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STANSTY CHAIN ROAD, WREXHAM – PHASE 2
OUTLINE APPROVED RESIDENTIAL DEVELOPMENT

NOISE MITIGATION SCHEME

On behalf of:
Castle Green Homes Ltd

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NOISE MITIGATON SCHEME

Report number	Prepared by	Prepared for
P25-165-R02	Hepworth Acoustics Ltd 21 Little Peter Street, Manchester M15 4PS manchester@hepworth-acoustics.co.uk 0161 242 7900	Castle Green Homes Ltd

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Registered in England no. 2387226
Registered office: 21 Little Peter Street, Manchester M15 4PS
www.hepworth-acoustics.co.uk

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1. INTRODUCTION

1.1 Hepworth Acoustics Ltd was commissioned by Castle Green Homes to carry out a noise assessment to inform the extent of noise mitigation measures that will be necessary, for the outline approved development at Stantsy Chain Road in Wrexham. The site location is shown in Figure 1.

1.2 Outline planning permission was granted for the development in 2019. The approval is for the construction of up to 455 dwellings on the site. The development is to be brought forward in two phases. This report focuses on Phase 2 of the development, which comprises 184 dwellings.

1.3 Conditions 15 and 25 of the outline approval state:

> *15) Development shall not commence on any phase until a scheme of noise mitigation for that particular phase has been submitted to and approved in writing by the Local Planning Authority. The scheme as approved shall be implemented in full prior to the first occupation of any dwelling in that phase and all measures for noise mitigation shall be retained thereafter.*
>
> *25) No dwelling shall be occupied until a fence has been erected along the full length of the boundary with the A483 trunk road in accordance with details that shall first have been submitted to and approved in writing by the Local Planning Authority. The fence shall thereafter be permanently retained.*

1.4 Therefore, the principle of residential development on the site is firmly established. At the reserved matters stage, Conditions 15 and 25 require the submission of a noise mitigation scheme that reflects the detailed housing layout. This report addresses that requirement and includes recommendations for appropriate acoustic mitigation measures, including the specification of suitable acoustic fence and/or bund heights where necessary.

1.5 While the wording of Condition 25 is somewhat ambiguous, it is understood that the requirement for a fence along the A483 is intended primarily for boundary definition and security purposes. As such, the fence referenced in Condition 25 has not been assumed to contribute to acoustic mitigation and has as such not been included in our computerised noise model.

1.6 Thus, the Reserved Matters application is now to be made based on a detailed housing layout (*'Stanchrd-SL.01 -02 Rev C'*) shown in Figure 2. The noise mitigation scheme has therefore been reviewed and detailed in this report for the actual housing layout.

1.7 The layout shows the nearest dwellings to the A483 are those to the eastern part of the site some 40 metres from the carriageway. The dwellings fronting the A483 are progressively set back further from the road, with the most distant properties located approximately 60 metres away at the northern part of the Parcel.

1.8 Due to the length of time since the noise assessment was carried out on site by REC in 2016 and E3P in 2012 in connection with the outline application, it is necessary to carry out an updated noise survey as part of the reserved matters application. Therefore, additional noise measurements have been carried out to inform the detailed noise mitigation scheme.

1.9 The site is formed by two parcels either side of the Stansty Chain Road. The western part of the site is bounded by Stansty Lodge Lane to the north, Mold Road (B5101) to the west, and the A483 dual carriageway to the south. The site is irregular in shape and comprises predominantly open land characterised by undulating topography.

1.10 On the eastern side of Stansty Chain Road this parcel is bounded by the A483 to the south and by open fields to the north. To the eastern boundary is the Wrexham to Bidston Railway line also known as the Borderlands Line. The line, which is fairly lightly used by trains and runs broadly at grade with the development land.

1.11 The land is currently in agricultural use and largely consists of open fields with sections of hedgerows and intermittent tree coverage along some of the site boundaries. There are a number of existing residential dwellings located adjacent to and within the broader site boundary, particularly near Stansty Chain Road and Stansty Lodge Lane. Both Stansty Chain Road and Mold Road run broadly at grade with the development site. The A483 is well elevated above the development land and is approximately 7 to 8 metres below the carriageway level.

1.12 The surrounding road network presents a mix of traffic conditions: the A483 is a major route with high traffic volumes. In contrast, Stansty Lodge Lane and Stansty Chain Road are quieter roads with low traffic volumes.

1.13 The noise assessment has included:

- An inspection of the site and surrounding area;
- Measurement of road traffic noise levels;
- Computerised noise modelling of the site; and
- Recommendation of appropriate mitigation measures.

1.14 The various noise units and indices referred to in this report are described in Appendix A. All noise levels mentioned in the text have been rounded to the nearest decibel, as fractions of decibels are imperceptible.

2. ROAD TRAFFIC NOISE SURVEY

2.1 Road traffic noise measurements were conducted at a number of different locations to measure levels from the A483, Mold Road and Stansty Chain Road covering both the Phase 1 and Phase 2 land

2.2 The noise measurement locations are indicated on Figure 1 and described below.

- Location 1: 3m from Boundary with A483 on Phase 1 land
- Location 2: 5m from Boundary with A483 on Phase 1 land
- Location 3: 50m from Boundary with A483 on Phase 1 land
- Location 4: 150m from Boundary with A483 on Phase 2 land
- Location 5: 7m from Boundary with Mold Road on Phase 1 land
- Location 6: 5m from Boundary with Stansty Chain Road on Phase 2 land

2.3 Noise measurements were carried out in consecutive 2 minute periods over a series of 24-hour periods at different locations across the site between approximately 09:45 on Monday 9th June and 09:00 on Thursday 12th June 2025.

2.4 The noise surveys were carried out using two sound level meters: an NTi Audio XL2 'Class 1' (serial no: A2A-20361-E0) and an NTi Audio XL3 'Class 1' (serial no: A3A-01451-F0), both complying with BS EN 60804:2001, and both independently calibrated within the preceding 24 months.

2.5 The meters were repositioned each day to capture data at different representative locations across the site. Acoustic calibration of the sound level meters was carried out before and after each noise measurement period using an acoustic calibrator that had been independently calibrated within the preceding 12 months. No significant variation in the calibrated noise levels was noted.

2.6 The noise measurements were carried out in compliance with BS 7445: 2003. The noise measurements were taken in 'free-field' conditions and at a microphone height of approximately 1.4 metres above the ground.

