



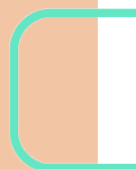
Noise Assessment

59 Gloucester Road
Wild City Collective
13/08/2026



ScotchPartners

Building Services | Energy | Sustainability | Acoustics



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1 Introduction

- 1.1 Prior approval is sought for a change of use of the existing building at 59 Gloucester Road from Class E (g) office to Class F1(a) - a state funded school for learning and non-residential institutions for the provision of education.
- 1.2 During the prior approval application, the Local Planning Authority have raised concerns regarding noise from ancillary activities inside the hall affecting nearby residential dwellings and requested that an acoustic report be provided in support of the prior approval for the use of the hall.
- 1.3 Scotch Partners have been commissioned by Wild City Collective to undertake assessments of the hall building's acoustic performance and potential activity noise in order to address the concerns raised by the Local Planning Authority. These are presented within this report.
- 1.4 The assessment is based on an external noise survey and sound insulation testing conducted at the site which are also detailed within this report. Full measurement data are available upon request.



2 Criteria

2.1 Local Authority

- 2.1.1 Reading Borough Council's Environmental Protection (EP) team have, to date, given the following comments on the proposals:

I have concerns about noise from the new use of the building, from music associated with the community events and parties, and exercise classes. A noise assessment should be submitted which demonstrates that the structure of the building is sufficiently acoustically insulated to contain the noise from the proposed uses.

EP share the residents' concerns about noise from the outdoor space, which is not really being acknowledged by the applicant. Whilst EP do have powers to address nuisance noise, however, this is a much higher threshold in the event of a planning permission being in place, so addressing such matters at this point in time would be far preferable.

- 2.1.2 Reading Borough Council's Local Plan, adopted 2019, sets out the following policies which are considered tangentially relevant to this assessment:

CC8: Safeguarding Amenity

Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for residential properties, in terms of: [...]

- *Noise and disturbance; [...]*

As well as immediate impacts, other aspects to which this policy applies will include matters such as hours of operation of businesses[...]

[...] Where an otherwise acceptable development could change its character to a use that would have a greater impact on amenity without needing planning permission, conditions will be applied to restrict such changes.

EN16: Pollution and Water Resources

Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution [...]

- 2.1.3 It should be noted that there is no installation of speakers as part of the proposals. It has been established that phone or laptop speakers will be used for music by occupants, if any. It is therefore not considered necessary to conduct an assessment of music noise as part of this report, though it is important that this remains true during use of the building. To preserve this, it is recommended that users are not permitted to bring speaker systems, play amplified live music, etc. by way of agreement/conditions upon hire.
- 2.1.4 It is expected that by establishing the current sound insulation performance of the existing building, proposed uses of the building can be assessed in terms of noise levels at affected noise-sensitive receivers and in turn suitability in the context of local policy.
- 2.1.5 It is expected that Reading Borough Council will seek to ensure that the existing acoustic environment surrounding the site and nearby noise-sensitive receivers is not meaningfully impacted or changed by the proposed activities.

3 External noise survey

3.1 Site description

- 3.1.1 The site is located on the corner of Gloucester Road and Kensington Road consisting of a garden area and an existing hall building. The hall building is understood to have been used as a school, nursery and community centre at various points between c.1920 and 2010.
- 3.1.2 Cranbury College, a school for ages 5-18, is opposite the site on Gloucester Road to the north-east. Residential dwellings and gardens border the site in all directions.
- 3.1.3 During daytime site visits, it was observed that road traffic noise and activity noise from the school make up the background and ambient noise climate. Tilehurst Road to the south sits at a higher elevation and has no line-of-sight to the hall or garden thanks to houses providing screening. Traffic is heard to be free-flowing but non-constant, i.e. periodic vehicle passbys at c.30-40mph. Oxford Road, some 450m to the north, is a local high street with traffic and associated activity noise that was observed at the site as a constant background 'hum'.
- 3.1.4 The site and surrounding area are shown in Figure 3-1 and Figure 3-2.

