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Acoustic Survey and Assessment for Proposed Holiday Lodges on land at Longridge Road, Chipping, PR3 2QA.

Prepared for:

MacMarshalls Rural Chartered Surveyors & Planning Consultants,
Hamill House,
112-116 Chorley New Road,
Bolton,
BL1 4DH.

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Contents

1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a planning application for the siting of holiday lodges on land off Longridge Road, Chipping, PR3 2QA.

Site Location and Context

1.2. The development site is situated to the west of Longridge Road. The area is predominantly agricultural with existing properties to the south on Hesketh Lane. This includes a small kennels to the southwest.

1.3. An aerial Photograph is enclosed in Figure 1, together with a proposed layout drawing in Figure 2.

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.

2.17. In terms of the proposed teaching block the Department for Education have provided guidance in the form of the "*Acoustic design of schools: performance standards; Building bulletin 93"* (BB93), February 2015. While the guidance does not apply directly to establishments of further education the detail contained within it does provide some guidance to ensure suitable learning environments are provided.

2.18. The guidance specifies suitable internal sound levels for different teaching spaces and between teaching spaces, the later falling outside of the scope of this report. The guidance identifies an internal sound level of 35dB $L_{Aeq,30mins}$ for general teaching rooms and lecture rooms rising to 35dB $L_{A}eq,30mins$ for multipurpose halls and drama studios and 40dB $L_{Aeq,30mins}$ for open plan teaching areas/study rooms and libraries.

2.19. The above being measured prior to the any equipment being turned on, e.g. the engine or bridge simulation equipment for this development.

3. The Assessment

The development

3.1 The proposed development consists of the siting of five holiday lodges and associated infrastructure on land off Longridge Road, Chipping. There is no dedicated outdoor space provided as part of the lodges but parking is to be provided and the site is generally open.

3.2 Figure 2 below provides and overview of the proposed development.

Existing Situation.

3.3 In order to determine the impact on the proposed development on site monitoring was undertaken over the 2nd 4th October 2024 to obtain representative background sound levels for the area.

3.4 A Cirrus Optimus Green sound level meter was utilised for the monitoring. The meter was placed at a height of ~1.3m to the southwest corner of the site, 35m from the roadside.

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 dry apart from a short shower on the last morning, with little to no wind <5m/s.

3.7 The full results are shown in Appendix A, with a summary in the tables below.

Start Time	End Time	Duration	L_{Aeq}	L_{A90}	L_{AMax}
02/10/2024 16:00	02/10/2024 23:00	06:59:58	48.0	30.3	78.3
02/10/2024 23:00	03/10/2024 07:00	08:00:00	39.2	23.2	67.4
03/10/2024 07:00	03/10/2024 23:00	16:00:00	49.8	37.2	80.3
03/10/2024 23:00	04/10/2024 07:00	08:00:00	37.8	22.1	73.2
04/10/2024 07:00	04/10/2024 08:00	01:00:01	49.1	39.5	69.2

3.8 Background sound levels were dominated by passing traffic along the road and from bird song in addition some periods of barking were observed from the recordings emanating from the nearby kennels. Night-time maximum sound levels regularly exceeded at identified at 62.4dB(A) due to passing cars. A review of the maximum

sound levels across the records +55dB(A), shown that these were due to passing traffic with one incident of bird song in the early hours

3.9 The monitoring location was 35m from the roadside and the nearest proposed lodge being 6m resulting in this lodge being exposed to up to sound levels 7.7dB(A) higher than those monitored.

3.10 Occasional barking was observed from the site during both the day and night-time periods. This appears to have originated from one single dog with individual barking between 45-56dB(A) at the edge of the site.

3.11 Modern lodges are designed to meet minimum legal requirements and this includes a achieve a minimum of 35dB attenuation for the structure of the lodge, along with suitable thermal insulation and ventilation.

3.12 Assuming the minimum level of attenuation, which may in reality be greater as manufacturers will look at exceeding the minimum requirements, the internal sound levels of the lodges would be below those recommended within BS8233:2014 and by the World Health Organisation at 22.5dB(A) during the day, 16.9dB(A) at night and 25.1dB L_{AMax} at night to the front of the site by the road and 14.8/9.2/17.4dB(A) respectfully at the rear of the site.

