

Hayes McKenzie — Consultants in Acoustics

Portway House

Noise Impact Assessment

Report HM: 3889_R01_EXT3

26 March 2026

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Noise Impact Assessment
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Prepared for: Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
SP4 6EB

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Document Control

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EXT1	24/03/2026	Completed report draft
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EXT3	26/03/2026	Altered recommended ventilation strategy

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Executive Summary

This report assesses the suitability of Portway House for residential use under Class MA, having regard to the existing acoustic environment affecting future occupiers. The assessment has been prepared in response to Wiltshire Council's request for a full noise impact assessment and mitigation strategy.

A week-long survey was undertaken at a position selected to represent upper-level exposure to surrounding commercial and aviation noise. The assessment adopts representative background sound levels of **42 dB L_{A90} by day** and **34 dB L_{A90} by night**.

The report concludes that, without mitigation, average internal noise levels and certain commercial vehicle events have the potential to exceed relevant guideline values, particularly at night. However, those effects are capable of being addressed through proportionate façade-based mitigation strategies, which is the appropriate form of mitigation for an existing Class MA building where site layout and surrounding uses cannot materially be altered.

The assessment indicates that a **façade reduction of approximately 20 dB** would bring internal night-time event levels within ProPG guidance and reduce average internal noise levels to **below BS 8233 criteria**. That level of performance can be achieved by the conventional double glazing together with additional acoustically-rated ventilation, and is therefore considered practicable within the existing building envelope.

Outdoor amenity areas are expected generally to fall below the upper external guideline threshold and closer to desirable levels. Aviation noise is not considered to give rise to significant adverse effects in this assessment. Overall, nearby commercial activity is assessed as presenting a **low to medium risk**, with night-time maximum noise levels requiring mitigation.

Subject to the recommended glazing and ventilation measures being secured, the report supports the conclusion that the Class MA proposal can provide acceptable living conditions.

The client is proposing the following reasonable acoustic planning condition:

No dwelling hereby permitted shall be occupied until the noise mitigation measures identified in the approved Noise Impact Assessment have been installed in full and are available for use. The mitigation shall include the glazing and ventilation performance necessary to achieve the façade attenuation assumed in the approved report. The approved measures shall thereafter be retained and maintained for the lifetime of the development.

Reason: To secure acceptable living conditions for future occupiers.

1. INTRODUCTION

- 1.1 Hayes McKenzie Partnership Ltd (HMPL) have been commissioned by Wessex Archaeology to undertake a noise impact assessment for a proposed change of use at Portway House, Old Sarum, Salisbury, SP4 6EB.
 - 1.2 Prior planning approval has been sought from Wiltshire Council (application reference PL/2025/09973) under Class MA of the General Permitted Development Order. The building is currently Class E office space with the proposal seeking to form 20 apartments, Class C3. Following comments from public protection raising concerns about noise, the planning officer has requested additional information including a noise impact assessment.
 - 1.3 A noise survey was conducted at the site between 27th February and 6th March 2026, to measure the baseline noise level and assess the impact of nearby noise sources.
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2. PROPOSED DEVELOPMENT AND PLANNING HISTORY

- 2.1 The site is located on Portway, with access provided to the South of the building via Lysander Road to the east. The application site boundary is highlighted in red on the location plan shown at Figure 1 overleaf. It should be noted that a second planning application has been submitted (application reference PL/2026/00652) proposing a new vehicular access route to the property directly from 'Portway' to the north.
- 2.2 As part of the prior approval submission under Schedule 2, Part 3, Class MA of the GPDO, the applicant provided a brief commentary on noise and residential amenity within Bundle 1.7: Qualifying Criteria. The submission notes the presence of road traffic noise from Portway but transport noise should not be formally assessed under the Class MA process.
- 2.3 The submission also considered the surrounding land uses, noting that the site is located within an area primarily occupied by commercial uses falling within Class E (formerly B1). The submission states that residential uses commonly coexist with such activities and that the previous office use of the building, together with the presence of modern double-glazed windows, indicates that acceptable internal noise levels may be achievable.



Figure 1 – Site Location Plan

Identified Noise Sources

- 2.4 The site is located within a mixed-use area on the edge of the Old Sarum suburb of Salisbury. To the south, along Hurricane Close, there are several commercial units comprising light industrial, commercial and leisure uses. These include businesses such as a steel fabricator (Metaltec), packaging and plastics supplier (GWP Protective), vehicle suspension specialist (Prosport Performance Ltd), kitchen and bathroom renovation company (John Turner Kitchens and Bathrooms) and a wholesaler of clothing and footwear (Vincents). Activities associated with these premises may generate noise from plant and machinery, loading and unloading, vehicle movements and general commercial activity.
- 2.5 A personal training gym (Rise Above Fitness) is also located within the Hurricane Close commercial area. Planning documentation for this use acknowledges that activities may involve amplified music and exercise classes, although this is typically expected to be played at background levels to allow instruction to participants. Their planning condition (application reference 17/05520/FUL) restricts the permitted hours of operation to between 06:00 and 21:30 Monday to Friday and between 06:00 and 12:00 on Saturdays, with no operation permitted on Sundays or Bank Holidays. The use was considered acceptable within the commercial estate given the separation distance to residential properties and the nature of surrounding employment uses.
- 2.6 Further commercial and light industrial uses are located to the north-east of the site within

the 8 units comprising the Centre One development. These include manufacturing, construction, telecommunications equipment supply and safety equipment distribution businesses. Such uses have the potential to generate intermittent industrial and operational noise.

- 2.7 Old Sarum range, which is used by Salisbury Vintage Rifle and Pistol Club, is situated approximately 350m from the proposed development. It is understood from their website that there are range dates bi-monthly and one such date occurred on Friday 27th February, during the measurement survey period, between 09:00 and 13:00.

Old Sarum Airfield

- 2.8 Old Sarum Airfield is located approximately 250 m from the site and remains an active airstrip. Aircraft movements associated with general aviation activities occur at the airfield, including parachuting operations undertaken by the skydiving operator Go Skydive. These flights typically occur at weekends and during the summer months, although other aircraft movements may occur outside typical working hours.
- 2.9 An Environmental Impact Assessment (EIA) has previously been undertaken for proposed residential development at Old Sarum Airfield (application reference PL/2023/07368) which included an assessment of aircraft noise. This assessment used the FAA Integrated Noise Model (INM) to produce daytime aircraft noise contours based on actual aircraft movements recorded over a 92-day summer period in 2014. The results were presented as $L_{Aeq,16h}$ noise contours representing typical summer daytime operations.
- 2.10 The assessment indicated that, based on the 2014 activity levels and the “restrained” movement scenario proposed as part of the planning application, the site at Portway House lies outside the 57 dB $L_{Aeq,16h}$ aircraft noise contour. However, sensitivity testing was also undertaken for an unrestrained future scenario assuming up to approximately 105,000 aircraft movements per annum. Under this scenario the 57 dB $L_{Aeq,16h}$ contour extends further from the airfield and encompasses the site.
- 2.11 Old Sarum Airfield is referenced specifically in Wiltshire Core Strategy. Core Policy 25 recognises it, whilst seeking to maintain an appropriate balance between flying activity and the amenity of residents. The appeal decision related to the above-mentioned proposed residential development (reference APP/Y3940/W/24/3353040) notes that, whilst there is no formal restriction on the intensity of flying activity, aircraft movements have reduced substantially in recent years, from approximately 35,000 flights per year between 2007 and 2019 to approximately 2,000–6,000 flights per year since 2020. Aircraft noise has historically been raised as an amenity issue in the surrounding area; however, the reduction in activity indicates that current operations are significantly lower than those experienced

historically. It should be noted that the appeal decision approved planning consent for new residential dwellings on the airfield, a number of which are much closer to the airstrip and the 57 dB $L_{Aeq,16h}$ contour than Portway House (57 dB $L_{Aeq,16h}$ contour just touches front gardens of proposed dwellings and is at least 80 m from Portway House).

Summary

- 2.12 The wider area also contains established residential development forming part of the Old Sarum suburb of Salisbury. The closest existing dwelling is located at No. 68 Partridge Way, approximately 40 m from the proposed development (measured between Flat 17 of the proposed scheme and the residential property). These properties are exposed to the same surrounding noise sources described above (to varying degrees depending on relative location). The acoustic environment is therefore influenced by a combination of residential, commercial, industrial and aviation noise sources.

3. CONSULTEE COMMENTS

- 3.1 Several comments from both individuals (WC-26-02-362335 & WC-26-01-361270) and businesses, including responses from Laverstock and Ford Parish Council (WC-26-02-364236) and Atlas Planning Group on behalf of South Portway Management Company (WC-26-02-362716), raise concerns over noise from nearby activity affecting the development.
- 3.2 The response submitted by Atlas Planning Group, in particular, notes concerns that future residents could raise complaints regarding noise, stating that:

'(U)sers around the site may generate noise with no existing restrictions on either uses or noise pollution. Residents of the proposed development may wish to complain about this noise, which, if this was found to be a statutory nuisance, means the noise must be abated.'