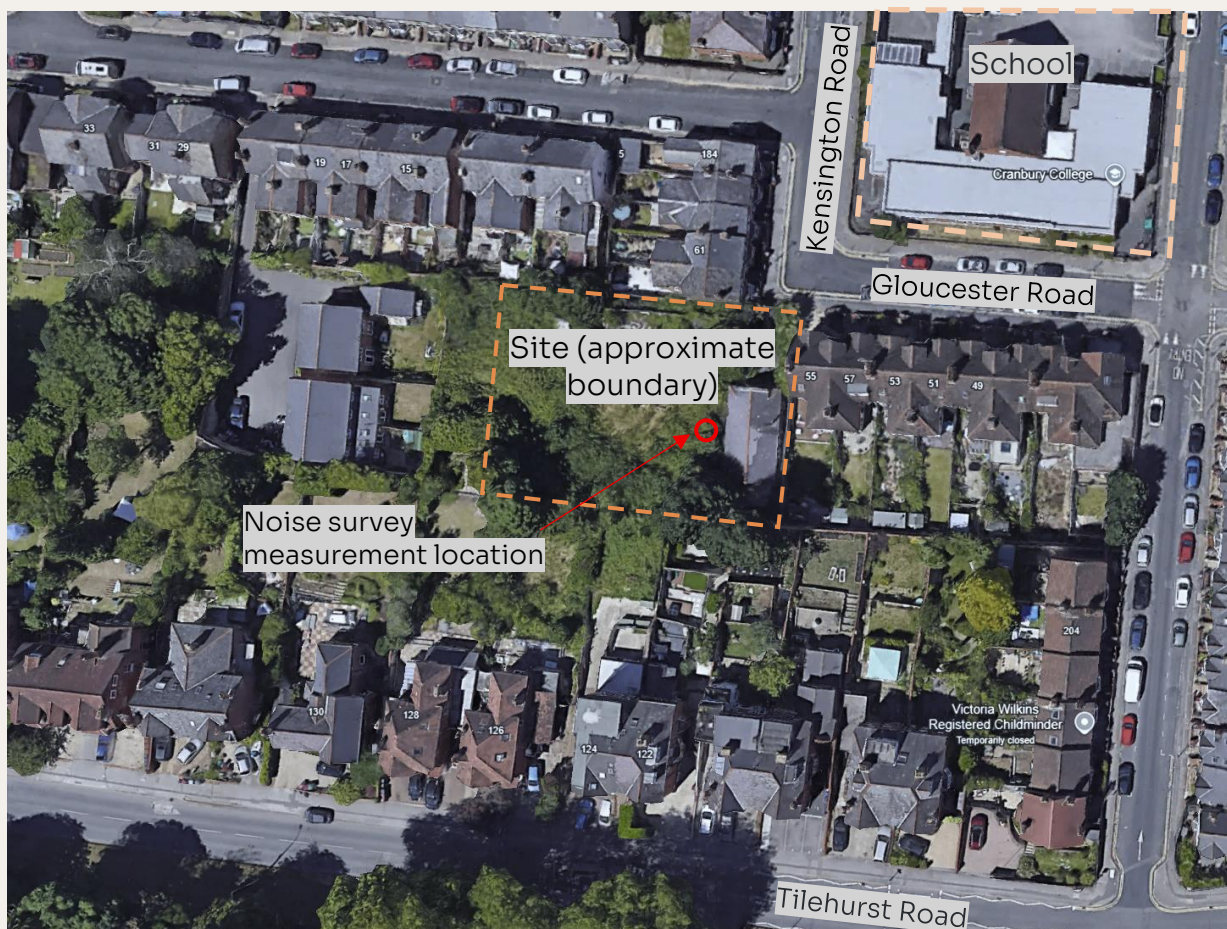


Figure 3-1 Satellite image showing site, Cranbury College, and surrounding residential dwellings. Courtesy of Google Earth