3.13 The internal environment for the lodges is therefore acceptable, with a No Observed Impact and will not result in any adverse impact on the short-term occupiers.

3.14 No formal external amenity areas are to be provided but the nature of the development provides open space around the lodges which may be used by visiting guests. The current observed sound levels are just below the recommended lower criterion of 50dB(A) to the rear of the site while at the front along the roadside they are just over the upper criterion at 57. 5dB(A). Sound levels at the second lodge from the road would be will be 56.0dB(A).

3.15 The site is located within the open countryside and forms part of the ANOB. Occupation of the site will be for a short duration only with no formal external areas being provided. While a barrier would help to reduce the sound levels from passing traffic the current internal sound levels are acceptable.

3.16 BS8233:2014 notes that it is recognised that the guideline values are not always achievable and where development is desirable a comprise can be met. Given the lack of formal outdoor areas, occupation of the site on a temporary nature and the location within open countryside the current external sound levels, slightly over the recommended level are considered to be acceptable, although this would be the case on a permanent occupation basis.

4 Conclusion

4.1 On-site monitoring has identified existing background sound levels for the area.

4.2 It has been confirmed that the internal sound levels within holiday lodges will not result in any adverse impact. Based on the minimum requirements for lodges and the provision of suitable ventilation systems.

4.3 Externally sound levels, are slightly above the recommended sound levels at the front of the site, but given the temporary nature of the site occupation and its location no further mitigation measures are proposed.

4.4 The inclusion of the above mitigation measures to all habitable rooms will ensure that the internal and external sound levels are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.

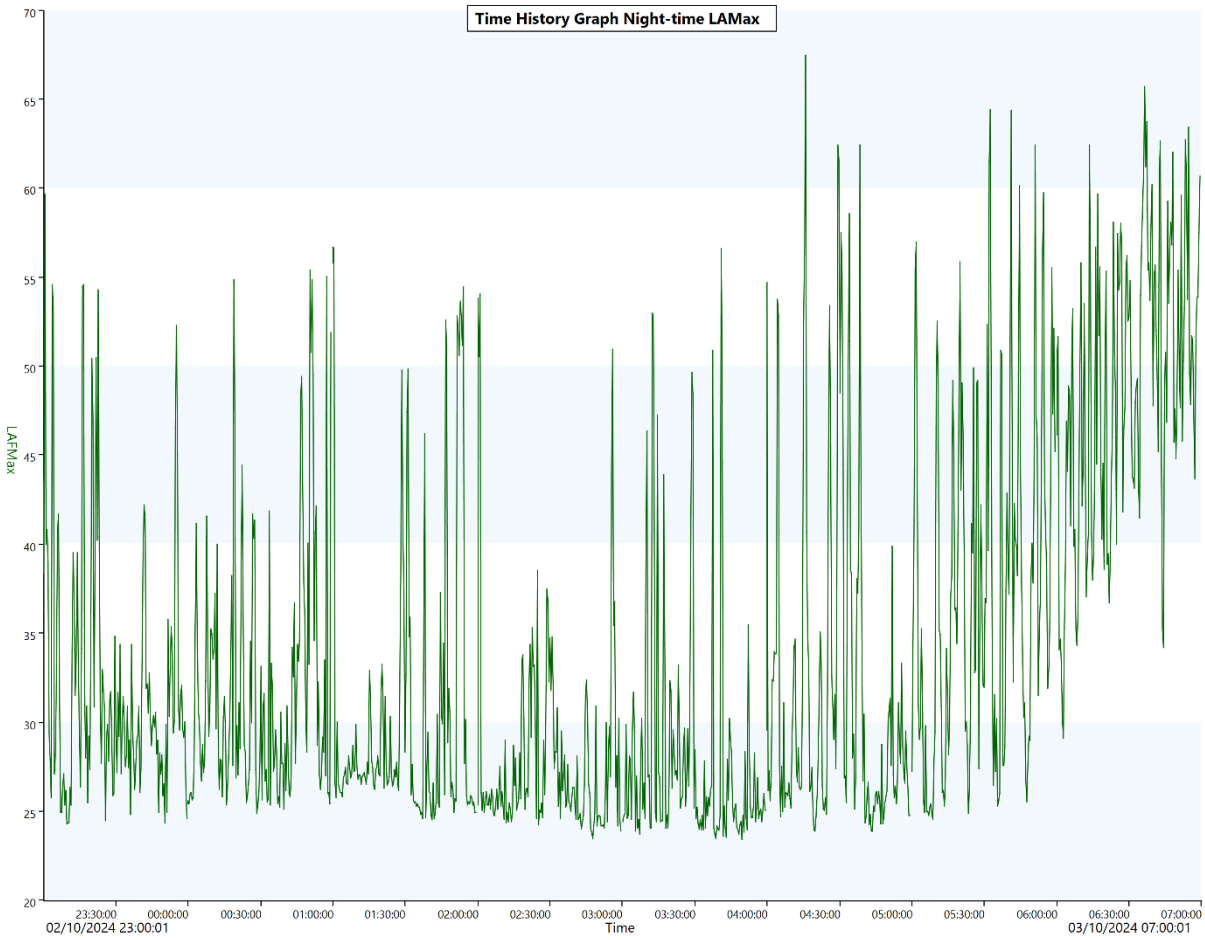
4.5 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of noise.