2.7 Full details of the instrumentation used and weather conditions are stated in Appendix B.

2.8 The measured daytime L_{Aeq} and night-time L_{Aeq} values have been logarithmically averaged to obtain the $L_{Aeq,16hr}$ and $L_{Aeq,8hr}$ values.

2.9 The full results of the traffic noise survey are shown in Appendix B. A summary of the results is provided in Table 1:

Table 1: Road Traffic Noise Exposure Levels (dB)

Description	Daytime (07:00-23:00) $L_{Aeq,16hr}$	Night (23:00-07:00) $L_{Aeq,8hr}$	Night (23:00-07:00) $L_{Amax,2min\ 10th\ Highest}$
Location 1	70	66	79
Location 2	57	54	65
Location 3	59	57	70
Location 4	57	51	62
Location 5	66	58	77
Location 6	56	50	69

2.10 The implications of the road traffic noise exposure values discussed in Section 6.0.

3. RAILWAY NOISE SURVEY

3.1 The typical timetabled daily numbers of passing trains on a weekday are shown in Table 2. This data has been obtained from the current passenger train timetables, realtimetrains.co.uk. Most passenger trains operate in the daytime with very few trains at night, although there is a small number of possible freight services at night.

Table 2: Daily Train Flows

Train type	Period	
	Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
Passenger trains	37	2
Freight trains	10	4

3.2 Railway noise levels were measured on the site between approximately 09:00 and 11:00 hours on Thursday 12th June 2025 during the passage of a total of eight trains. During this period a total of three freight services were timetabled but cancelled and only a single freight train passed the site.

3.3 During the survey, the weather conditions were warm, dry, clear and with a light breeze.

3.4 The noise monitoring was carried out using a Brüel & Kjær 2260 'Type 1' sound level meter (S/N: 02554023). Complying with BS EN 60804:2001, and independently calibrated within the preceding 24 months.

3.5 The meter was mounted onto a tripod with a microphone height of approximately 1.5 metres above the ground. A windshield was fitted to the microphone during all noise measurements. All measurements were carried out in 'free-field' conditions.

3.6 Calibration checks were carried out before and after the noise survey with no variance in levels observed.

3.7 Noise levels were measured during the passage of each train in terms of the 'sound exposure level' (L_{AE}) and the maximum sound pressure level, L_{Amax}. The noise monitoring position was at Location 7 (as shown in Figure 1) at a location of 10 metres from the nearside track. The results of the railway noise survey are detailed in Appendix B and the data has been used in the analysis below.

Calculation of Railway Noise Exposure

3.8 Railway noise is evaluated in terms of the 'equivalent continuous noise level', L_{Aeq}. Period L_{Aeq} values for the site have been calculated from the results of the noise survey using the formula:

$$L_{Aeq(T)} = L_{AE}\ \text{Average} + 10 \log N - 10 \log T$$

where: $L_{Aeq(T)} = L_{Aeq}$ over time period T
L_{AE} Average = Average 'Sound Exposure Level'

N = Number of train passes in time period T
T = Time period in seconds

3.9 The railway noise calculations have been undertaken for the daytime and night-time periods using the average L_{AE} value of 83 dB(A) for passenger trains and 86 dB(A) for freight trains. The results are shown in Table 3.

Table 3: Railway Noise Exposure Levels (dB)

Location	Daytime $L_{Aeq,16hr}$	Night-time $L_{Aeq,8hr}$
Boundary with Railway Line	54	48

3.10 Short-term peaks of noise from passing trains were within the range 72-83 dB $L_{Amax,fast}$ but generally between 74-77 dB $L_{Amax,fast}$

3.11 The implications of the railway noise exposure values are set out in Section 6.

4. CALIBRATION OF NOISE MODEL

4.1 Noise calculations have been carried out using the CadnaA noise prediction software for daytime (07:00 – 23:00) and night-time (23:00 – 07:00) periods. The technique uses a 3-dimensional computer model of the topography of the site and the surrounding area as a basis for undertaking automated noise calculations.

4.2 The noise propagation model was calculated using the ISO 9613 *'Acoustics - Attenuation of sound during propagation outdoors'* procedure.

4.3 The following relevant CadnaA settings and standards were used in the noise model:

- Software Version: 2017 MR 1 (build: 159.4707).
- Standards: ISO 9613.
- Orders of reflection: 2.
- Search radius: 2km.
- Ground absorption: Varies between 0 and 1 with land type. (i.e. 0 = reflective for hard surface areas and 1 = absorbative for tree/grass covered areas).
- Temperature: 10°C.
- Humidity: 70%.

4.4 No site and off-site topography were available to us, so we have adopted OS Terrain 5 data to determine ground heights.

4.5 Iterations of the noise propagation model incorporating the proposed layout have been generated to provide predicted $L_{Aeq,16hr}$ daytime noise levels at 1.5 metres and $L_{Aeq,8hr}$ night-time noise levels at 4.5 metres above local ground height across the site, representative of ground floor and first floor levels respectively.

4.6 The noise contour plans are presented in Figure 3 for the daytime and in Figure 4 for the night-time, at the respective heights in each case.

4.7 It is understood that, as required by Condition 25 of the outline planning permission, a fence is to be erected along the full length of the boundary with the A483. It is assumed that this requirement is primarily for security and boundary treatment purposes, rather than for acoustic control. Accordingly, the fence has not been included in the noise modelling undertaken for Phase 2.

4.8 The results of the calculations described above have been used to assess the level of sound insulation required for windows and ventilation of habitable rooms within the proposed dwellings and form the basis of the noise control recommendations set out in Section 6.

5. GUIDANCE AND ACOUSTIC DESIGN CRITERIA

BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings'

5.1 The planning conditions do not specify any particular acoustic design criteria. Therefore, the relevant guidance outlined below has been used to inform the acoustic design of the development.

5.2 Guidance on acceptable noise levels in habitable rooms and private gardens is set out in British Standard 8233: 2014, *'Guidance on sound insulation and noise reduction for buildings'*, (referred to hereafter as BS 8233) which carries the full weight of an adopted British Standard.

5.3 BS 8233 recommends that it is desirable that noise from external sources does not exceed the guidelines values that are shown in Table 4 inside habitable rooms for daytime (07:00 – 23:00) and night-time (23:00 – 07:00) periods.

