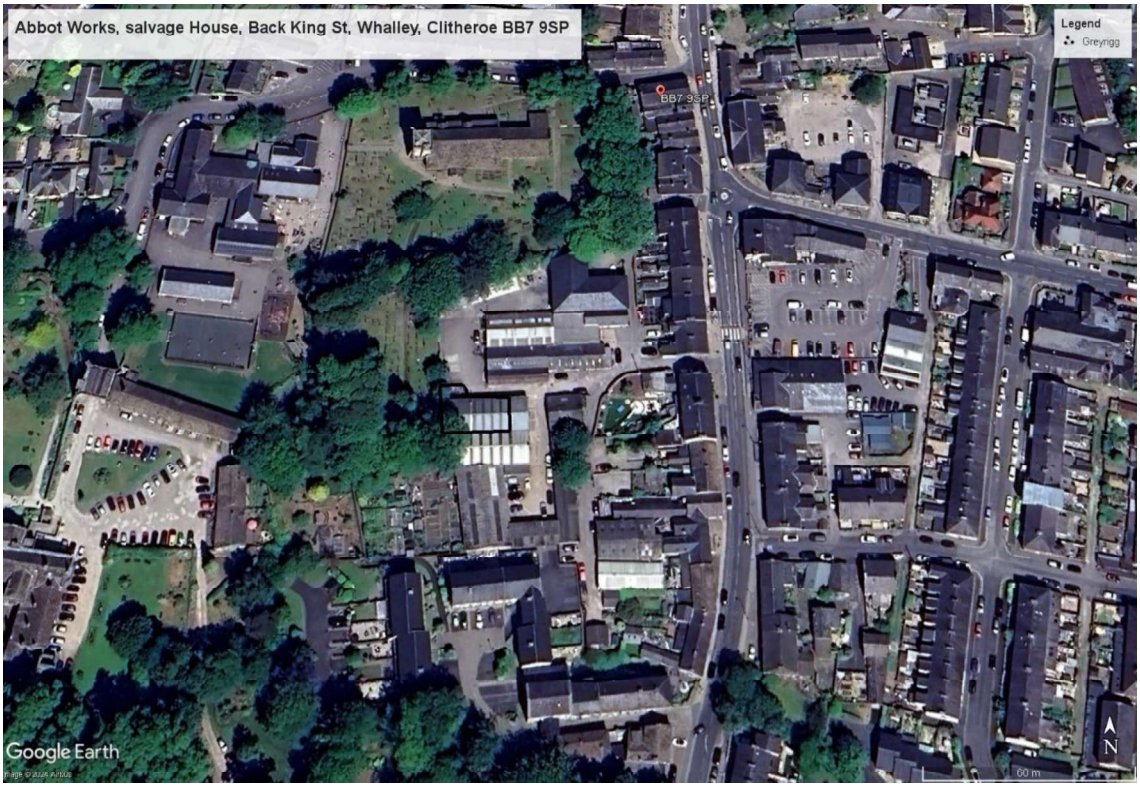
4.1 On-site monitoring has identified sound levels both internally and externally within the beer garden" from the development site.

4.2 These have been shown not to result in any adverse impact on nearby noise sensitive properties. As such no mitigation measures are required for the development.

4.3 The development will ensure that the internal and external sound levels at nearby receptor locations are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.

4.4 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of noise.