Figure 1 – Aerial Photograph

Figure 2 – Proposed Layout Plan

Appendix A – Full Monitoring Results

Time	L_{Aeq} (dB)	L_{AMax} (dB)	L_{A90} (dB)
02/10/2024 16:00	51.4	75.0	42.8
02/10/2024 17:00	51.0	78.3	40.9
02/10/2024 18:00	48.0	75.3	38.3
02/10/2024 19:00	45.8	62.5	32.5
02/10/2024 20:00	44.8	68.8	28.7
02/10/2024 21:00	44.7	66.1	29.2
02/10/2024 22:00	41.0	59.1	24.9
02/10/2024 23:00	33.9	59.7	23.3
03/10/2024 00:00	30.6	55.4	23.8
03/10/2024 01:00	33.4	56.7	23.6
03/10/2024 02:00	28.6	54.0	23.1
03/10/2024 03:00	29.0	56.6	22.5
03/10/2024 04:00	39.7	67.4	23.1
03/10/2024 05:00	41.1	64.4	23.9
03/10/2024 06:00	45.8	65.7	30.0
03/10/2024 07:00	50.2	68.0	40.6
03/10/2024 08:00	55.8	80.3	41.2
03/10/2024 09:00	51.1	69.9	40.3
03/10/2024 10:00	49.9	66.2	42.7
03/10/2024 11:00	49.5	63.6	41.3
03/10/2024 12:00	48.9	63.6	41.1
03/10/2024 13:00	49.1	65.0	40.3
03/10/2024 14:00	49.3	70.9	38.3
03/10/2024 15:00	49.8	68.9	38.0
03/10/2024 16:00	46.7	65.2	36.2
03/10/2024 17:00	51.3	78.2	38.8
03/10/2024 18:00	46.8	64.0	34.8
03/10/2024 19:00	46.4	63.0	31.0
03/10/2024 20:00	47.2	76.6	33.9
03/10/2024 21:00	47.2	69.9	36.7
03/10/2024 22:00	44.5	68.7	35.9
03/10/2024 23:00	38.5	61.5	29.5
04/10/2024 00:00	32.9	53.8	24.4
04/10/2024 01:00	27.1	63.5	22.1
04/10/2024 02:00	25.3	53.0	21.8
04/10/2024 03:00	32.2	55.6	21.5
04/10/2024 04:00	31.9	55.8	22.5
04/10/2024 05:00	38.8	60.4	25.4
04/10/2024 06:00	44.4	73.2	29.2
04/10/2024 07:00	49.1	69.2	38.9


Time History Graph Night-time LAMax
LAFMax
70
65
60
55
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45
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00:00:00
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06:00:00
06:30:00
07:00:00
02/10/2024 23:00:01
Time
03/10/2024 07:00:01

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.