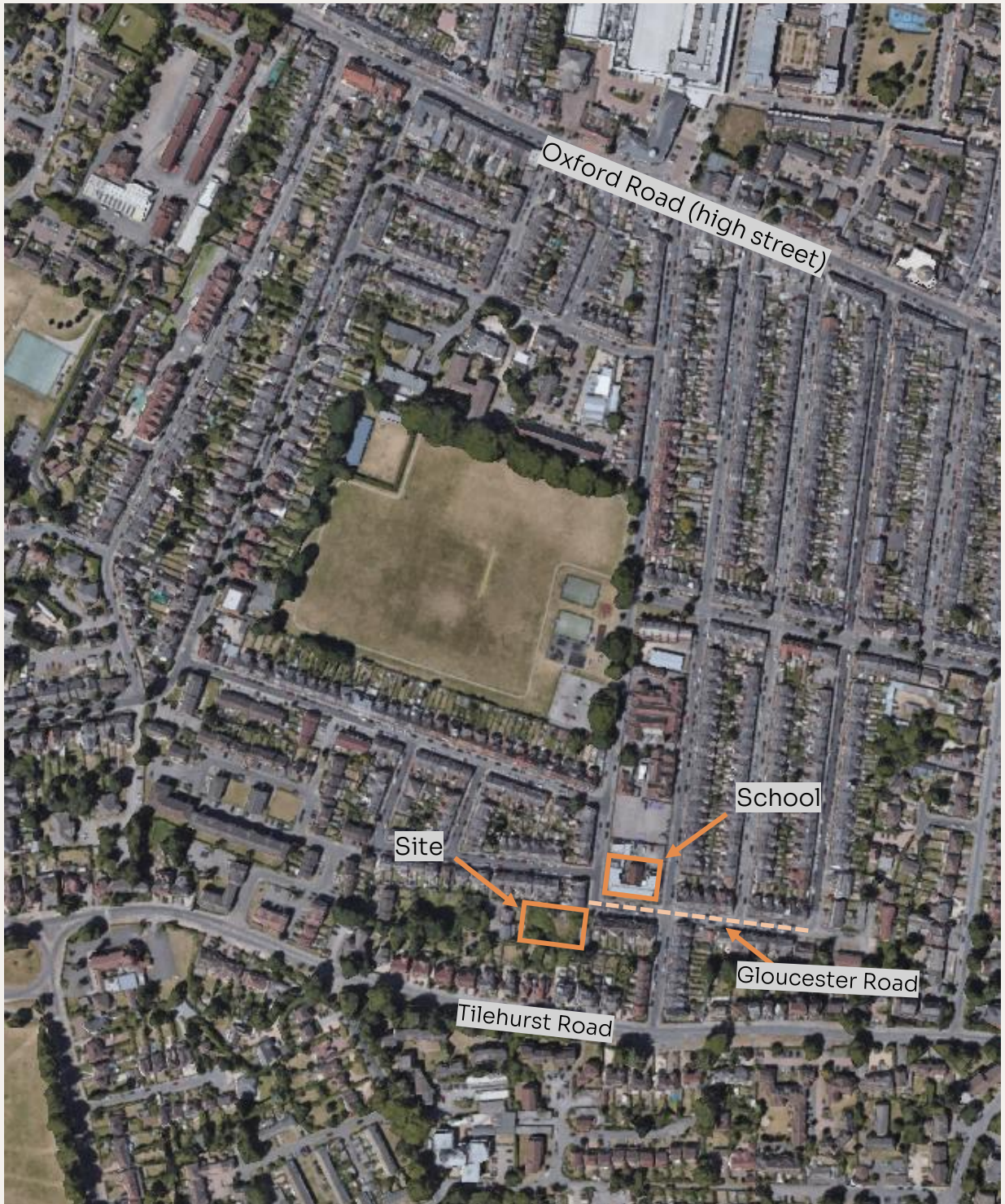


Figure 3-2 Satellite image showing wider site area

- 3.1.5 A combination of activity noise from the school and traffic on Tilehurst Road was observed to be the dominant source of ambient and background noise. Traffic on Tilehurst Road was more intermittent, while steadier distant traffic noise from Oxford Road formed the background noise climate. Occasional aircraft flyovers and vehicle passbys on Gloucester/Kensington Road were audible at the site, at a higher level than steady underlying traffic noise.

3.2 Measurement methodology

Unattended noise survey

- 3.2.1 Continuous, unattended sound level measurements were conducted at a location outside the hall between 10th and 15th July 2026. The measurement position is shown in Figure 3-3 and Figure 3-4.



Figure 3-3 Site photograph(facing south) showing measurement microphone (circled)

- 3.2.2 Measurements were undertaken generally in accordance with the procedures advised within British Standard 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* and British Standard 7445-1:2003 *Description and measurement of environmental noise*.
- 3.2.3 The microphone was approximately 2.5m above local ground height and over 3m from any other local reflective surface and, and so is believed to have been under a reasonable approximation of free-field conditions.
- 3.2.4 The location was chosen to represent the noise levels experienced by residential neighbours surrounding the site. The screening from local and distant road traffic was observed on site to be representative of that at 55 Gloucester Road, which is the closest dwelling and garden to the hall and is therefore expected to be the most affected noise-sensitive receiver.

- 3.2.5 Observations made on site concluded that the measurement position subjectively experienced approximately the same level of middle-distant and distant road traffic noise as the boundary at 55 Gloucester Road, from both Tilehurst Road to the south and Oxford Road to the north.



Figure 3-4 Aerial view of site (facing south) with measurement position circled.

- 3.2.6 Noise from the school was heard on site during both weekday visits, but was not heard to be significantly louder than road traffic. Visits were made outside of ‘peak’ activity times (typically before school, lunchtime, and after-school).
- 3.2.7 Statistical and spectral third-octave-band data were recorded in 15-minute samples between 13:45 on Friday 10th July and 15:15 on Wednesday 15th July. The “fast” (125ms) time constant was used.
- 3.2.8 The following equipment was used to carry out the measurements:

Table 3-1 Equipment used for noise survey

Equipment	Manufacturer/model	Serial no.
Sound level meter	Norsonic 131	1313605
Weather enclosure	Norsonic 1218	12182684
Portable sound calibrator	Norsonic 1251	34926

- 3.2.9 The calibration of the sound level meter and associated microphone were checked prior to and on completion of the survey in accordance with recommended practice. No significant drift in calibration occurred during the survey. The accuracy of the calibrator can be traced to National Physical Laboratory Standards.

3.2.10 The weather conditions during the survey are believed to have been dry, with no rain. The wind speeds are believed to have been generally under 5ms^{-1} for the duration of the survey, and therefore the weather conditions are not believed to have meaningfully affected the results of the survey or subsequent assessments.

3.3 Results & commentary

3.3.1 Level-history graphs of the measurement data are presented in Figure 3-5 overleaf.

3.3.2 Ambient levels ($L_{Aeq,7}$) for the measurement periods are summarised below. Note that the summary only includes measurements during the periods of the proposed activities, which are understood to be 17:00-22:00 on weekdays and 09:00-22:00 on weekends. More information on this is provided in Chapter 4 of this report.

3.3.3 Ambient noise levels are presented as the daily range of 15-minute measurement results, as well as the logarithmic (energy) average over the operating time, for each respective day.

Table 3-2 Ambient sound levels established from unattended noise survey

Period	15-minute ambient noise level range	Long-term ambient noise level
Day 1 (Fri)	42 – 48 dB $L_{Aeq,15mins}$	45 dB $L_{Aeq,5h}$
Day 2 (Sat)	43 – 50 dB $L_{Aeq,15mins}$	46 dB $L_{Aeq,13h}$
Day 3 (Sun)	43 – 50 dB $L_{Aeq,15mins}$	47 dB $L_{Aeq,13h}$
Day 4 (Mon)	44 – 56 dB $L_{Aeq,15mins}$	49 dB $L_{Aeq,5h}$
Day 5 (Tue)	41 – 48 dB $L_{Aeq,15mins}$	46 dB $L_{Aeq,5h}$

3.3.4 The lowest measured 15-minute ambient sound level measured during the assessment periods is 41 dB $L_{Aeq,15mins}$. This level was measured at 21:45 on Tuesday 14th July.