Table 4: BS 8233:2014 recommended acoustic design criteria (dB $L_{Aeq,T}$)

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

5.4 BS 8233 also recognises that regular individual noise events at night can cause sleep disturbance. Peaks of noise from individual events are usually described in terms of $L_{Amax,F}$ values and these can be highly variable and unpredictable such that for design purposes it is usual to take into account the findings of research described in WHO *Community Noise Guidelines* that states "for a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB L_{Amax} more than 10-15 times per night.

Acoustic Design Criteria

5.5 For this development we therefore recommend the following noise criteria be adopted in respect of road traffic noise with windows closed and trickle ventilation provided:

- Daytime noise below 35 dB $L_{Aeq,16hr}$ inside living rooms and bedrooms ,and
- Night-time noise levels not exceeding 30 dB $L_{Aeq,8hr}$ and generally not exceeding 45 dB L_{AmaxF} in bedrooms (i.e. no more than 10 times per night).

5.6 For private outdoor amenity spaces of the new houses (e.g. rear gardens) BS 8233 states that "*it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,16hr}$ with an upper guideline value of 55 dB $L_{Aeq,16hr}$ which would be acceptable in noisier environments*". Nevertheless, for this development, we have adopted a criterion of 55 dB $L_{Aeq,16hr}$ in gardens as far as is practicable.

5.7 The acoustic design criteria detailed above is consistent with the recommended design criteria made by E3P in their noise assessment that was submitted as part of the outline planning application.

6. NOISE MITIGATION SCHEME

6.1 Windows of standard thermal double glazing (4mm glass – 4mm glass) have a typical sound reduction performance of 25 dB R_w + C_{tr}. Therefore, where external noise levels (including façade reflection effects) exceed values of 60 dB $L_{Aeq,16hr}$ during the daytime and/or 55 dB $L_{Aeq,8hr}$ and/or 70 dB L_{Amax} at night, higher specification glazing will be necessary.

6.2 The site layout shown in Figure 2 indicates that the nearest dwellings to the A483 are located in the eastern part of the site, approximately 40 metres from the carriageway.

Glazing & Ventilation

6.3 Our calculations show that for a number of the dwellings as shown in blue on Figure 2, to ensure the criteria for the control of noise are achieved, we recommend double glazed windows for living rooms having a minimum sound insulation performance of 27 dB $R_w + C_{tr}$.

6.4 Typically, this would be achieved with a double-glazing specification of:

- 6.0mm glass - nominal (12-20mm) cavity – 6.0mm glass.

6.5 For bedrooms of the above dwellings (marked in blue on Figure 2) and for bedrooms of other dwellings marked in yellow, to ensure the criteria for the control of noise are achieved, we recommend double glazed windows with a minimum sound insulation performance of 29 dB $R_w + C_{tr}$.

6.6 Typically, this would be achieved with a double-glazing specification of:

- 6.0mm glass - nominal (12-20mm) cavity –4.00mm glass.

Ventilation

6.7 For bedrooms that require upgraded glazing (i.e. those shown in blue and yellow in Figure 2) as well as the bedrooms of dwellings close to the railway line marked in magenta, we recommend that, instead of standard window frame slot trickle vents, specialist acoustic vents are fitted having an acoustic rating of at least 42 dB $D_{n,e,w}$.

6.8 Examples of suitable products would be:

- Aereco EHA_2 '3-part' Acoustic Trickle Ventilators with internal acoustic humidity control, external acoustic canopy and acoustic sleeve. (42 dB $D_{n,e,w}$): or,
- Wall mounted Rytons AAC125HP Super Acoustic Controllable LookRyt AirCore Ventilators. (43 dB $D_{n,e,w}$).

6.9 Standard window frame trickle vents would be adequate for all other houses on the development.

Gardens

6.10 The majority of rear gardens on the proposed development will be located away from the roads and will be screened adequately from traffic noise by the houses themselves.

6.11 However, as the daytime traffic noise exposure level was found to be above 55 dB $L_{Aeq,16hr}$ in order to achieve traffic noise levels within 55 dB $L_{Aeq,16hr}$ in all gardens we recommend that a 2.2 metre high proprietary acoustic fence is installed for the boundaries of gardens of the plots indicated in green on Figure 2.

6.12 The acoustic fencing must be imperforate (i.e. have no holes or gaps), have a surface mass no less than 10 kg/m^2 and be at least 20 mm thick. Gates, where necessary, in the fencing would be acceptable as long as they are built to the same standard as the acoustic fencing.

6.13 Suppliers of proprietary acoustic fences include Jacksons Fencing (jacksons-fencing.co.uk), Guardian Fencing (guardianfencing.com) and Ransford's (ransfords.co.uk). Alternatively, solid brick walls could be installed if preferred.

7. SUMMARY

7.1 The impact of noise has been assessed for Phase 2 of an outline approved residential development on land at Stansty Chain Road in Wrexham.

7.2 The assessment has included the measurement of road traffic and railway noise levels on the site at a number of locations during representative periods of the daytime and at night.

7.3 We have recommended that an appropriate scheme of sound insulation is implemented for the new houses that will be most exposed to road traffic and railway noise in order to protect the amenity of the new residents.

7.4 The noise mitigation scheme has been designed to comply with the requirements of Condition 15 of the planning consent for the development.



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Key:

x - Noise Measurement Position

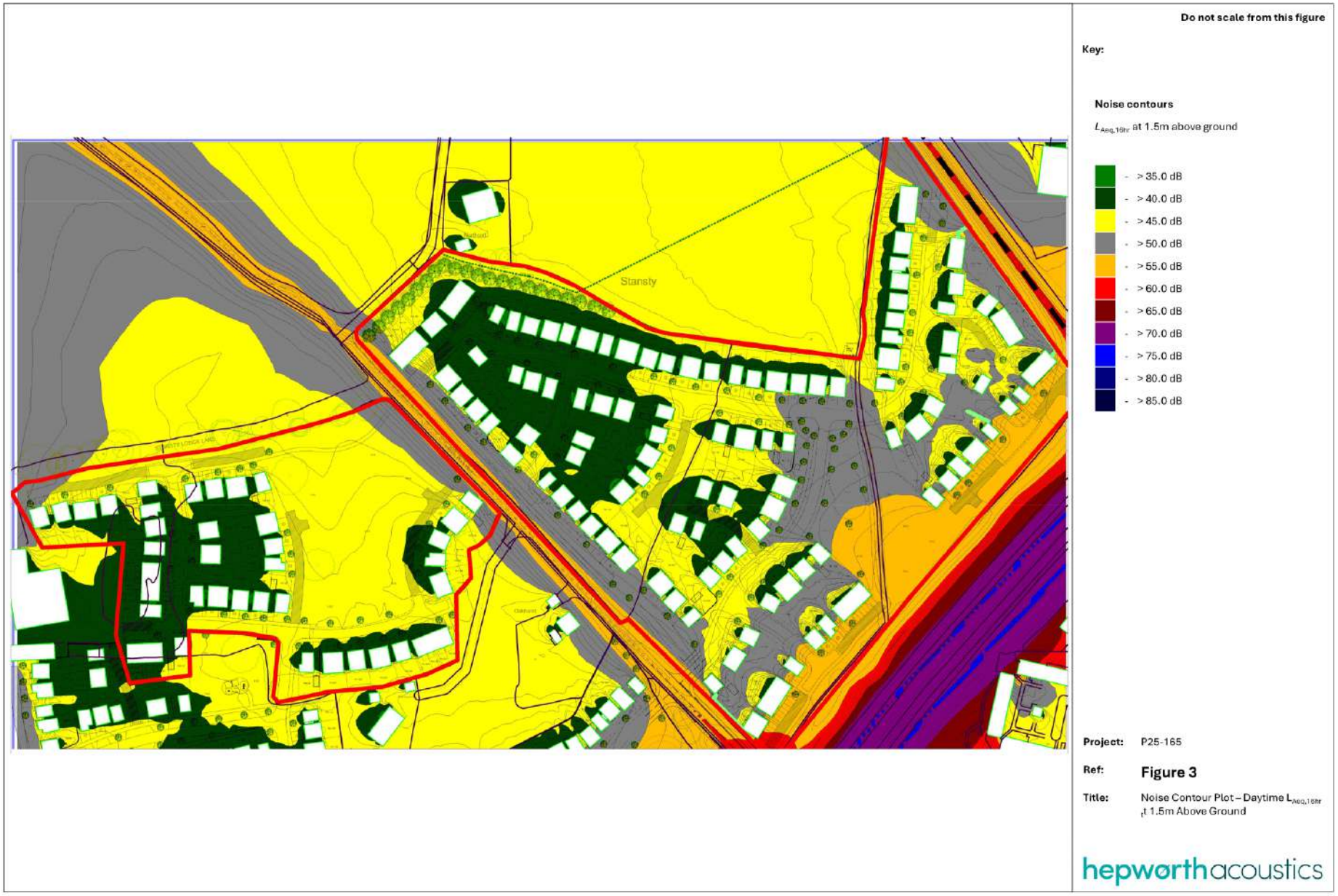
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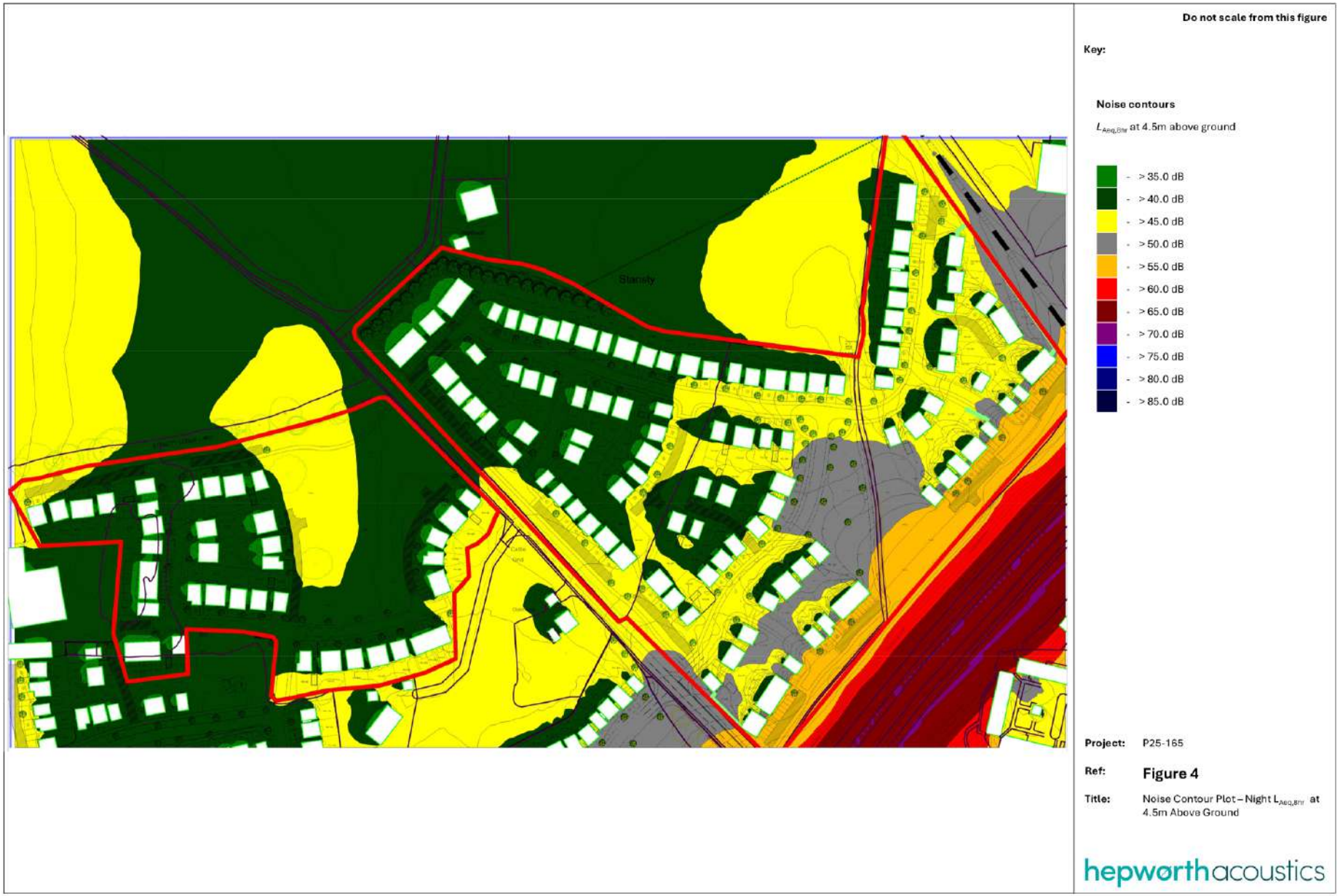
Ref: **Figure 1**