- 3.3 While the determination of whether noise constitutes a statutory nuisance is a matter for the Local Authority under separate legislation, it is appropriate for this assessment to consider the surrounding noise environment and the potential for noise from existing activities to affect the amenity of future residents.

Public Protection

- 3.4 Wiltshire Council's Public Protection consultee response (WC-26-02-363498) specifically requests a Noise Impact Assessment, stating:

'An Acoustic Assessment report has not been submitted with the application to demonstrate this assumption and that acceptable internal noise levels can be achieved in line with BS 8233:2014, ProPG, or that nearby industrial and aviation activities (BS 4142 assessment) can operate without being adversely affected by residential complaints.'

The response goes on to state:

- 3.5 *'Given the noise environment, the following information is required before Prior Approval can be supported:*

A full noise impact assessment covering: Industrial/commercial noise, Aviation noise. The applicant should also consider an assessment of Road Traffic Noise, although it is accepted that this is not a material consideration under this type of application.'

- 3.6 In summary, the consultee has requested:

- a comprehensive noise impact assessment of the site and surrounding noise environment;
- a clear mitigation strategy demonstrating how acceptable internal and external noise conditions can be achieved in accordance with relevant guidance; and
- clarity regarding the provision and suitability of external amenity spaces in the context of the prevailing noise environment.

- 3.7 This report has therefore been prepared to address the matters raised within the consultation responses and to provide a detailed Noise Impact Assessment of the site and surrounding noise environment, including consideration of mitigation measures and external amenity provision.

4. STANDARDS AND RELEVANT GUIDANCE

National Planning Policy

The National Planning Policy Framework (2024)

4.1 The National Planning Policy Framework (NPPF) was first published by the Department for Communities and Local Government in March 2012 revoking previous planning policy documents on noise including PPG 24, Planning and Noise. Since then, the NPPF document has been updated and in the most recent version (adopted in 2024), paragraph 198 within Section 15 deals with noise, stating that planning policies and decisions should aim to:

- 'mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life'
- 'identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason'

4.2 Reference is made, in respect of 'adverse impacts on health and the quality of life' under the first bullet point, to the Noise Policy Statement for England.

4.3 In relation to examining local plans, the NPPF refers to the concept of 'soundness' and this is defined at paragraph 36 of the document. Of relevance to a noise assessment the definition confirms that in order to be considered 'sound', a local plan must be consistent with national policy. This indirectly refers us back to the Noise Policy Statement for England again.

Noise Policy Statement for England (2010)

4.4 The Noise Policy Statement for England (NPSE) was published by the Department for Environment Food and Rural Affairs in March 2010 and sets out a Noise Policy Vision and Noise Policy Aims.

4.5 The Noise Policy Vision is to 'promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development'. The Noise Policy Aims are to: 'through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;

- mitigate and minimise adverse impacts on health and quality of life; and
 - where possible, contribute to the improvement of health and quality of life’.
- 4.6 An explanatory note is provided which explains ‘environmental’, ‘neighbour’ and ‘neighbourhood’ noise and the concepts of ‘significant adverse’ and ‘adverse’ impacts. Three further concepts are then introduced comprising the No Observed Effect Level (NOEL), the Lowest Observed Adverse Effect Level (LOAEL) and the Significant Observed Adverse Effect Level (SOAEL). It is stated that ‘it is not possible to have a single objective noise-based measure that defines SOAEL that is likely to be applicable to all sources of noise in all situations’ and that ‘not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available’.
- 4.7 The concepts of LOAEL and SOAEL are commonly used within noise assessments to interpret the significance of noise exposure and are reflected in the guidance provided by standards such as BS8233 and ProPG.
- 4.8 In the absence of any specific guidance or direction to relevant documents within any of the policy documents listed above, regarding potential noise criteria or a standardised means of assessment for various types of noise in general, reference is made to standards and guidance for environmental noise that are typically applicable to developments of this type.

Local Planning Policy

Wiltshire Core Strategy Development Plan

- 4.9 The Wiltshire Core Strategy Development Plan Document was adopted by Wiltshire Council on 20th January 2015. With regard to noise, Core Policy 57 of the document states that:
- ‘...applications for a new development must be accompanied by appropriate information to demonstrate how the proposal will make a positive contribution to the character of Wiltshire through:... having regard to the compatibility of adjoining buildings and uses, the impact on the amenities of existing occupants, and ensuring that appropriate levels of amenity are achievable within the development itself, including the consideration of privacy, overshadowing, vibration, and pollution (e.g. light intrusion, noise...’
- 4.10 In relation to Core Policy 57, the document states that:
- ‘all proposals will need to have regard to relevant supplementary guidance on design’

- 4.11 This policy therefore requires consideration of both the impact of existing noise sources on the proposed development and the compatibility of the development with surrounding uses.

Supplementary Guidance Documents

- 4.12 Wiltshire Council has published its Planning Consultation Guidance Note: Noise and Vibration (dated 31 October 2023), which provides detailed guidance for assessing and mitigating noise impacts in planning applications.
- 4.13 Section 4 sets out how noise effects should be determined in line with the Planning Practice Guidance (PPG) Noise hierarchy, including definitions of the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL), and how these relate to BS 4142 assessments and decision-making.
- 4.14 Section 5 emphasises the importance of good acoustic design, requiring a hierarchical approach to mitigation in accordance with ProPG principles, with preference given to measures such as control at source and site layout. However, for permitted development schemes such as Class MA, where the existing building and surrounding noise environment cannot be materially altered, the scope for such measures is inherently limited and mitigation is therefore typically focused on the building design and façade performance.

Standards and Relevant Guidance

Professional Practice Guidance on Planning & Noise (ProPG)

- 4.15 There are no specific limits set (for residential development) within the NPSE, NPPF or local policy guidance documents, but a noise risk assessment is recommended by ProPG: *Planning and Noise, Professional Practice Guidance on Planning & Noise*, overseen by the Association of Noise Consultants (ANC), Institute of Acoustics (IOA), and the Chartered Institute of Environmental Health (CIEH).
- 4.16 ProPG sets out indicative noise limits related to the transportation noise risk assessment which are shown below at Figure 2. The indicative noise levels set out the level of risk associated with the noise environment at the proposed application site, with increasing noise levels indicating increasing risk, whereby noise mitigation should be incorporated into the design of the site to ensure that noise levels at the development are acceptable.