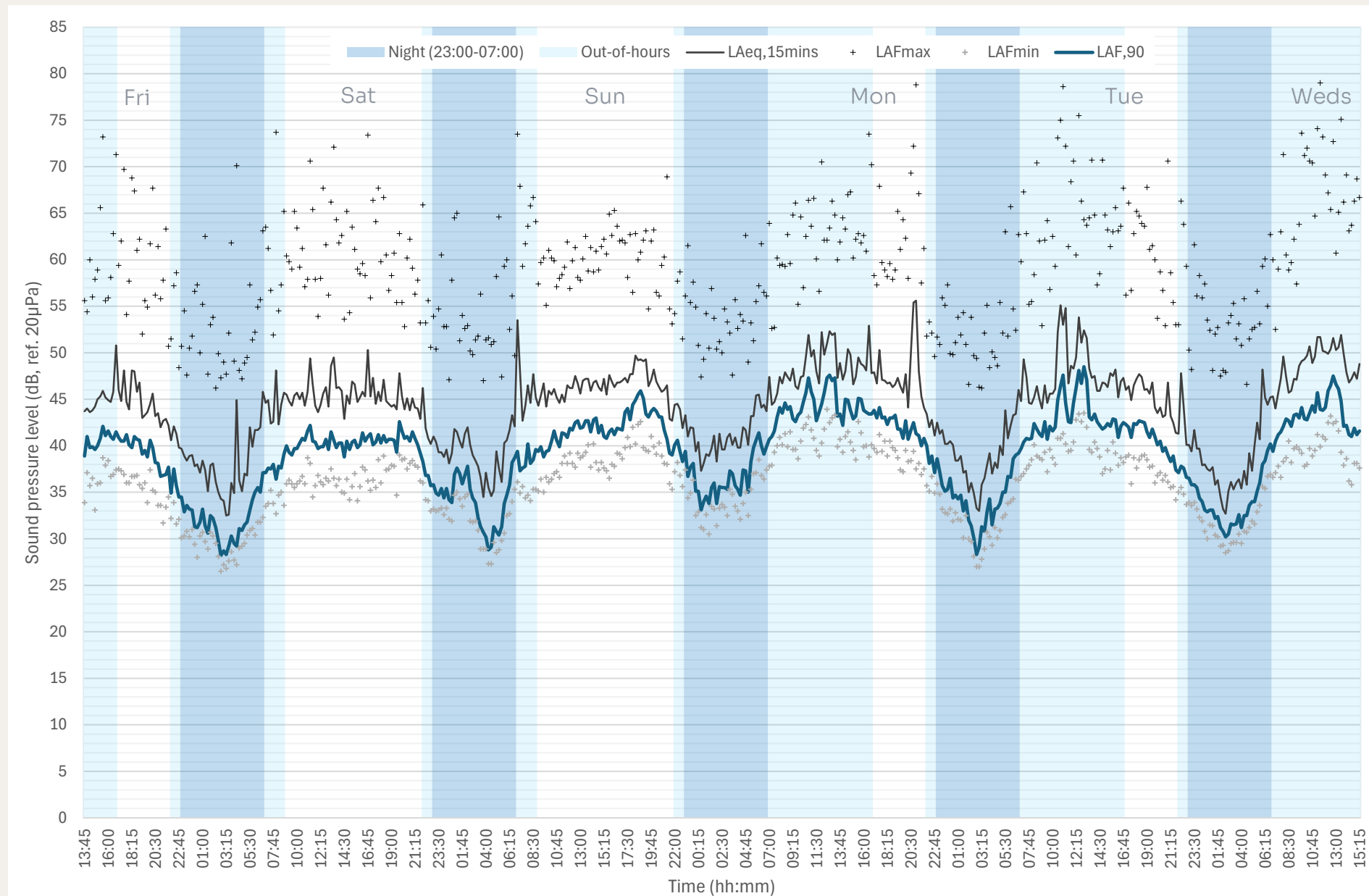


Figure 3-5 Level-history graph for noise survey period, with assessment times shown

Sound insulation testing

- 3.3.5 Measurements of the sound insulation performance of the hall building's envelope were taken on 15th July 2026. A basic indoor-to-outdoor level difference was measured at points around the building to determine the level of noise break-out in each direction, and to include different building elements (doors, windows, etc).
- 3.3.6 The source noise was a pink noise signal through a dodecahedron loudspeaker. For each source position, a source measurement and five receiver measurements were taken. The speaker was placed equidistantly between the two side walls in both source positions.
- 3.3.7 The measurement locations are shown on the image below.