Title: Site Location & Noise Measurement Positions

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Key:
Living Room Glazing - 27 dB $R_w + C_{tr}$
Bedroom Glazing - 29 dB $R_w + C_{tr}$
Bedroom Glazing - 29 dB $R_w + C_{tr}$
Acoustic Trickle Ventilation
2.2m High Acoustic Barrier
Pond
Stansty
Project: P25-165
Ref: Figure 2
Title: Proposed Site Layout and Noise Mitigation Scheme
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Do not scale from this figure
Key:
Noise contours
$L_{Aeq,16hr}$ at 1.5m above ground
- > 35.0 dB
- > 40.0 dB
- > 45.0 dB
- > 50.0 dB
- > 55.0 dB
- > 60.0 dB
- > 65.0 dB
- > 70.0 dB
- > 75.0 dB
- > 80.0 dB
- > 85.0 dB
Stansty
Project: P25-165
Ref: Figure 3
Title: Noise Contour Plot – Daytime $L_{Aeq,16hr}$ at 1.5m Above Ground
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Do not scale from this figure
Key:
Noise contours
$L_{Aeq,8hr}$ at 4.5m above ground
- > 35.0 dB
- > 40.0 dB
- > 45.0 dB
- > 50.0 dB
- > 55.0 dB
- > 60.0 dB
- > 65.0 dB
- > 70.0 dB
- > 75.0 dB
- > 80.0 dB
- > 85.0 dB
Project: P25-165
Ref: Figure 4
Title: Noise Contour Plot – Night $L_{Aeq,8hr}$ at 4.5m Above Ground
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APPENDIX A: ACOUSTICS UNITS & INDICES

Sound and the decibel

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120 dB (threshold of pain).

Due to the logarithmic nature of decibels, when two noises of the same level are combined together, the total noise level is (under normal circumstances) 3 dB(A) higher than each of the individual noise levels e.g. 60 dB(A) plus 60 dB(A) = 63 dB(A). In terms of perceived 'loudness', a 3 dB(A) variation in noise level is a relatively small (but nevertheless just noticeable) change. An increase in noise level of 10 dB(A) generally corresponds to a doubling of perceived loudness. Likewise, a reduction in noise level of 10 dB(A) generally corresponds to a halving of perceived loudness.

The ear is not equally sensitive to sound at all frequencies. It is less sensitive to sound at low and very high frequencies, compared with the frequencies in between. Therefore, when measuring a sound made up of different frequencies, it is often useful to 'weight' each frequency appropriately, so that the measurement correlates better with what a person would actually hear. This is usually achieved by using an electronic filter called the 'A' weighting, which is built into sound level meters. Noise levels measured using the 'A' weighting are denoted dB(A) or dBA.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz.

Young people with normal hearing can hear frequencies in the range 20 Hz to 20 kHz. However, the upper frequency limit gradually reduces as a person gets older.

Glossary of Terms

When a noise level is constant and does not fluctuate, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices can be used. There are also a number of ways to describe sound insulation performance.

The indices used in this report are described below:

L_{Amax} **Maximum A-weighted Sound Level with Fast Time-weighting:** The maximum A-weighted sound pressure level during the measurement period, using the Fast time-weighting of 125ms. L_{Amax} used in this report refers throughout to L_{AFmax} with the Fast time weighting, denoted L_{AFmax} or $L_{Amax,f}$ in other documents but L_{Amax} in BS 8233:2014 standard notation.

$L_{A90,T}$ **A-weighted 90 Percentile Level:** The A-weighted sound level exceeded for 90% of a measurement time period (T). $L_{A90,T}$ is generally used as a measure of Background Sound Level.

C_{tr} **Transport Noise Spectral Adaptation Term:** A term used with single figure broadband sound insulation metrics (e.g. R_w, $D_{n,e,w}$ or $D_{nT,w}$) to account for the spectral composition of typical transport noise sources.

$D_{n,e,w}$ **Weighted Element Normalised Level Difference:** A frequency weighted single figure laboratory value quantifying the sound insulation performance of a building element,

R_w **Weighted Sound Reduction Index:** A single figure frequency weighted laboratory sound insulation performance metric of a building element or construction arrangement (e.g. a wall).

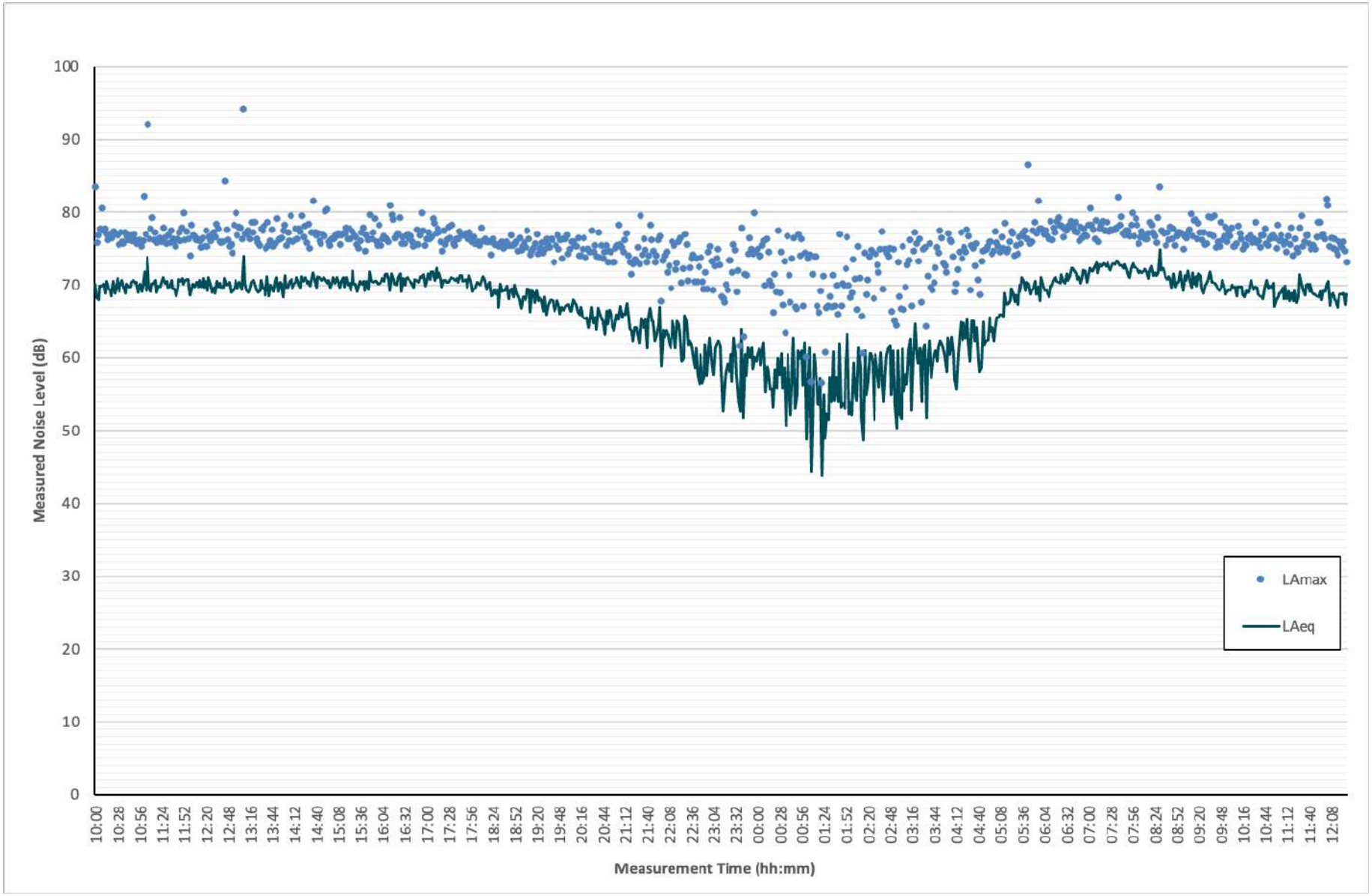
L_{AE} **A-weighted Sound Exposure Level:** A metric used for measuring discrete noise events. Essentially it is a measure of the sound energy of the whole noise event normalised to a period of 1 second. The L_{AE} value can be used to calculate the actual $L_{Aeq,T}$ value for a given time period if the number of noise events is known.