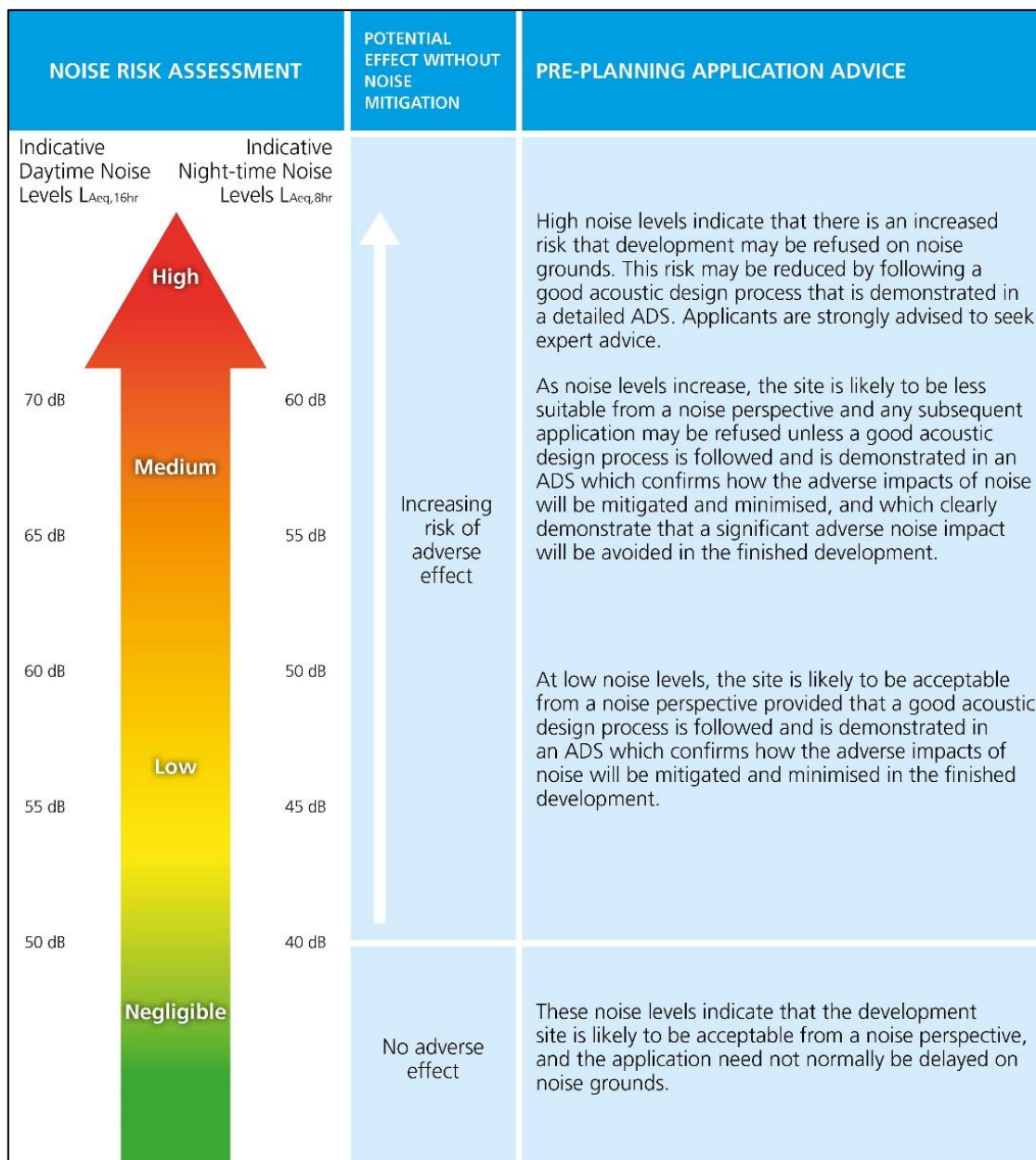


Figure 2 - ProPG - Initial Site Noise Risk Assessment

- 4.17 In addition to the indicative night and daytime noise levels, it is stated that if there is an indication that there may be more than 10 $L_{A\max, F}$ events over 45 dB at night, then the site should not be regarded as negligible risk despite low measured levels of $L_{Aeq,8hr}$.
- 4.18 ProPG sets out a process whereby, the noise risk assessment described above is used to evaluate the potential acceptability of existing noise levels at a site and for anything greater than a negligible risk, an Acoustic Design Statement (ADS) will be required.

BS 4142:2014+A1:2019, Methods for Rating and Assessing Industrial and Commercial Sound

- 4.19 BS 4142 provides an assessment methodology for rating noise immission levels from industrial and commercial sources at residential properties. The standard describes a method for determining the noise impact based on the difference between the existing background sound level (without the noise source) measured using the L_{A90} measurement index and a 'rating level' of the noise immission (from the source at a receiver location) which is derived from the measured or predicted 'specific sound level' (defined using the L_{Aeq} index) plus any penalty for tonal or impulsive characteristics. If the specific sound level exhibits an identifiable character such as tonality or impulsivity then a variable penalty of up to 6 dB or 9 dB respectively is added to give the rating level.
- 4.20 The difference between the background sound level and the rating level (rating minus background) is then used to assess the noise impact, according to Table 1 below. BS 4142:2014 states that *'the lower the rating level is relative to the measured background sound level, the less likely that the specific sound source will have an adverse impact or significant adverse impact'*.

Table 1 – BS 4142 Guidance on Noise Impact

Difference	Assessment
Around +10 dB or more	Indication of a significant adverse impact
Around +5 dB	Indication of an adverse impact
<0 dB	Indication of a low impact

- 4.21 Whilst BS 4142 gives an indicative assessment of the impact on residential amenity, there are no specific guidelines on what may be acceptable in a given situation and in this respect, the standard is left open to interpretation.
- 4.22 Section 7 of the standard provides guidance on determination of the specific sound level. It is noted that, where measurement of the specific noise level is not possible, then this can be determined by calculation. It also describes how the specific noise level is quantified as an L_{Aeq} over the '*reference time interval*' which means that, where it is not continuous, it is necessary to correct the measure noise level, taken during periods when the source is operating, for the percentage '*on-time*' within the relevant reference time interval. The standard details different reference time intervals for the day-time and night-time of 1 hour and 15 minutes respectively.
- 4.23 Section 8 provides guidance on determination of the background sound level. It is noted that there is no single background sound level, as this is a fluctuating parameter. The

dataset should therefore suitably represent the particular circumstances and periods of relevance to the assessment. Where acoustic conditions differ significantly between weekday and weekend periods, these may need to be considered separately. Levels are typically reported as integer values to reflect the inherent variability of environmental sound measurements.

BS 8233, Guidance on Sound Insulation and Noise Reduction for Buildings

- 4.24 BS 8233:2014 provides guidance on suitable internal noise levels for different types of buildings, including various home and office spaces with different uses. Section 7.7.1 of the standard incorporates World Health Organisation (WHO) guidance on acceptable noise levels for residential dwellings which is stated to be based on annual average noise levels, assuming typical diurnal variation. The provided levels contribute to design criteria for living rooms and bedrooms which are specified in a table (Table 4 in the standard). An extract of this table is given below at Table 2.

Table 2 – Extract from BS 8233, Indoor Ambient Noise Levels for Dwellings

Activity	Location	07:00 – 23:00	23:00 – 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

Footnote 4 to this table states that:

‘regular individual noise events (for example, scheduled aircraft) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,f}$, depending on the character and number of events per night. Sporadic noise events could require separate values’.

- 4.25 It should be noted that, in relation to sleep disturbance, the previous version of the standard (BS 8233:1999) provided a guideline limit of 45 dB L_{Amax} within bedrooms at night and this was supported by the WHO guidelines for community noise (also published in 1999). Since 1999, the WHO has published *‘Night Noise Guidelines for Europe’* in 2009 which acknowledges that sleep disturbance cannot be easily linked to a single maximum noise level (as it depends on a number of other factors) but that an internal noise level of 42 dB L_{Amax} is recommended as an upper threshold value for NOEL in relation to transportation noise. The latest WHO document, *‘Environmental Noise Guidelines for the European Region’* published in 2018 does not offer any further information on maximum noise levels and refers to existing guidance. Within the latest version of the standard (BS 8233:2014), it is noted that:

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

4.26 A further footnote goes on to say that:

'...if relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise levels'.

4.27 The standard also provides guideline values for external noise levels (i.e. in gardens and patios) stating that 50 dB $L_{Aeq,T}$ is desirable and that 55 dB $L_{Aeq,T}$ should be regarded as an upper limit in noisier external environments. However, the standard goes on to state that:

'...it is also recognised that these guideline values are not achievable in all circumstances where development may 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 that 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 spaces, but should not be prohibited.'

5. SOUND LEVEL MEASUREMENTS

- 5.1 Unattended sound level measurements were conducted for one week between Friday 27th February and Friday 6th March 2026. Equipment was installed at one noise monitoring location considered to be representative of the worst potential noise exposure affecting the proposed development, specifically with respect to commercial and aviation noise sources. The monitoring position is relatively unaffected by road traffic noise from Portway, which is not a material consideration for Class MA permitted developments.
- 5.2 Measurements were undertaken at approximately 2.5 m above local ground level and 2 m from the southeastern façade of the building. The monitoring position was selected to approximate noise exposure at first-floor habitable rooms within the proposed development.

- This position was selected to reduce the screening effect of the opposite building from noise sources associated with the commercial estate and Old Sarum Airfield. At lower measurement heights, the intervening building would have greater shielded the monitoring position from these sources and therefore would not represent the likely noise exposure experienced at upper floor levels.
- Direct measurement at the true first-floor windowsill height was not practicable due to an overhanging tree located close to the façade, which would have been within close proximity of the microphone and would influence measurements.

5.3 A Rion NL-52 Sound Level Meter (s/n: 00921232) using a ½" microphone complying with the Class 1 standard in IEC 61672-1 attached via a 5 m extension cable was installed. The microphone was located within a double-skinned windshield (Rion WS-15), and the whole system is type approved as complying with the Class 1 standard in IEC 61672-1. The equipment was set up to measure the L_{Aeq} and L_{A90} noise level in 15-minute intervals, along with 100 ms L_{eq} data in 1/3-octave bands. Audio samples were also recorded at regular intervals to allow further analysis of the measurements as necessary. The installation position is shown at Figure 3.

5.4 Calibration was carried out on the meter using a B&K type 4231 Acoustic Calibrator (s/n: 3009009) with a level of 94.20 dB at the start of the survey and checked at the end with the same field calibrator. A drift of 0.1 dB was observed on the meter which is within normal tolerances and no correction has been made to the measured levels. All equipment was within its relevant laboratory calibration period.



Figure 3 – Sound Level Meter Measurement Position

- 5.5 At the site visits, the predominant noise sources noted were road traffic noise from the main road Portway to the north of the site. Workers from Wessex Archaeology were also moving office equipment on trollies between nearby offices, since the building is still partially in use as a Class E development.
- 5.6 A Davis Vantage Vue weather station was also installed and set up to log rainfall and wind speeds in concurrent 15-minute intervals. Obtaining this weather data allows periods of rainfall and high wind speeds to be excluded from the derivation of the representative sound levels as these factors could increase the measured background and ambient sound levels. The weather station was installed on a tripod situated on the highest point of the fire-escape on the southwestern façade of the building, as shown at Figure 4.