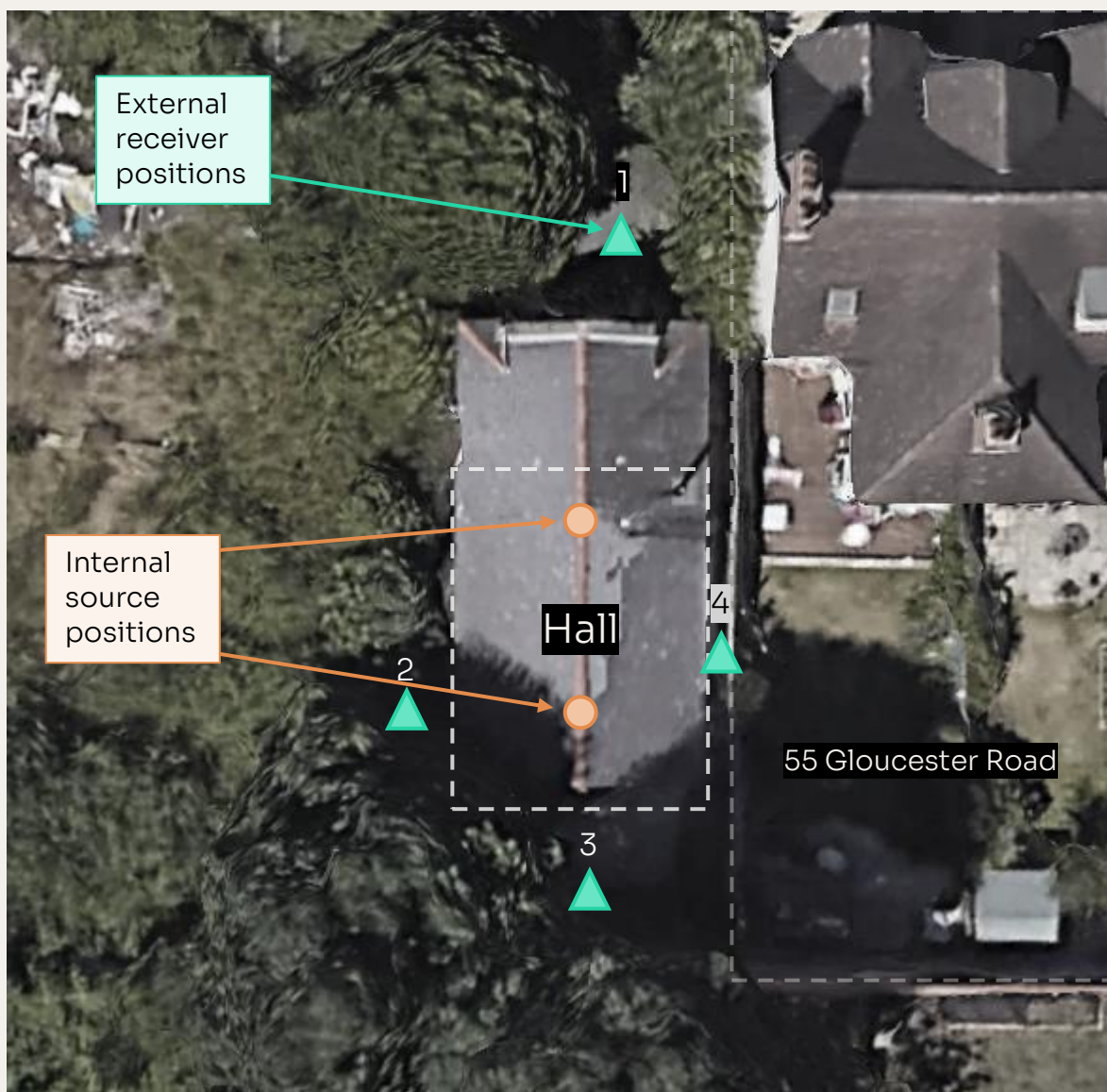


Figure 3-6 Satellite image of site showing sound insulation measurement strategy

3.3.8 The microphone at position 4 (in the alleyway next to 55 Gloucester Road) was directly above the edge of the boundary fence, and in front of one of the hall's windows. This therefore represents the worst-case transmission as the window is the acoustic weak point in the façade. The microphone position is shown in Figure 3-7:



Figure 3-7 Site photograph of alley measurement position

3.3.9 Doors and windows were closed throughout the measurements, though it was noted that doors at the front and rear both have gaps and windows may not be fully seated in their frames when closed.



Figure 3-8 Photograph showing dodecahedron loudspeaker in position 2

- 3.3.10 30-second sound pressure level measurements were taken in each position. Outdoor background sound levels (i.e. in absence of the source signal) were noted to be below the signal level be at least 10 dB in every position.
- 3.3.11 The minimum (L_{Fmin}) results have been used for calculations so as to further remove influence of other sound sources from the measurements. In all measurements, the difference between L_{AFmin} and L_{AFmax} was less than 4 dB.

3.3.12 The following table summarises the level difference measured at each position.

Table 3-3 Sound insulation test results.

Note that numbers correspond to measurement labels in Figure 3-6.

Location	Difference (arithmetic mean)
1. Front	42
2. Side	30
3. Rear	31
4. Alley	27

3.3.13 The arithmetic mean difference calculated from source 1 and source 2 measurements has been used to predict the level of noise break-out from future uses of the hall.

3.3.14 The most relevant measurement position is the alley as this directly reflects the level at the closest and most affected nearby noise-sensitive receiver (55 Gloucester Road). The level difference for all receivers have been calculated from third-octave band measurement results for detailed calculation. These are presented in the table overleaf.

Table 3-4 Third-octave band level difference from hall to neighbour established from on-site measurements, calculated as an arithmetic mean from two tests

Location	Calculated arithmetic mean level difference (dB <i>D</i>) / Octave band centre frequency (Hz)																				
	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k
Front	26	26	31	32	40	38	40	41	45	47	47	47	47	46	43	45	48	49	50	50	46
Side	17	15	18	24	26	26	28	31	31	33	31	32	34	34	34	34	33	34	34	35	34
Rear	23	20	23	28	32	28	29	28	30	30	32	30	30	30	28	30	31	32	31	33	34
Alley	11	15	20	22	25	24	26	27	29	28	29	29	31	30	28	29	30	31	30	31	30

4 Noise emission assessment

4.1 Nearest noise-sensitive receivers (NNSRs)

- 4.1.1 Residential neighbours surrounding the site will be most affected by noise generated within the hall. 55 Gloucester Road shares a boundary with the site to the east, and is approximately 1m from the hall. This boundary will be taken as the noise-sensitive receiver.



Figure 4-1 Satellite view of site and surrounding residential neighbours

4.2 Assessment scenarios

- 4.2.1 As mentioned in Chapter 2 of this report, It has been established that no speakers or music system are to be installed, and that parties, classes, etc will use only laptop speakers or similar. Music is therefore not expected to be significant enough in terms of noise breakout to require assessment.
- 4.2.2 The following table sets out the assessment scenarios used to predict the level of noise that may be experienced at neighbouring dwellings as a result of proposed activities at the community centre.
- 4.2.3 The two uses are community groups and children's parties. It has been established that these are the highest-occupancy proposed uses.