APPENDIX B: NOISE SURVEY RESULTS

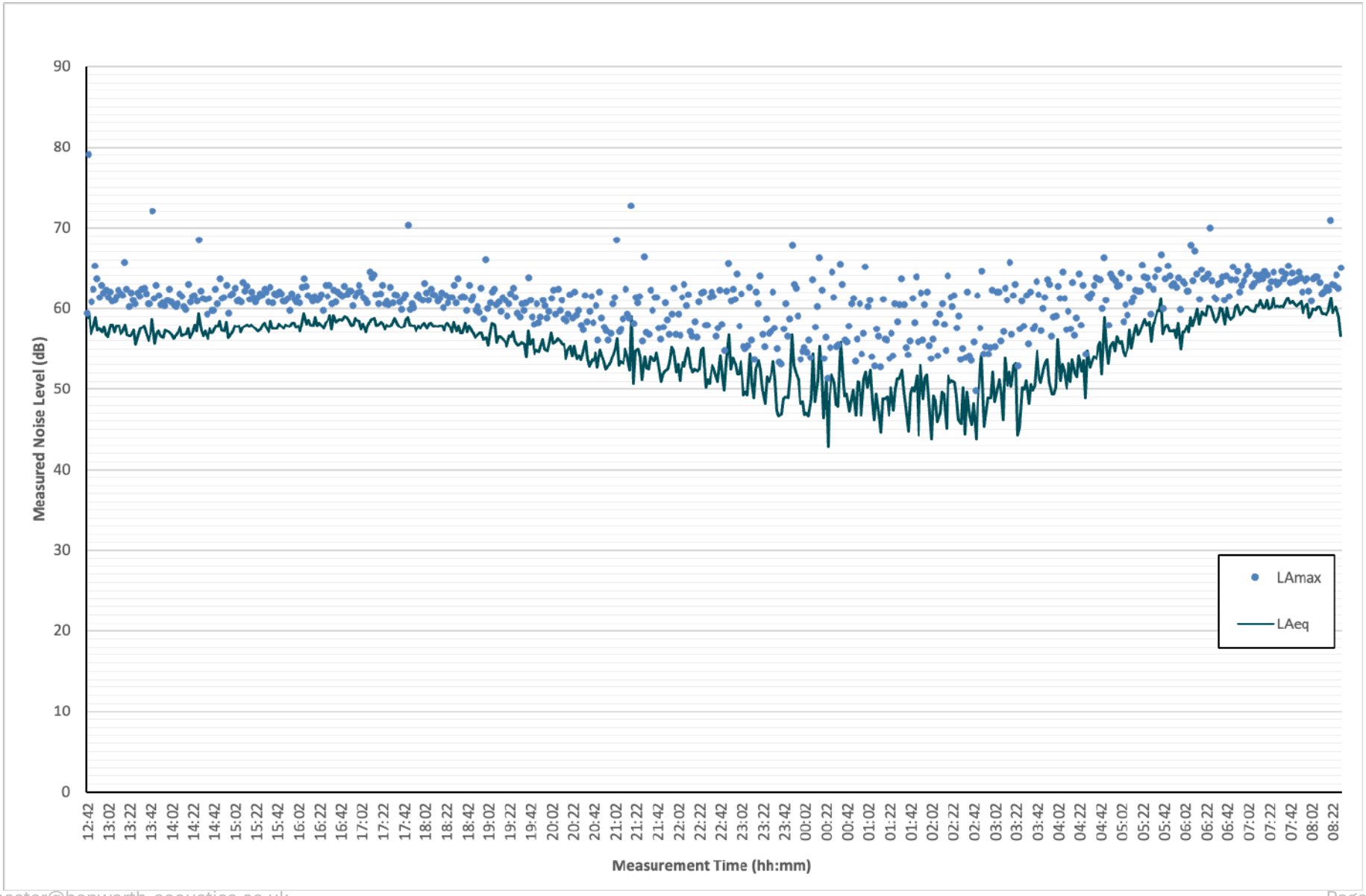
Date(s)	Location 1 & 5: Monday 9 June – Tuesday 10 June 2025 Location 2 & 3: Tuesday 10 June – Wednesday 11 June 2025 Location 4 & 6: Wednesday 11 June – Thursday 12 June 2025
Equipment	NTi Audio XL2-TA 'Class 1' sound analyser (s/n: A2A-20361-E0) NTi Audio XL3-TA 'Class 1' sound analyser (s/n: A3A-01451-F0) with associated calibrator(s) and tripod(s)/environmental outdoor monitoring kit(s)
Weather	**Monday 9 June 2025** Daytime: 12 – 17 °C, dry, partly cloudy, SW wind ~4 m/s Night-time: 12 °C, dry, partly cloudy, SW wind ~4 m/s **Tuesday 10 June 2025** Daytime: 11 – 18 °C, dry, partly cloudy, SW wind ~4 m/s Night-time: 11 °C, dry, partly cloudy, WNW wind ~4 m/s **Wednesday 11 June 2025** Daytime: 9 – 28 °C, dry, partly cloudy, SE wind ~3 m/s Night-time: 9 °C, dry, partly cloudy, SE wind ~3 m/s **Thursday 12 June 2025** Daytime: 13 – 24 °C, dry, partly cloudy, SE wind ~4 m/s