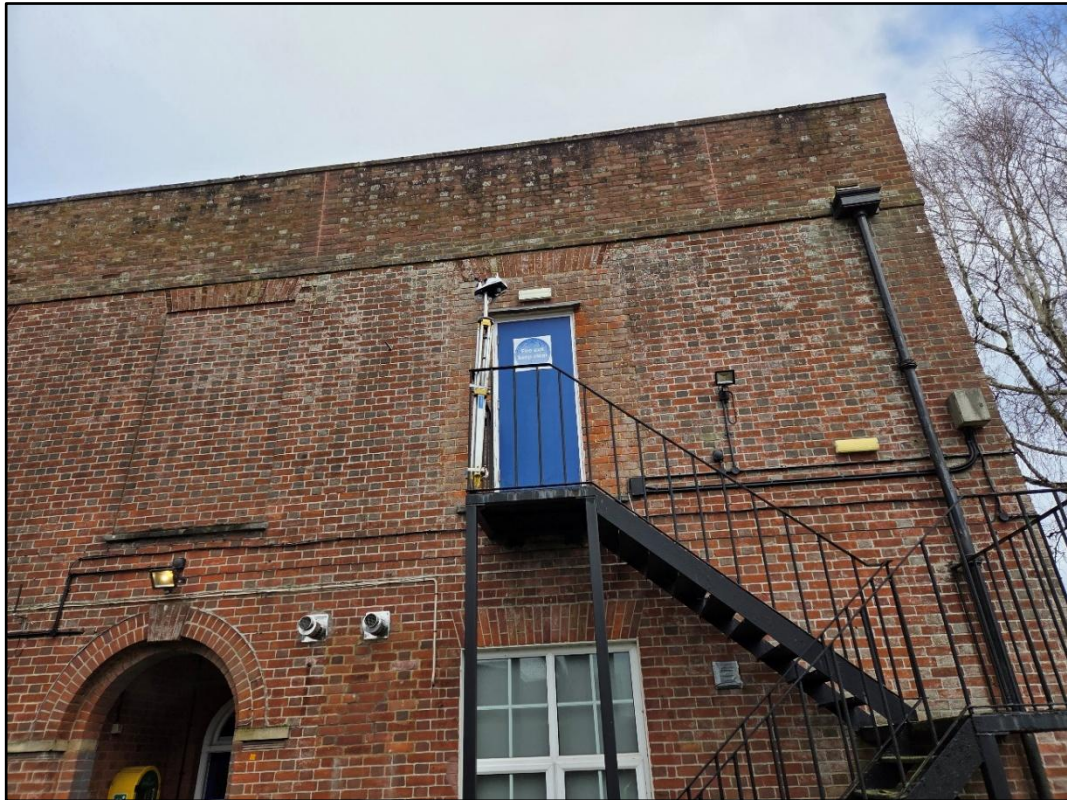


Figure 4 – Vantage Vue Weather Station Measurement Position

- 5.7 The weather station location is partially screened from northerly winds by the building structure. However, the prevailing wind direction in this area is typically from the south-west, meaning that the installed position remains exposed to the wind conditions most likely to influence the acoustic measurements. The selected location therefore provides representative meteorological data for the purposes of identifying periods of rainfall and elevated wind speeds during the monitoring period.
- 5.8 Figure 5 shows the relative position of the weather station compared to the sound level meter.

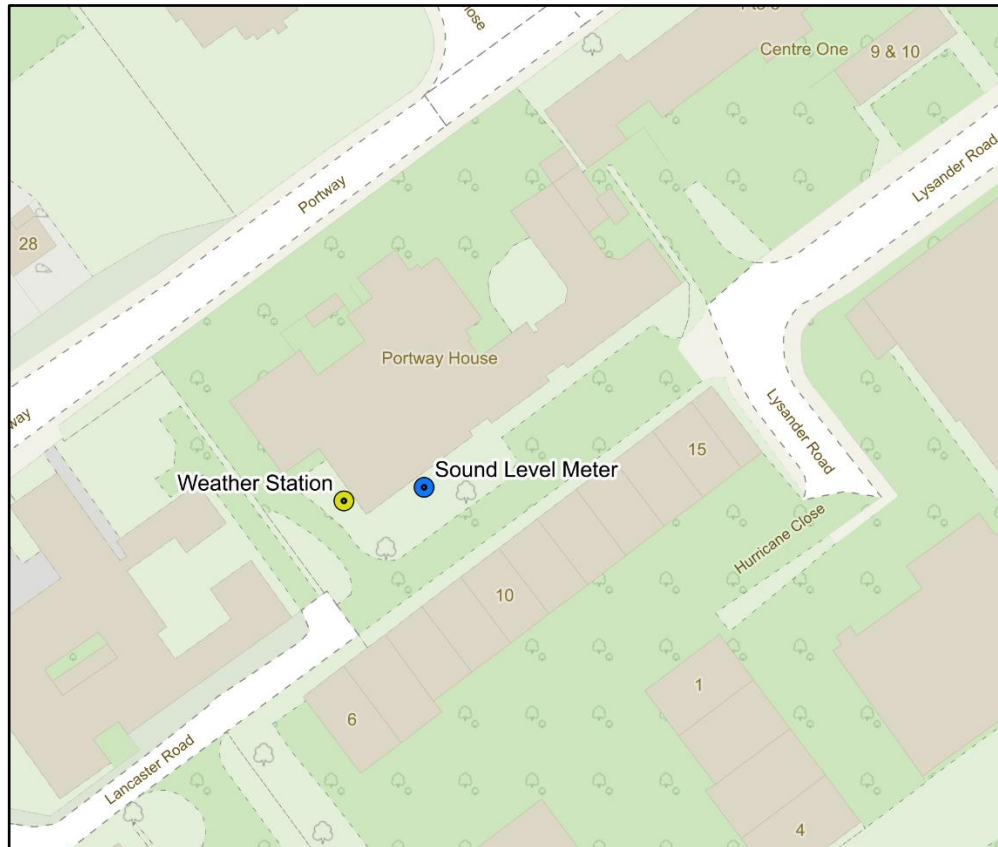


Figure 5 – Relative Position of the Measurement Locations

Results

- 5.9 A high-level time history chart of the measured sound levels during the measurement survey along with weather data and other noise indices, including 12-hour daytime, 4-hour evening and 8-hour night-time L_{Aeq} values, is shown at Figure 6. The time history chart shows the fluctuation of the 15-minute average noise levels (L_{Aeq}) and the noise levels exceeded for 90% of the time in each 15-minute period (L_{A90}).
- 5.10 It should be noted that where any period of rain or high wind speed (greater than 5 m/s) was recorded, it has been excluded from the analysis. In this case, no high wind speeds were recorded, but a few periods of rain were recorded throughout the survey period.