Table 4-1 Overview of uses of the community space to be used as assessment scenarios

#	Description	Occupancy maximum	Days	Times
1	Community group rentals – e.g. workshops, scout groups, yoga, similar	20 adults	Weekday & Weekend	17:00-22:00 Weekdays, 09:00-22:00 Weekends
2	Children's parties	18 children 5 adults	Saturday, daytime	09:00-22:00 Saturday

4.3 Calculation of noise propagation

- 4.3.1 An internal sound pressure level has been calculated for each use scenario. This is calculated based on empirical data for speech at different effort levels, from adults and children¹.
- 4.3.2 Male voices typically have more low-frequency content than female voices, which travels through building elements (such as windows) more easily. The established, industry-standard activity noise prediction methodologies typically advise an even gender balance though male speech levels have been used to represent all adults as this presents a worst-case scenario.
- 4.3.3 Through Scotch Partners' historical assessments in various settings, it has been established that a reasonable assumption for speakers in a group is half the total occupancy, as this assumes the group is divided into pairs in conversations with one speaker per pair. The empirical speech noise levels have been adjusted for occupancy as follows:

$$L_{p,corr} = L_{p,s} + 10 \times \log(n)$$

¹ Pearson et al. 1977 *Environmental Protection Agency*

- 4.3.4 Where $L_{p,corr}$ is the corrected (cumulative) sound pressure level, $L_{p,s}$ is the empirical source level, and n is the number of speakers.
- 4.3.5 For the children's party, 18 children and 5 adults is the maximum potential occupancy; this has been modelled as 9 'raised' child vocal sources, and 2 'normal' male adult vocal sources.
- 4.3.6 The empirical speech levels used were measured in an anechoic room (with no acoustic reflections). A +3dB correction for reverberant build-up within the hall has therefore been applied to the multiplied speech sound pressure level.
- 4.3.7 The level difference to the alleyway has been applied to the reverberant level to obtain the predicted sound pressure level at the boundary of 55 Gloucester Road, the nearest and most-affected noise-sensitive receiver.
- 4.3.8 All other dwellings benefit from greater distance and/or screening, and will therefore be exposed to a lower level of activity noise than 55 Gloucester Road. Controlling noise to a suitable level at this receiver can therefore be expected to indicate suitable noise levels at all other receivers surrounding the site.

4.4 Predicted activity noise levels

- 4.4.1 Noise levels have been predicted based on the level difference measured at the boundary with 55 Gloucester Road as follows:

Table 4-2 Summary of predicted sound levels from different activities at the most affected neighbour

Scenario #	Internal level	Single-figure level difference	Level at most affected boundary	Lowest existing short-term ambient level	Lowest existing long-term ambient level
1	74 dB L_{pA}	27 dB D	44 dB L_{pA}	41 dB $L_{Aeq,15mins}$	45 dB $L_{Aeq,15mins}$
2	78 dB L_{pA}	27 dB D	48 dB L_{pA}	43 dB $L_{Aeq,15mins}$	46 dB $L_{Aeq,15mins}$

- 4.4.2 The level at 55 Gloucester Road from the modelled community hire space, taken as 10 adult male voices at a 'normal' vocal effort, is c.3 dB above the lowest measured 15-minute ambient noise level during anticipated event times and c.1 dB below the lowest measured long-term ambient noise level during anticipated event times.
- 4.4.3 The predicted level from the children's party is c.5 dB above the lowest measured 15-minute ambient noise level during Saturday daytime and c.2 dB above the long-term ambient noise level on Saturday daytime.
- 4.4.4 Figure 4-2 overleaf shows a comparison of predicted levels against the measured noise level history during the noise survey.