Chart(s) overleaf

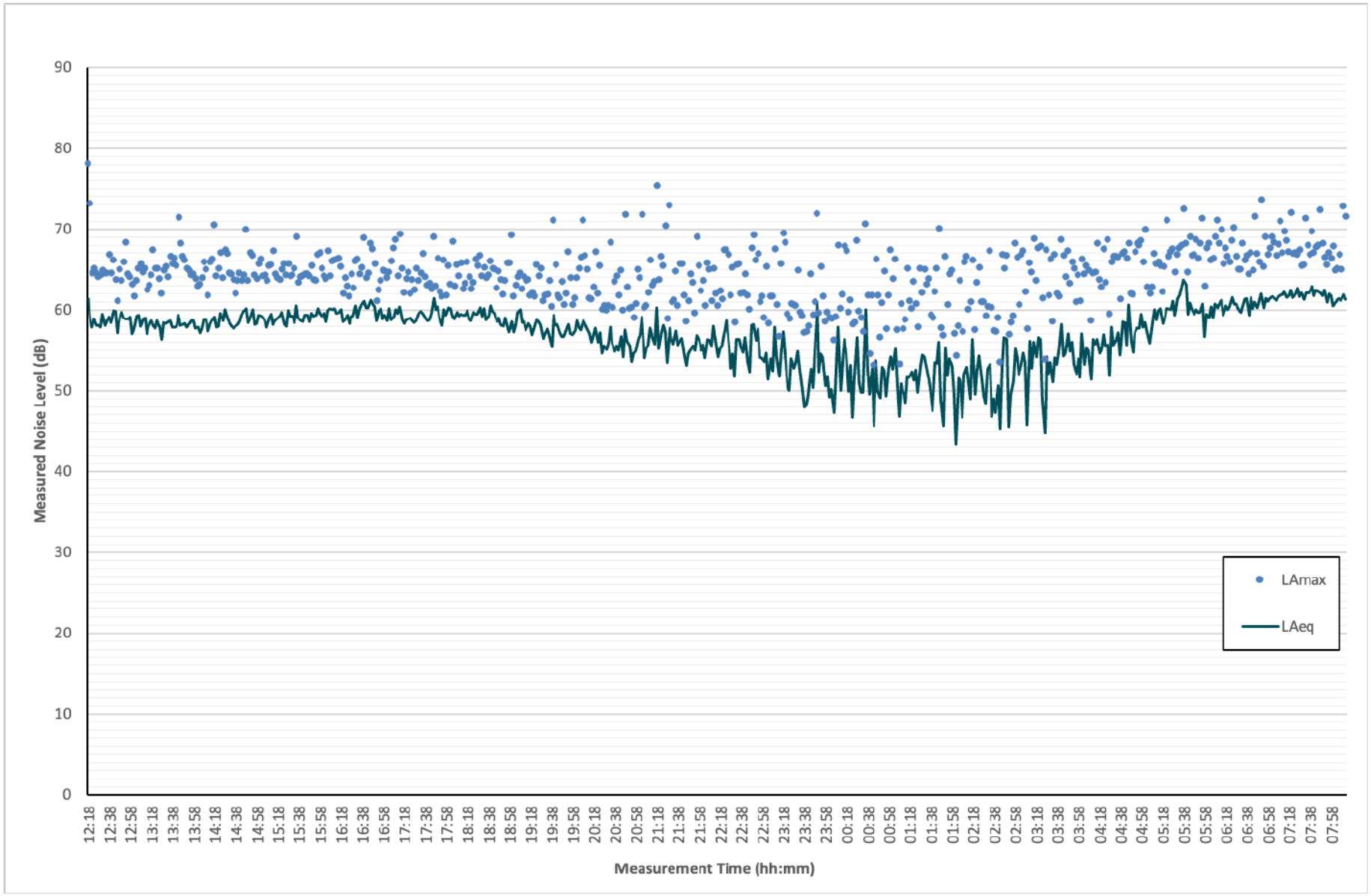
Location 1: 3m from Boundary with A483 close to slip road