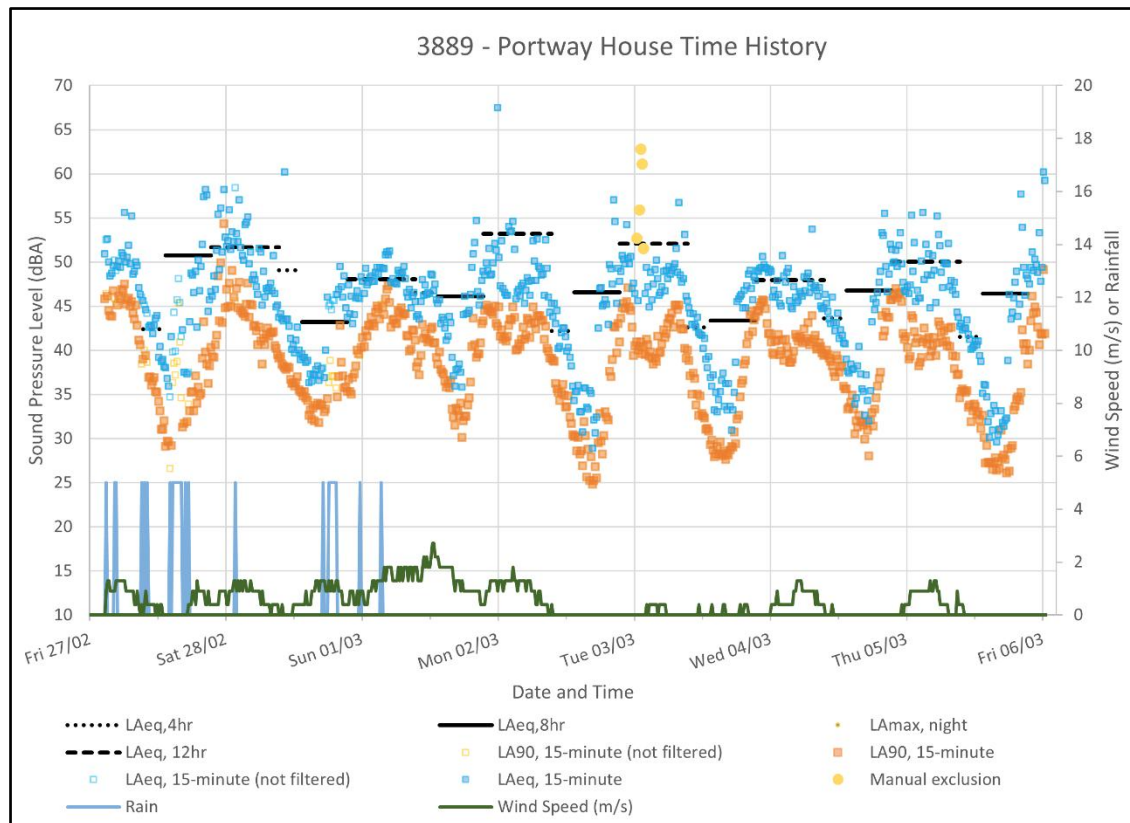


Figure 6 – BS4142 Time History

- 5.11 Statistical analysis of the daytime and night-time background sound level results are shown at Figure 7 and Figure 8 respectively. This provides an indication of the most commonly occurring background sound level during the day and night at the measurement location.
- 5.12 The daytime distribution shows a clear clustering of values within the range 40-45 dB LA_{90} , with an average level of approximately 41 dB LA_{90} . The night-time distribution exhibits a pronounced modal peak at approximately 34 dB LA_{90} , with measurements generally occurring within the range 30-40 dB LA_{90} and an average level of approximately 34-35 dB LA_{90} . The daytime dataset displays an approximately bell-shaped distribution, while the night-time data show a strong concentration around the modal value. Together, these patterns indicate a relatively stable background sound climate, with occasional higher levels attributable to intermittent environmental activity rather than a persistent dominant noise source.
- 5.13 A small outlying cluster is evident in the daytime histogram at approximately 55 dB LA_{90} . Review of the time-history data (Figure 6) indicates that the 55 dB periods occurred on Saturday morning, aligning with a period of elevated LA_{eq} levels likely to be connected with activity at the airfield.

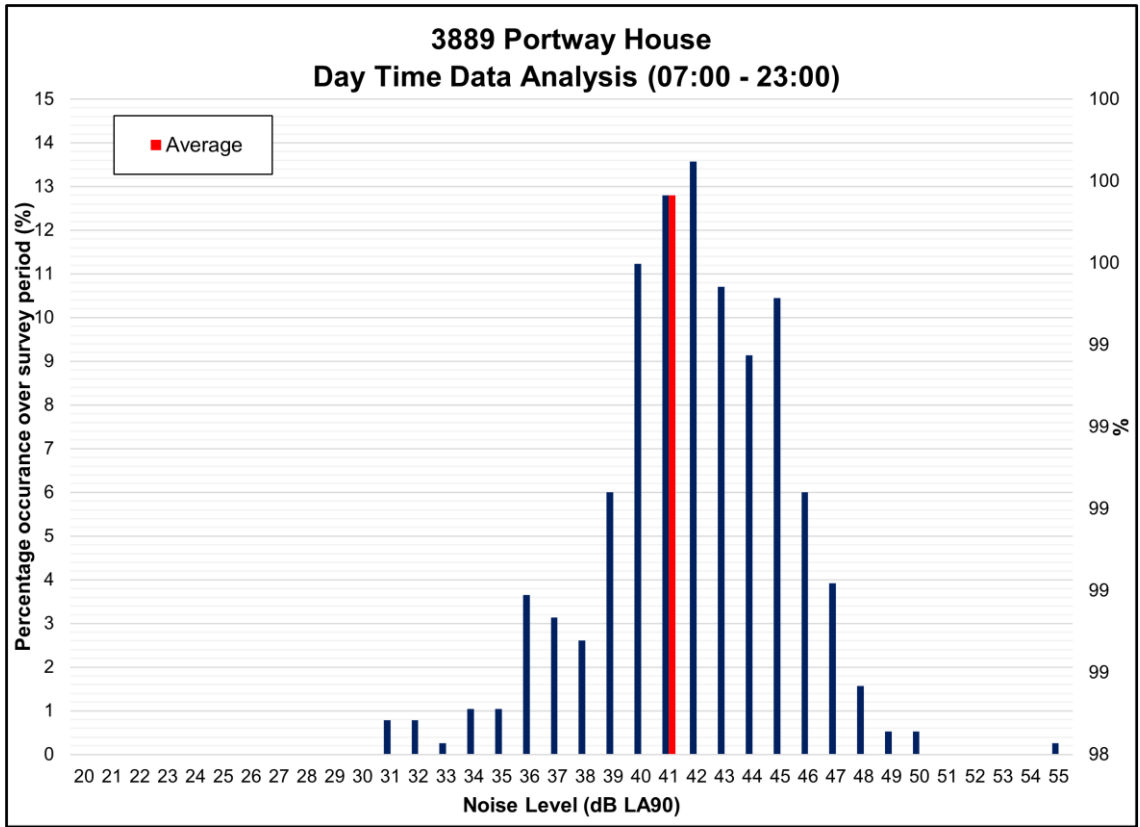


Figure 7 – Daytime L_{A90} Frequency

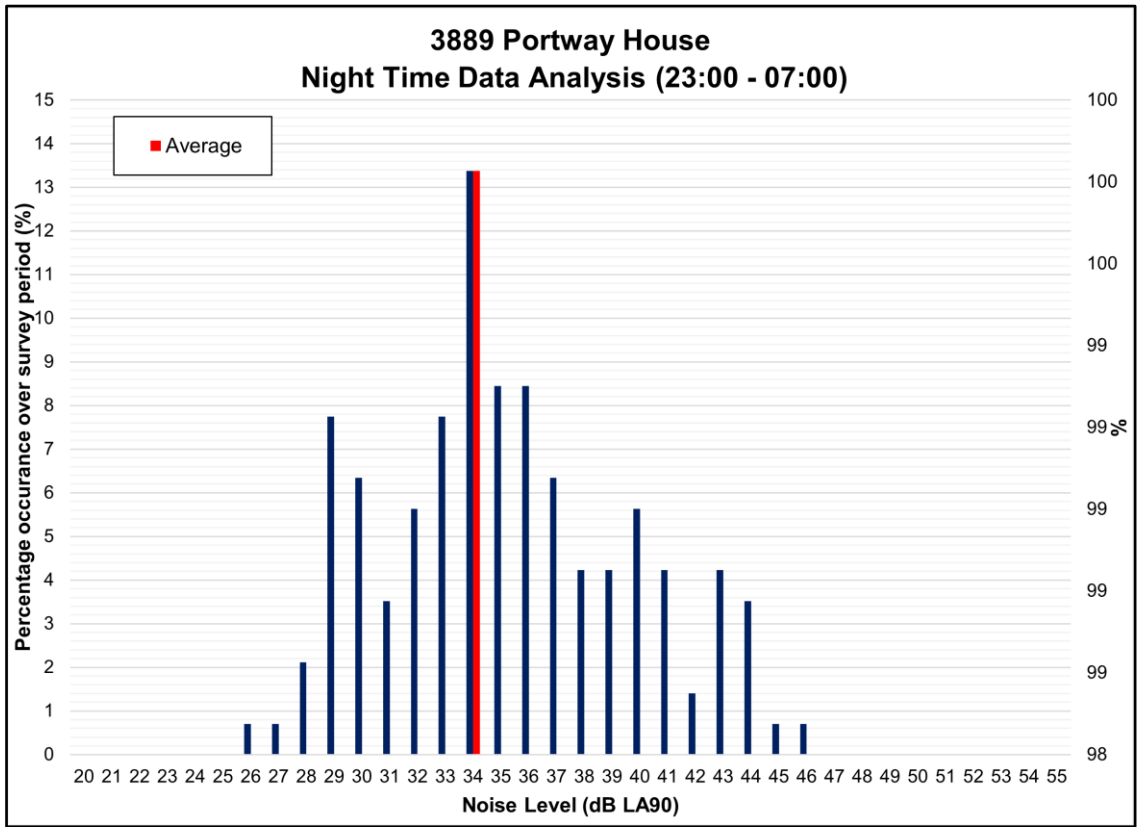


Figure 8 – Night-time L_{A90} Frequency

- 5.14 During the survey it was also understood that local activity within the building, including the movement of office equipment in the vicinity of the monitoring position, occurred for a period on the Tuesday between approximately 10:00 and 13:00. These activities represent short-term localised sources in close proximity to the monitoring location rather than the prevailing environmental sound climate. Accordingly, 15-minute periods exceeding 50 dB L_{Aeq} during this timeframe have been excluded from the analysis to avoid these atypical events influencing the representative background sound level.
- 5.15 Table 3 shows the day, evening and night ambient and average background sound levels for each day at the measurement location.