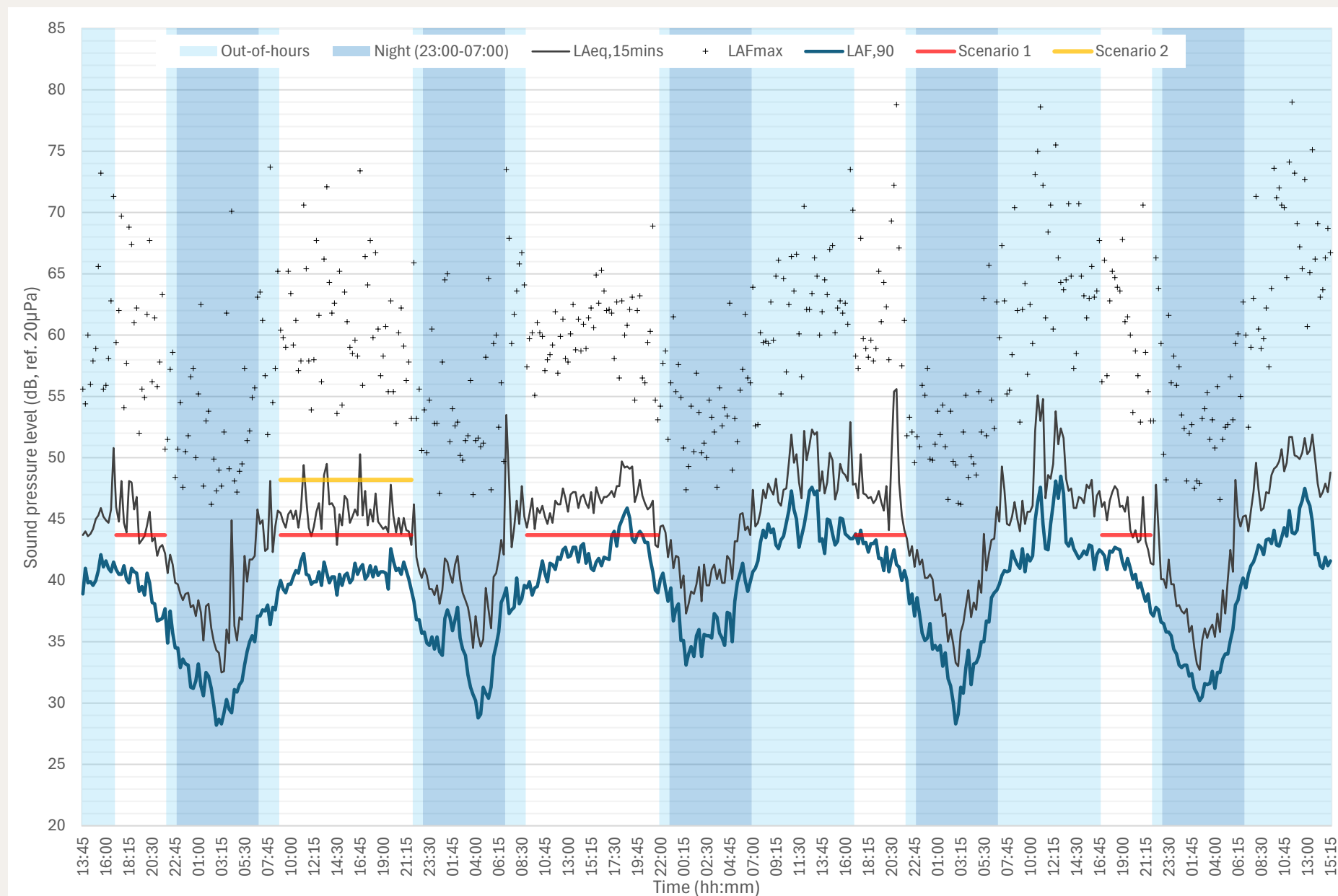


Figure 4-2 Predicted worst-case activity noise at the neighbour plotted on level-history chart for survey period

- 4.4.5 It can be seen that the Scenario 1 (community hire) activity noise is predicted to exceed the ambient noise level briefly during the proposed times, but is typically below by c.1-3 dB. The exceedances are predicted to occur predominantly in the late evening, when the external ambient levels decrease.
- 4.4.6 During the times without proposed community hire activities, such as school hours on weekdays, the ambient and background levels can be seen to be higher than the proposed activity noise. These ambient noise levels were believed to be caused in part by noise from people around the school, based upon the time and nature of the noise increases, and therefore the proposed activity noise is considered to be similar in character to the typical noise sources in the area, and at a lower level.
- 4.4.7 The predicted activity noise from the children's party can be seen to be c.3-4 dB higher than the typical ambient noise levels during Saturday daytime, but below occasional spikes in noise level. Similarly, this predicted activity noise level is within the typical range of results during school hours (e.g. Monday c.11:00-17:00), and these are also expected to be similar in character.
- 4.4.8 The maximum (short-term) noise levels from the survey can be seen to be c.10-20 dB higher than proposed activity noise levels. In Scotch Partners' experience with crowd / activity noise, maximum noise levels from crowds are also typically c.10-20 dB above average noise levels. The L_{AFmax} noise survey results were observed to be caused by a combination of road traffic and students playing outside the nearby school, and so new activity noise would be expected to be partly similar in character and at a similar level.
- 4.4.9 This indicates that proposed activity noise is expected to be consistent with existing noise sources and levels around the site.

4.4.10 The predicted activity noise has been combined (logarithmic sum) with the existing ambient noise levels to illustrate the potential change in level. This is summarised as follows:

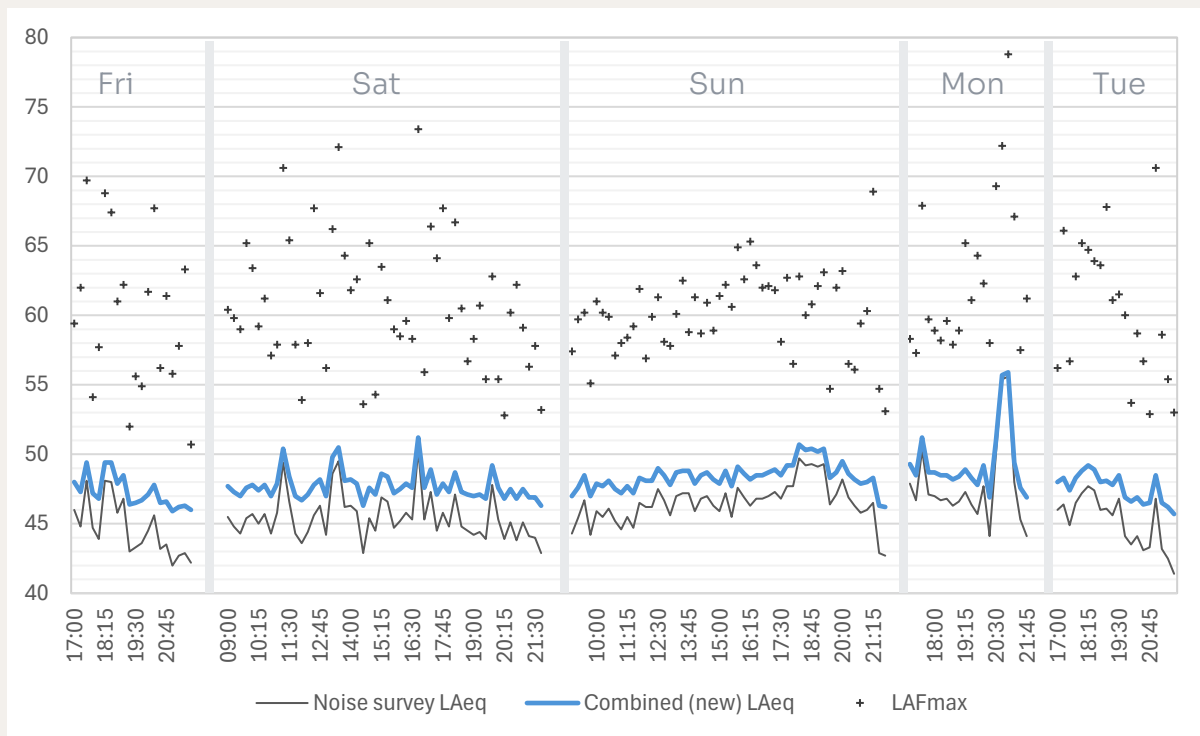


Figure 4-3 Chart showing measured L_{Aeq} combined (summed) with potential predicted activity noise from community hire of the hall