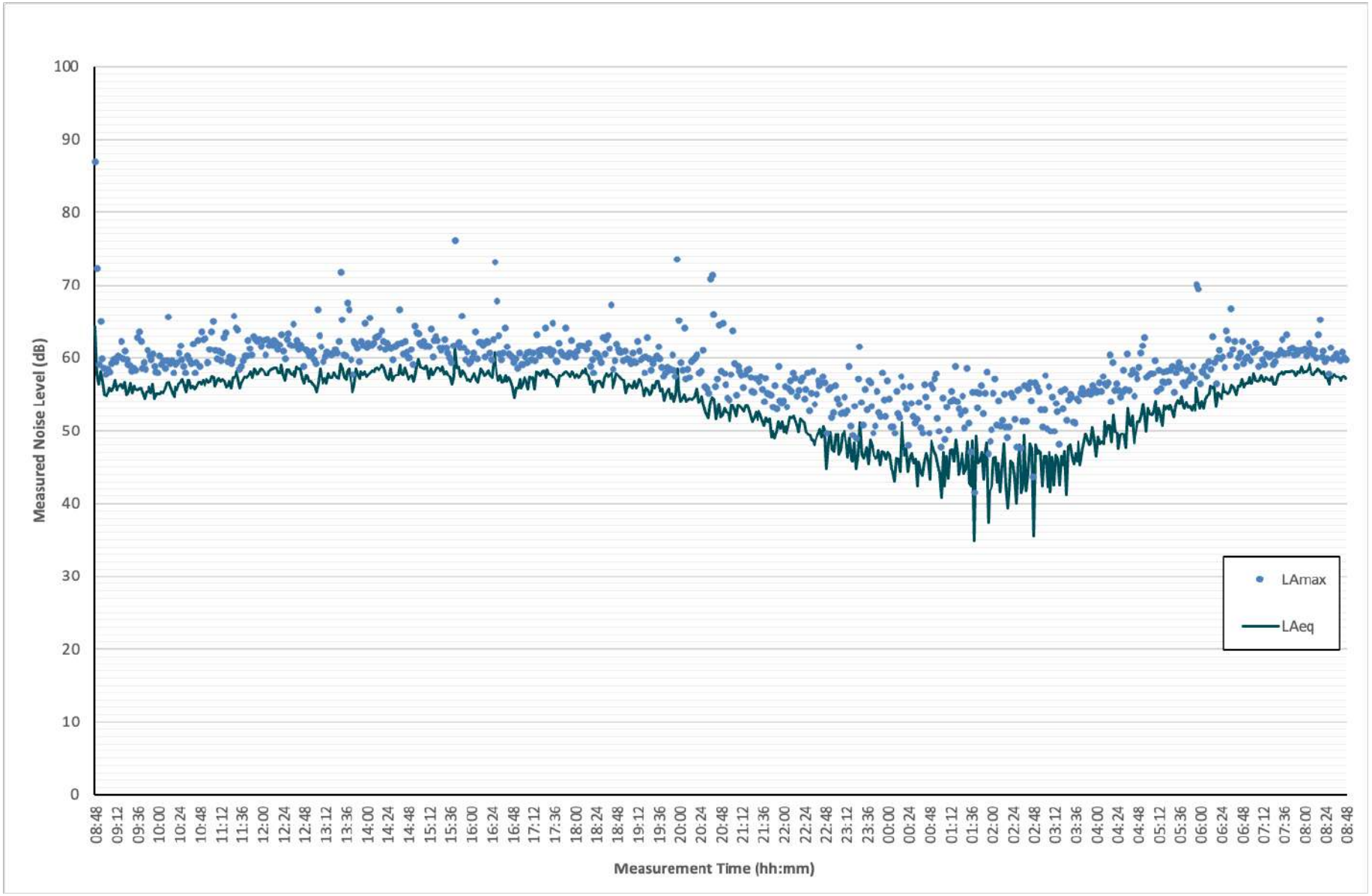
Location 2: 5m from Boundary with A483 in centre of site



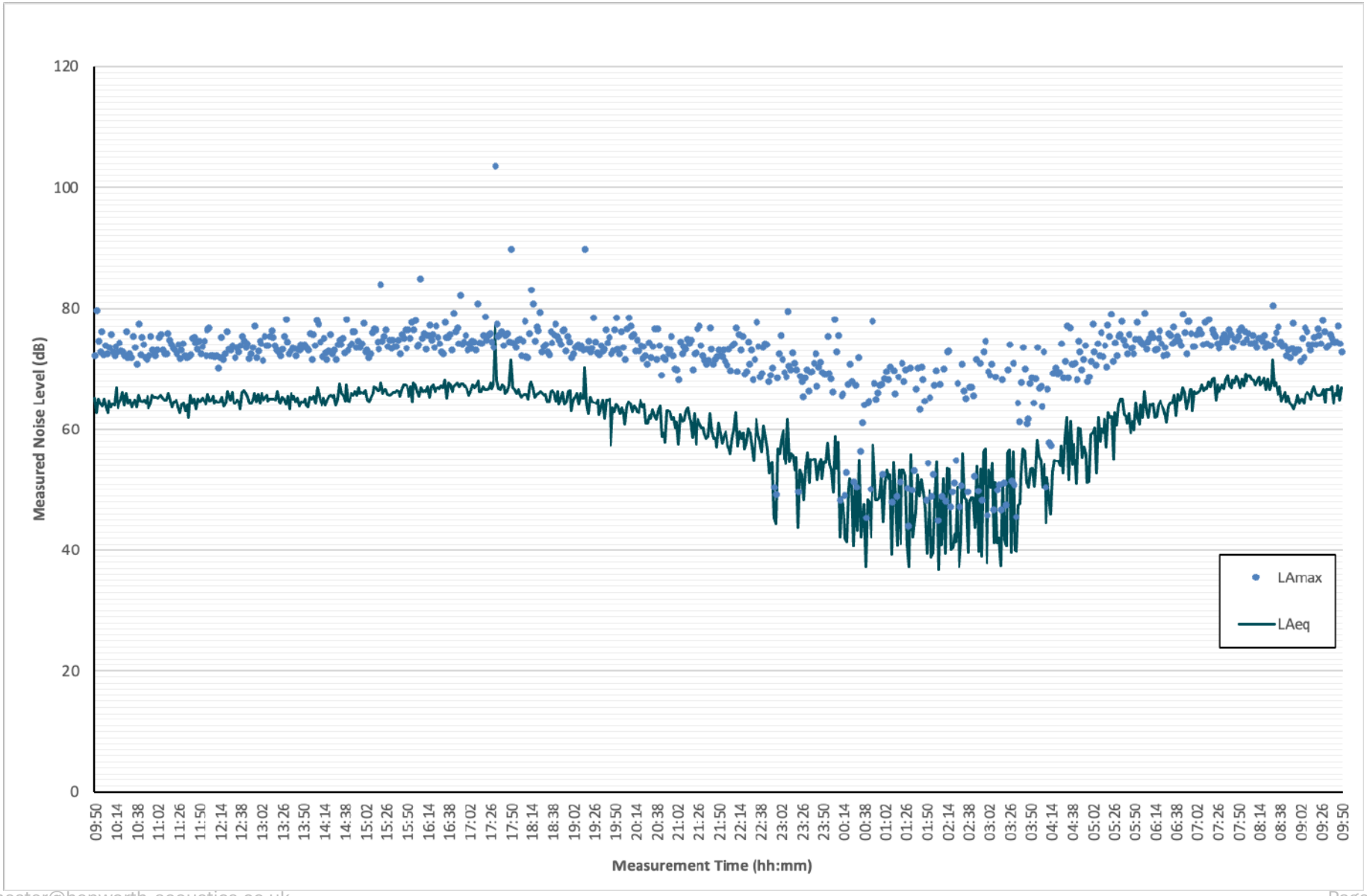
Location 3: 50m from Boundary with A483 at eastern part of site



Location 4: 150m from Boundary with A483 on Phase 2 land



Location 5: 7m from Boundary with Mold Road



Location 6: 5m from Boundary with Stansty Chain Road