Table 3 – Ambient (L_{Aeq}) and Average Background Sound Levels (L_{A90}) at Portway House

Period (24hrs from 0700 to 0700)	Daytime 0700 – 1900 Average Noise Level		Evening 1900 – 2300 Average Noise Level		Night-time 2300 – 0700 Average Noise Level	
	dB L_{Aeq} 12 Hour	dB L_{A90} (Ave.)	dB L_{Aeq} 4 Hour	dB L_{A90} (Ave.)	dB L_{Aeq} 8 Hour	dB L_{A90} (Ave.)
Fri 27th - Sat 28th Feb	-	-	42.4	35.3	50.7	34.6
Sat 28th - Sun 1st Mar	51.7	43.7	49.1	37.3	43.2	34.7
Sun 1st - Mon 2nd Mar	48.0	42.1	46.5	40.6	46.1	36.3
Mon 2nd - Tue 3rd Mar	53.2	42.7	42.2	35.0	46.6	31.4
Tue 3rd - Wed 4th Mar	52.1	41.9	42.6	34.5	43.4	32.9
Wed 4th - Thu 5th Mar	48.0	41.5	43.6	38.3	46.8	35.2
Thu 5th - Fri 6th Mar	50.1	41.6	41.5	33.8	46.4	30.8
Overall	50.9	42.3	44.9	37.0	46.9	34.1

- 5.16 The results of the unattended sound measurements indicate that ambient and background sound levels are reasonably consistent throughout the survey period. Daytime ambient noise levels are typically within the range 48-53 dB L_{Aeq} , while the corresponding daytime background sound levels remain relatively stable between approximately 41-44 dB L_{A90} .
- 5.17 Evening noise levels show a slightly wider range, with ambient sound levels generally in the region of 41-49 dB L_{Aeq} and background sound levels typically between 33-40 dB L_{A90} . This increased variability suggests that the surrounding acoustic environment is primarily influenced by typical local environmental sources such as road traffic and general commercial activity, which become more sporadic in the evening. The results are not indicative of any dominant intermittent industrial noise sources.
- 5.18 Night-time ambient noise levels are observed to be similar to evening levels, typically ranging between 43-47 dB L_{Aeq} , while night-time background sound levels are quieter than daytime and evening, generally falling within the range 31-36 dB L_{A90} .

Audio Data Review

- 5.19 Review of the recorded audio indicates that an increase in ambient sound levels occurs in the early morning, from around 03:00, which corresponds with the onset of the dawn chorus. The bird activity during this period is particularly prominent and produces a marked increase in L_{Aeq} levels while having a lesser influence on the background L_{A90} .
- 5.20 In addition, some of the higher night-time L_{A90} values are influenced by intermittent mechanical plant noise, audible as steady fan-type noise consistent with nearby building services equipment. This is most evident during the early morning of Friday 6th, where a continuous fan noise becomes audible from approximately 04:30 and persists into the mid-morning period, resulting in elevated background sound levels (around 35 dB L_{A90}) during this time.
- 5.21 There is evidence of early morning commercial vehicle activity, such as deliveries or servicing of nearby commercial premises. There are short periods of elevated ambient sound levels at approximately 05:30 on Monday 2nd and Thursday 5th, during which ambient $L_{Aeq, 15min}$ levels exceeded 50 dB. The audio contains the characteristic broadband reversing alarm associated with commercial vehicles, indicating a reversing vehicle operating nearby. In addition, impact sounds are audible during these periods, which are likely to be associated with the unloading of goods, handling of materials, or other HGV-related activities.
- 5.22 Aircraft movements associated with Old Sarum Airfield are also audible in the audio recordings. Distinct aircraft flights were observed during the late morning and early afternoon periods, including between 08:00 and 13:00 on Saturday and between 10:00 and 15:00 on Thursday. These events result in short-duration increases in ambient sound levels, with 15-minute L_{Aeq} levels exceeding approximately 55 dB during periods containing aircraft activity. Individual aircraft overflights produce maximum sound levels ($L_{Amax,F}$) ranging between approximately 81 and 88 dB on Saturday and between approximately 78 and 84 dB on Thursday.
- 5.23 Despite the relatively nearby nature of Old Sarum Range (see paragraph 2.7 for further detail), no evidence of Rifle or Pistol shooting was observed during the scheduled meeting within the survey period.

Measured Levels Summary

- 5.24 On the basis of the time-history review, frequency distribution analysis and audio verification described above, representative background sound levels of **42 dB L_{A90} for the daytime** period and **34 dB L_{A90} for the night-time** period have been identified. Corresponding ambient sound levels are approximately **51 dB $L_{Aeq, 16h}$ during the daytime** and **47 dB $L_{Aeq, 8h}$ during the night-time**.
- 5.25 Review of the survey data did not indicate any significant difference between weekday and weekend background sound levels, and therefore a single representative value has been adopted for each assessment period. These values are considered to be representative of the prevailing background sound climate during the survey period.

6. NOISE ASSESSMENT

- 6.1 This section presents an assessment of the potential noise impacts affecting the proposed residential development at Portway House. The assessment considers the suitability of the site for residential use in the context of the existing acoustic environment and nearby noise sources.
- 6.2 The assessment considers the measured noise survey data presented earlier in this report and evaluates the implications of nearby noise sources, including aircraft movements associated with Old Sarum Airfield and commercial activities in the surrounding area. In accordance with the principles of good acoustic design and the mitigation hierarchy outlined in ProPG, the assessment considers the potential internal and external noise exposure of future occupants, and the compatibility of the proposed development with existing commercial activities in the surrounding area.
- 6.3 Road traffic noise is not a material consideration for prior approval applications under Class MA permitted development. In addition, the baseline noise survey is not considered to be representative of road traffic noise conditions along Portway as discussed in paragraph 5.1. On this basis, and in line with the scope of the assessment, a detailed transportation noise risk assessment in accordance with ProPG has not been undertaken. However, in order to respond to queries regarding suitability of outdoor amenity spaces (see paragraph 3.6), strategic noise mapping for the area has been considered.

BS8233 Assessment

- 6.4 BS8233 recommends internal noise levels of 30 dB $L_{Aeq, 8h}$, within bedrooms during the night-time period to provide reasonable conditions for sleep, as described at Table 2. The average measured night-time ambient noise level at the site is 47 dB $L_{Aeq, 8h}$ (see Table 3) which could result in internal levels above this criterion. ProPG notes that a partially open window typically provides attenuation of approximately 10-15 dB between external and internal noise levels, representing a conservative assumption for ventilation conditions. Applying this attenuation results in internal noise levels in the range of 32 - 37 dB $L_{Aeq, 8h}$ within bedrooms.
- 6.5 During the day the average measured ambient noise level at the site is 51 dB $L_{Aeq, 16h}$ and the BS 8233 criterion increases to 35 dB for resting. Assuming a window partially open for ventilation, internal noise levels in the range of 36 - 41 dB $L_{Aeq, 8h}$ can be expected. It is therefore apparent that internal noise levels are likely to be above the BS8233 criteria by anywhere between 1 to 7 dB (considering both day and night periods).
- 6.6 In addition to the prevailing night-time ambient noise levels, two observed short-duration noise events associated with commercial vehicle movement (described at paragraph 5.21) resulted in maximum external sound levels of 80 dB L_{Amax} in the early hours of the morning.
- 6.7 Wiltshire Council's noise guidance also requires that assessments consider not only current site conditions but also the potential impacts if commercial premises were to operate in full use of their planning consent. In this regard, although HGV activity was only observed twice during the survey, it could reasonably occur more regularly as a potential worst-case operational scenario. The implications of this activity are considered further as part of the BS4142 assessment at paragraph 6.8.

BS4142 Assessment

6.8 Vehicle activity has been assessed with reference to BS4142. The noise level has been derived using measured 100ms data as shown at Figure 9 and Figure 10 below.