- 4.4.11 For most of the activity times, the ambient sound level at the neighbour may be expected to increase by c.2-3 dB as the result of a community hire event. When external ambient levels decrease, the activity noise would have a more pronounced effect on the level, and it can be seen to cause c.4 dB increase in the late evening.
- 4.4.12 The absolute level of predicted activity noise (44 dB and 48 dB L_{pA} for Scenarios 1 and 2 respectively) is below the range given in British Standard 8233:2014 for external amenity areas, as follows:

For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments.

- 4.4.13 The combined average noise level can also be seen to be below 50 dB $L_{Aeq,15mins}$ for the majority of the proposed activity times. ProPG: Planning and Noise (2017) suggests a 16-hour time constant used for the 50-55 dB L_{Aeq} range, which would provide additional margin as the activity is not proposed to last for 16 hours.

5 Conclusion

- 5.1 Measurements of external noise and building envelope sound insulation have been carried out at the site of 59 Gloucester Road, Reading. These have been used to establish the sound insulation performance of the building envelope in controlling noise break-out.
- 5.2 The proposed uses of the hall have been assessed against the measurement results to assess the expected level of activity noise at surrounding residential dwellings in the context of the existing noise climate in the area. It has been established that hire of the space is not to include music systems, amplified music, or large speakers of any kind and that music is to be played from laptop speakers or similar during the proposed uses.
- 5.3 The highest level of activity noise predicted at the boundary of the nearest and most affected noise-sensitive neighbour is 48 dB L_{pA} , and this is from a children's party. This is above the lowest measured ambient noise level ($L_{Aeq,15mins}$) from the long-term noise survey during the proposed time of use, but is within the typical range of daytime ambient levels and is considered to be in line with or below the ambient noise levels in the area from other similar sources at other times. At all other receivers, and from other activities, the level of activity noise is predicted to be lower.
- 5.4 The above is considered indication that the sound insulation performance of the hall building is sufficient for controlling noise break-out from proposed uses.

Appendix A: Glossary

This appendix provides an explanation of some of the terms used in this report.

A-weighting L_A or L_{pA} , L_{WA} ,	Within its operating limits a precision measurement microphone measures all frequencies the same so the output it produces does not reflect what we would actually hear. The A-weighting is an electronic filter that matches the response of a sound level meter to that of the human ear. When A-weighted the Sound Pressure Level L_p becomes L_{pA} (or L_A) and the Sound Power Level L_W becomes L_{WA} .
L_p	<i>The instantaneous sound pressure level (L_p)</i>
L_{pA} (or L_A)	<i>The A-weighted instantaneous sound pressure level (L_{pA} or L_A). This is the root mean square size of the pressure fluctuations in the air. This level can fluctuate wildly even for seemingly steady sounds. To make sound level meters easier to read the values on the display are smoothed or damped out. This is effectively done by taking a rolling average of the previous 0.125s (FAST time constant) or the previous 1s (SLOW time constant).</i>
L_{AF} , L_{AS}	The letters F or S are added to the subscripts in the notation to indicate when the FAST or SLOW time constant has been used. These are often omitted but it is good practice to include them.
L_{max}	<i>The maximum instantaneous sound pressure level (L_{max}),</i>
L_{Amax}	<i>The A-weighted maximum instantaneous sound pressure level (L_{Amax})</i>
L_{AFmax}	<i>The A-weighted maximum instantaneous sound pressure level with a FAST time constant (L_{AFmax}).</i>
$L_{N,T}$	<i>The percentage exceedance sound pressure level ($L_{N,T}$),</i>
$L_{AN,T}$ $L_{AFN,T}$ N = %age value, 0-100 T = measurement time e.g. L_{A90} , L_{A10} , L_{AF90} , 5 min	<i>The A-weighted percentage exceedance sound pressure level ($L_{AN,T}$), the A-weighted percentage exceedance sound pressure level with a FAST time constant ($L_{AFN,T}$). This is the sound pressure level exceeded for N% of time period T. e.g. If an A-weighted level of x dB is exceeded for a total of 6 minutes within one hour, the level will have been above x dB for 10% of the measurement period. This is written as $L_{A10,1hr} = x$ dB. L_{A0} (the level exceeded for 0 % of the time) is equivalent to the L_{Amax} and L_{A100} (the level exceeded for 100 % of the time) is equivalent to the L_{Amin}. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.</i>
$L_{eq,T}$	<i>The equivalent continuous sound pressure level over period T ($L_{eq,T}$),</i>
$L_{Aeq,T}$ T = measurement time e.g. $L_{Aeq,5min}$	<i>The A-weighted equivalent continuous sound pressure level over period T ($L_{Aeq,T}$). This is effectively the average sound pressure level over a given period. As the decibel is a logarithmic quantity the L_{eq} is not a simple arithmetic mean value. The L_{eq} is calculated from the raw sound pressure data. It is not appropriate to include a reference to the FAST and SLOW time constants in the notation.</i>