Figure 1 – Aerial Photograph



Appendix A – Full Monitoring Results

Internal

Time	L_{Aeq} (dB)	L_{AMax} (dB)	L_{A90} (dB)
28/06/2024 14:00	67.9	86.5	39.7
28/06/2024 15:00	71.5	99.7	50.3
28/06/2024 16:00	66.8	97.8	52.8
28/06/2024 17:00	70.8	93.3	64.1
28/06/2024 18:00	77.7	102.0	69.7
28/06/2024 19:00	83.6	99.8	76.1
28/06/2024 20:00	83.6	100.7	76.5
28/06/2024 21:00	80.1	95.8	75.7
28/06/2024 22:00	78.5	91.1	68.8
28/06/2024 23:00	64.1	91.4	43.3
29/06/2024 00:00	43.7	57.1	43.1
29/06/2024 01:00	44.1	52.6	43.4
29/06/2024 02:00	43.9	49.0	43.1
29/06/2024 03:00	45.7	51.4	42.9
29/06/2024 04:00	48.6	56.4	48.2
29/06/2024 05:00	48.8	54.0	48.3
29/06/2024 06:00	49.5	56.5	48.5
29/06/2024 07:00	44.2	57.6	43.2
29/06/2024 08:00	43.6	48.9	43.0
29/06/2024 09:00	43.4	57.5	42.8
29/06/2024 10:00	44.4	54.2	42.9
29/06/2024 11:00	43.7	54.2	43.1
29/06/2024 12:00	47.1	73.8	42.6
29/06/2024 13:00	57.8	85.4	42.3
29/06/2024 14:00	66.1	89.2	44.8
29/06/2024 15:00	70.9	86.5	64.7
29/06/2024 16:00	76.9	96.7	68.6
29/06/2024 17:00	73.3	93.4	67.6
29/06/2024 18:00	82.2	94.0	72.9
29/06/2024 19:00	87.2	101.3	83.9
29/06/2024 20:00	88.6	104.2	85.1
29/06/2024 21:00	89.6	102.9	86.6
29/06/2024 22:00	84.9	103.8	66.9

Operational hours

External

Time	L_{Aeq} (dB)	L_{AMax} (dB)	L_{A90} (dB)
28/06/2024 14:00	83.3	100.8	50.6
28/06/2024 15:00	84.1	100.1	54.9
28/06/2024 16:00	61.5	94.5	54.5
28/06/2024 17:00	58.5	80.7	55.2
28/06/2024 18:00	63.2	97.4	57.0
28/06/2024 19:00	68.5	95.6	61.3
28/06/2024 20:00	67.8	83.4	59.6
28/06/2024 21:00	66.3	90.1	59.2
28/06/2024 22:00	61.2	87.9	51.2
28/06/2024 23:00	54.9	85.5	43.4
29/06/2024 00:00	44.1	63.1	42.7
29/06/2024 01:00	43.7	57.0	42.6
29/06/2024 02:00	43.9	56.0	42.7
29/06/2024 03:00	37.9	58.5	33.5
29/06/2024 04:00	44.0	65.9	36.6
29/06/2024 05:00	42.9	67.9	34.8
29/06/2024 06:00	45.2	76.5	37.2
29/06/2024 07:00	50.9	92.3	40.0
29/06/2024 08:00	49.4	74.3	39.4
29/06/2024 09:00	48.3	77.2	39.6
29/06/2024 10:00	49.0	82.4	40.3
29/06/2024 11:00	49.9	75.6	39.4
29/06/2024 12:00	55.7	93.8	39.3
29/06/2024 13:00	53.3	87.2	40.1
29/06/2024 14:00	70.8	107.2	42.3
29/06/2024 15:00	57.9	88.6	47.7
29/06/2024 16:00	58.1	84.5	55.1
29/06/2024 17:00	61.5	86.6	55.8
29/06/2024 18:00	65.8	90.7	57.9
29/06/2024 19:00	68.4	89.5	64.1
29/06/2024 20:00	70.1	96.1	65.3
29/06/2024 21:00	73.8	90.6	68.3
29/06/2024 22:00	70.2	89.4	52.3
29/06/2024 23:00	60.1	92.3	47.2

Appendix B – Report Author Details

This report has been produced by Neil Martin, BSc (Hons), PGDip, CEnvH MCIEH, MIOA.

Neil is the principal acoustic consultant at Martin Environmental Solutions Ltd, a consultancy company specialising in Environmental Health disciplines including environmental noise assessment and control. He holds a Bachler's degree in Environmental Health and Diploma in Acoustics. He is a Chartered Member of the Chartered Institute of Environmental Health and a Full member of the Institute of Acoustics.

Neil has over 20year's experience working within a Local Authority Environmental Health setting, principally in the Environmental Protection and Public Health areas and has been working as an acoustic consultant since 2011.

Since its formation, Martin Environmental Solutions has advised and assisted many groups including residents, developers and local authorities about the problems of noise and vibration in the environment and the possible solutions. Neil also acts as an expert witness in the area of acoustics.