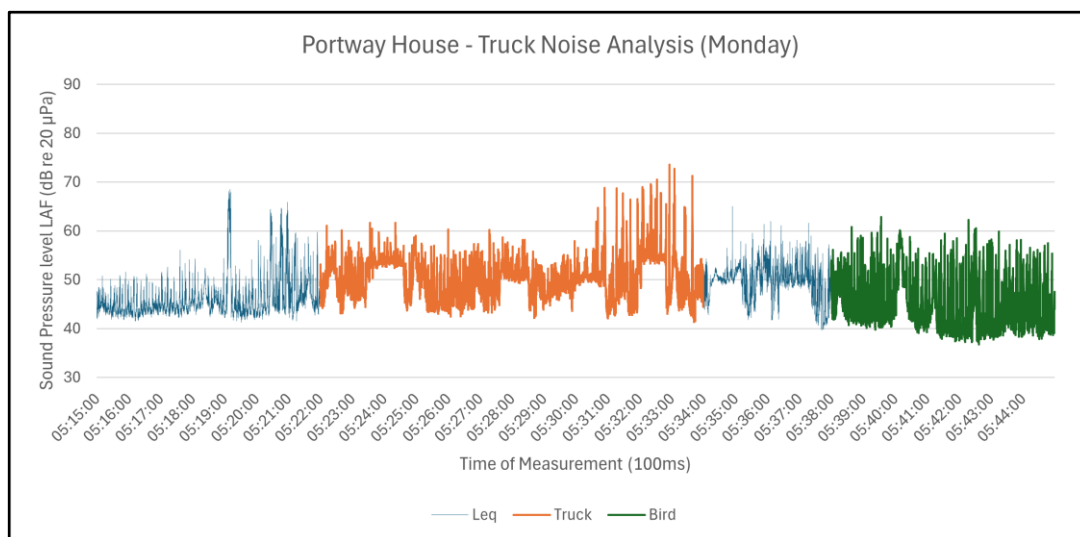


Figure 9 – Truck Noise Analysis (Monday)

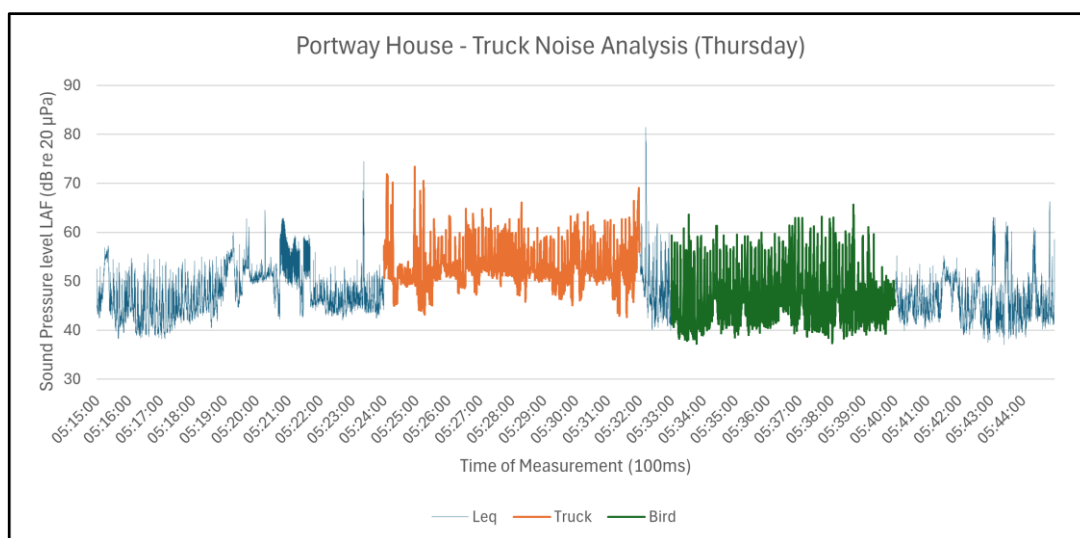


Figure 10 – Truck Noise Analysis (Thursday)

Table 4 – Truck Noise Level Derivation

Component	Monday (02/03) dB $L_{eq,15min}$	Thursday (05/03) dB $L_{eq,15min}$
Ambient level during on time of HGV corrected to $L_{eq,15min}$	52.4	52.6
Ambient level during period of bird noise corrected to $L_{eq,15min}$	45.1	46.2
Truck $L_{eq,15min}$ – Bird $L_{eq,15min}$	51.5	51.6
Acoustic Feature Correction (+3dB)	54.5	54.6

- 6.9 The specific sound associated with the HGV activity has been derived by separating the contribution of the vehicle from the prevailing ambient sound environment. As shown at Table 4, correction of the measured levels to a common 15-minute reference period indicates a specific sound level of approximately 51-52 dB $L_{eq,15min}$. Based on the audio evidence described in 5.21 an acoustic feature correction of +3 dB has been applied to account for the intermittent and attention-drawing nature of the noise. This results in a rating level of approximately 55 dB $L_{eq,15min}$.
- 6.10 This rating level is above the representative background sound level by 21 dB during the night. During the day, the rating level would reduce to 49 dB over a 1-hour reference period, which is 7 dB above the daytime representative background sound level.
- 6.11 It is important to note that these levels are derived from external measurements and represent a short-duration, worst-case scenario associated with specific HGV activity. In this context, the assessment indicates the potential for a materially elevated rating level during early morning events. For a Class MA proposal, this outcome informs the requirement for appropriate façade mitigation, as discussed later in this report, rather than indicating that the site is unsuitable for residential use in principle.
- 6.12 Whilst the BS4142 level comparison during the day is an indication of an adverse impact (around 5 dB above background – see Table 1), it should be noted that it is based on a measurement location representative of first floor windows. At 1.5 m height and in the external amenity areas to the north and southwest of the building (discussed later at paragraph 6.24), rating levels are likely to be lower and masked to a greater extent by road traffic noise. In this context, it is considered that a low impact would be expected during the daytime and, without mitigation, a significant adverse impact could be expected at night.
- 6.13 General aviation noise associated with the nearby airfield, including aircraft movements and parachute operations, has not been assessed under BS 4142 as such activities fall outside the scope of the standard, which is not intended to address recreational or transportation-related noise sources.
- 6.14 Aviation noise is instead typically considered in the context of national aviation policy and associated guidance. Current Government guidance identifies a Lowest Observed Adverse Effect Level (LOAEL) for aviation noise of 54 dB $L_{Aeq,16hr}$. Data described in paragraph 2.10, suggests that noise exposure at the site is unlikely to be significantly above the LOAEL. On this basis, and noting that such levels are consistent with ongoing and permitted airfield operations, aviation noise is not considered to give rise to significant adverse effects in the context of this assessment.

ProPG Assessment

- 6.15 ProPG notes that a partially open window typically provides attenuation of approximately 10-15 dB between external and internal noise levels, representing a conservative assumption for ventilation conditions. Applying a minimum attenuation of 10 dB would result in internal noise levels of approximately 37 dB $L_{Aeq, 8h}$ within bedrooms at night. However, as noted at paragraph 5.1, the measurements are not representative of road traffic noise and not therefore not appropriate for comparison with transportation noise risk assessment criteria shown in Figure 2. Since, transportation noise is not a material consideration (see paragraph 2.2) this should not present an issue.
- 6.16 However, the ProPG risk assessment must also consider individual noise events and the potential impacts associated with surrounding commercial activities. The analysis presented in the BS8233 and BS4142 assessments indicates that there is potential for perceptible and potentially disturbing noise events during the nighttime period.
- 6.17 With reference to paragraph 4.17, Table 5 shows the number of measured noise events which exceed 45 dB L_{Amax} per night. High-resolution 100 ms data was analysed to identify individual night-time noise events. A 60-second moving window was applied to the data to group exceedances and avoid multiple counts of the same event. Where the threshold was exceeded within a given window, this was recorded as a single discrete noise event. This approach provides a reasonable estimate of the number of individual exceedance events occurring during each night-time period. It is noted that 100 ms is a slightly smaller time window than the fast time weighting (125 ms) but if anything, this is likely to result in slightly higher levels for impulsive noise providing a conservative assessment.
- 6.18 These measured levels are external free-field values and therefore do not directly represent internal conditions within the proposed dwellings. ProPG and WHO guidance identify internal thresholds for the onset of sleep disturbance. Taking into account typical façade attenuation and ventilation conditions, the internal noise levels associated with the measured events would be expected to be lower than the corresponding external values. On this basis, whilst occasional external exceedances are observed, the assessment of commercial noise in accordance with BS 4142 and internal criteria in BS 8233 provides the appropriate framework for determining the overall acceptability of the site.

Table 5 – Occurrences of noise events exceeding 45 dB per night

Date of nighttime period	Number of Exceedances of 45 dB L_{Amax}
27/02/2026	344
28/02/2026	277
01/03/2026	318
02/03/2026	247
03/03/2026	245
04/03/2026	244
05/03/2026	226

6.19 Taking these factors into account, commercial and aviation noise are expected to have some impact on the proposed development, meaning that residential development may be acceptable provided that appropriate good acoustic design measures are incorporated.

6.20 Further analysis of the L_{Amax} events indicate that many of the exceedances occur during the dawn chorus, detailed in paragraph 5.19 and analysis of audio data shows that birdsong is typically present in frequency bands above 2 kHz. Birdsong is not generally considered to be noise and should therefore be excluded from assessment. The influence of birdsong has been assessed by applying a low pass filter to the 100ms data, calculating a L_{Amax} value for sound below 2 kHz. This effectively removes the influence of bird activity from the measured noise levels and results in fewer exceedances of the 45 dB threshold. Whilst these are external measured levels and the threshold relates to an internal sleep disturbance criterion, it is clear that some form of mitigation should be considered.

Table 6 – Occurrences of noise events exceeding 45 dB per night (2kHz low pass filter)

Date of nighttime period	Number of Exceedances of 45 dB L_{Amax}
27/02/2026	270
28/02/2026	220
01/03/2026	248
02/03/2026	165
03/03/2026	217
04/03/2026	207
05/03/2026	172

Strategic Noise Mapping

- 6.21 The European Noise Directive¹ requires member states to identify noise pollution levels in several areas including major roads and have the results publicly available with an aim to prevent and reduce environmental noise where necessary. The UK has carried out strategic noise mapping in line with the requirement of this directive and although this is a little out of date, it is still considered to provide a good indication of road and rail transportation noise. The latest round of this noise mapping (round 4) was based on data for 2021 and the results are freely available on the government website². Hayes McKenzie have used this dataset to determine the levels of road traffic noise in the area in order to provide information on suitability of external amenity areas to the north of Portway House.
- 6.22 Review of environmental noise mapping using data from Round 4 of the Strategic Noise Mapping is displayed in Figure 11. The contours for the L_{den} daytime have been overlaid with an extract from the proposed site plan (document 1171-06A) showing the outdoor amenity areas.

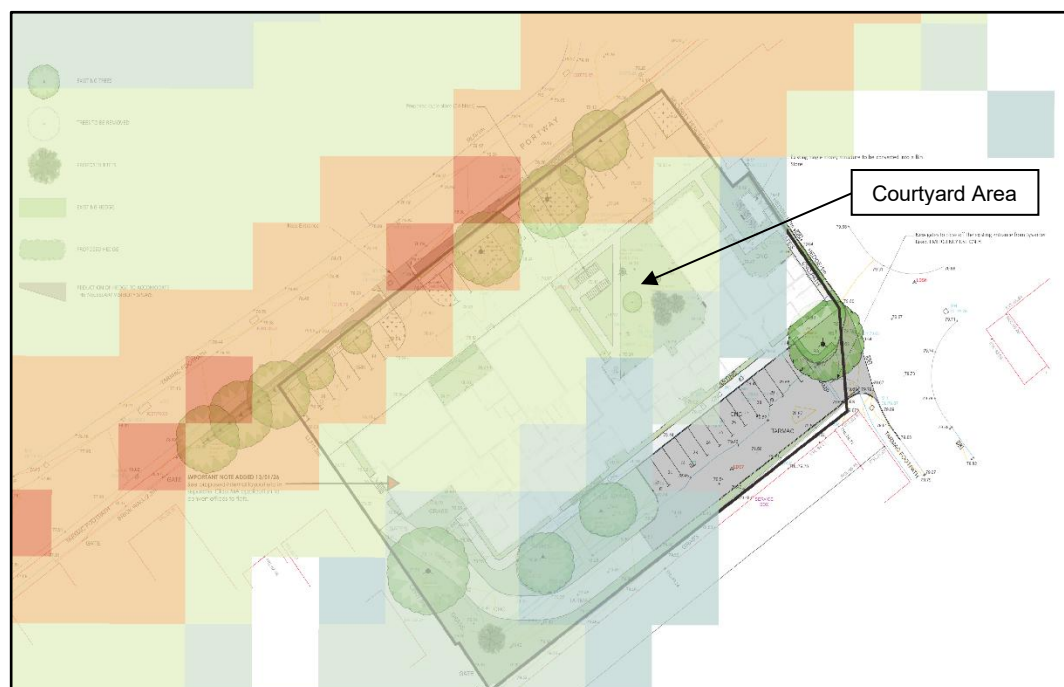


Figure 11 – Strategic Noise Mapping over 1171-06A Proposed Site Plan

- 6.23 The colours in the contours are in 5 dB steps with red representing 60-65 dB L_{den} levels, orange showing 55-60 dB L_{den} and so on. From this, it is understood that the outdoor amenity area of the small courtyard between the Southwest and Northeast wings of the

1 European Noise Directive - Directive 2002/49/EC – https://ec.europa.eu/environment/noise/directive_en.htm - accessed 06/11/2020
2 <https://www.gov.uk/government/publications/strategic-noise-mapping-2022>

building is expected to experience levels of 50-55 dB L_{den} of road traffic noise. It is noted that this level does not account for potential screening effects of the boundary wall and trees which would be expected to provide additional attenuation from road traffic noise.

- 6.24 The courtyard areas to the north of the building are the main areas of outdoor amenity space with some additional garden areas to the southwest of the site. The predicted L_{den} is considered to be generally representative of average 16 hour daytime L_{Aeq} levels which are generally slightly lower to the south of the building (as indicated at Table 3). Therefore, noise levels in outdoor amenity spaces are generally below the upper threshold and closer to the WHO 'desirable' level discussed at paragraph 4.27.

Acoustic Design Statement

- 6.25 In accordance with the principles of good acoustic design set out in ProPG and the assessment of commercial noise undertaken with reference to BS4142, mitigation measures are required to ensure that noise associated with nearby activity does not give rise to unacceptable disturbance within the proposed dwellings.
- 6.26 The BS8233 assessment described at paragraph 6.4 indicates that the measured nighttime $L_{Aeq, 8h}$ is up to 7 dB above the recommended level. The BS4142 assessment described at paragraph 6.9 indicates that early-morning commercial vehicle activity could produce rating levels 20 dB above the representative night-time background sound level.
- 6.27 In order to reduce the impact of nearby commercial noise activity, ProPG refers to BS4142, and the night hours assessment indicates that it may be necessary to reduce external noise levels by up to 20 dB. However, impacts during the night are likely to be experienced indoors in bedrooms and BS4142 is only applicable to outdoor locations. It is therefore appropriate to consider the effect of façade attenuation and apply sleep disturbance criteria to calculated internal noise levels. The effect of attenuation with closed windows has been assessed by applying a 20 dB façade reduction to the measured external L_{Amax} events recorded during the survey period (see Table 6). Results for which are given in Table 7.

Table 7 – Occurrences of noise events exceeding 65 dB per night (2kHz low pass filter)

Date of nighttime period	Number of Exceedances of 65 dB L_{Amax}
01/03/2026	1
02/03/2026	1
04/03/2026	4
05/03/2026	1

- 6.28 The analysis indicates that, assuming a façade attenuation of approximately 20 dB, the number of internal noise events exceeding 45 dB L_{Amax} would remain below the guideline threshold of 10 exceedances per night suggested by ProPG for bedrooms during the night-time period. On this basis, the assumed façade performance is considered sufficient to control individual noise events and minimise the risk of sleep disturbance within the proposed development.
- 6.29 In the context of the BS8233 assessment, applying the assumed 20 dB façade reduction to average measured daytime and night time sound levels results in internal levels that are 3 dB and 4 dB below the night-time and daytime criteria respectively.

Glazing and Ventilation Specification

- 6.30 Break-in calculations have been carried out following guidance referred to at section 5.4.5 of BS 8233 which takes into consideration the typical room dimensions and window sizes for the development. The results of these calculations have been used to determine suitable glazing and ventilation specifications to ensure the required 20 dB reduction can be achieved.
- 6.31 The break-in calculations indicate that the required reduction can be achieved by using glazing with a minimum sound reduction index of **20 dB R_w** alongside additional acoustically rated ventilation with an equivalent open area of no more than **16000 mm²** and an element normalised level difference of **33 dB D_{new}** (at least).
- 6.32 The specified rating of **20 dB R_w** for the glazing could typically be achieved by any closed window, particularly if it is double glazed. By way of an example, the lowest specification for double glazing is typically a 4mm outer pane of glass, an internal pane of 4 mm glass and a gap of 12 mm which could be expected to provide **30 dB R_w** of sound insulation. It is understood that Portway house has double glazing fitted and therefore this minimum requirement is expected to be met provided appropriate ventilation is installed. Specification from the Greenwood 4000S trickle ventilator has been used in the break-in calculations and up to 4 of these vents could be incorporated within the external façade of a room. It is noted, this is not intended to be prescriptive, and other forms of ventilation, such as acoustic wall ventilators, may be adopted, subject to achieving comparable acoustic performance.

7. CONCLUSIONS

- 7.1 An assessment of the existing noise environment impacting on the proposed Portway House development has been undertaken in accordance with relevant guidance and standards relating to appropriate external and internal noise levels.
- 7.2 Results of a noise survey and strategic noise mapping contours have been used to inform a ProPG acoustic design statement following guidance within BS 8233, Guidance on sound insulation and noise reduction for buildings. The noise related to nearby commercial activity is considered to present a low to medium risk but maximum noise levels at night are highlighted as requiring mitigation.
- 7.3 Mitigation measures have been proposed in the form of uprated acoustic glazing for all residential windows in the development combined with a suitable ventilation solution which allows windows to be kept closed at all times (if desired). Ventilation requirements can be achieved with an appropriate acoustically rated strategy.