



**60 Bath Road
Reading**

Noise Impact Assessment Report

31 July 2025

For
Gavil Reading Ltd

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SUMMARY

It is proposed to change the use of the property at 60 Bath Road in Reading to create a children's nursery. A noise impact assessment has therefore been undertaken to accompany the application.

Noise impact assessment criteria have been proposed, based on guidance taken from IEMA.

auricl has undertaken a detailed environmental noise survey to determine existing baseline ambient noise levels representative of the nearest noise sensitive (residential) properties, over the periods when the proposed nursery would be operational.

Calculations have been undertaken to predict noise emissions associated with the proposed use, the results of which are summarised as follows:

- Noise transmission levels due to internal activities are predicted to correlate with a **negligible** noise impact when assessed at the nearest noise sensitive properties.
- Noise transmission levels due to outdoor activities are predicted to correlate with a **negligible** noise impact when assessed at the nearest noise sensitive properties.
- Noise emissions due to vehicle movements during drop-off and pick-up are predicted to correlate with a **negligible** noise impact.

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1.0 Introduction

It is proposed to change the use of the property at 60 Bath Road in Reading to create a children's nursery. A noise impact assessment has therefore been undertaken to accompany the application.

This report presents the methodology and results of a noise survey and an assessment of the noise impact of the proposals.

Appendix A presents an explanation of the various acoustic terminology used in this report.

2.0 Description of Site and Surroundings

The site is currently occupied by a hotel and associated car park and gardens, and is bounded by Bath Road (the A4) to the south-east of the site, which is a busy main road with a continuous flow of traffic.

The nearest noise sensitive properties are the residential properties are located to the west of the site and to the north-east of the site.

Figure 2.1 shows the approximate main site extent in **red** and the nearest noise sensitive properties highlighted in **blue**.

Figure 2.1 Existing Site Extent and Surrounding Properties



It is proposed to change the use of the property at 60 Bath Road in Reading to create a children's nursery, with a site entrance and parking/drop-off area at the south/front of the site, and a garden at the north/rear of the site.

The proposed operating hours for the nursery are 07:30 – 18:30 hours on weekdays.

3.0 Noise Impact Assessment Criteria

There are no legislation documents, Building Regulations or British Standards specifying the methodology or criteria for assessing the noise impact of new nurseries.

We have therefore sought guidance from the IEMA document “*Guidelines for Environmental Noise Impact Assessment*” (November 2014) which states the noise impact criteria as shown in Table 3.1.

Table 3.1 Vehicle Movement Noise Impact Assessment Criteria

Noise Level Change (dB, L_{Aeq})	Noise Impact
< 3	Negligible
3 – 5	Moderate
5 – 10	Substantial
> 10	Very Substantial

As the site will operate during daytime periods only, we have considered hourly periods as is standard practice e.g. as recommended by BS 4142: 2014+A1: 2019.

4.0 Ambient Noise Survey

4.1 Methodology

An unmanned environmental noise survey was undertaken at the site at two external positions between Monday 28 July 2025 and Thursday 31 July 2025.

The noise survey period was selected to determine existing baseline ambient noise levels over the proposed operational periods of the site (weekdays 07:30 – 18:30 hours).

The measurement positions are indicated in **purple** on Figure 4.1 and described in Table 4.1.

Figure 4.1 Site Plan Indicating Approximate Locations of Measurement Positions

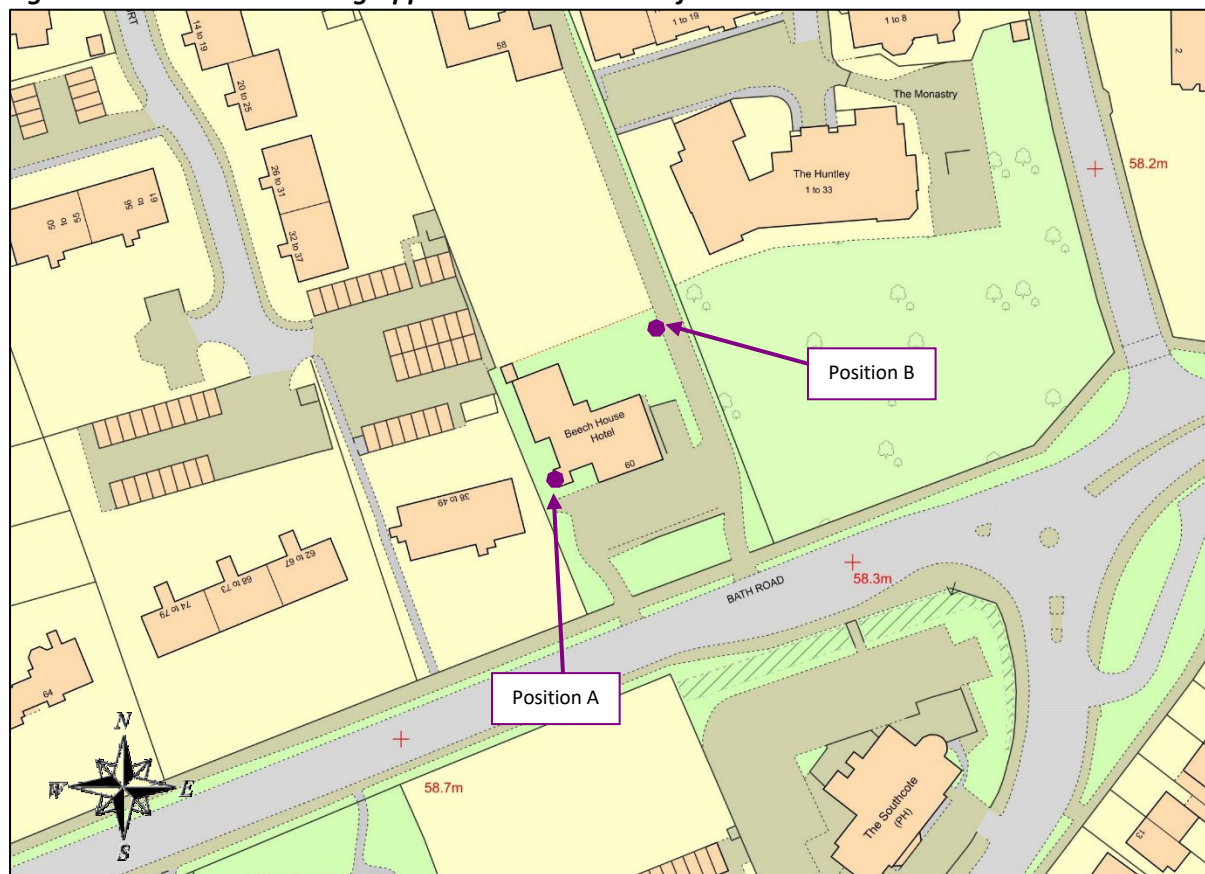


Table 4.1 Description of Noise Measurement Positions

Measurement Position	Description
A	Measurement microphone attached to the balustrade of an external escape staircase in free-field between ground and first floor level, close to the south-western site boundary
B	Measurement microphone mounted on a tripod in free-field in the garden at the north-eastern corner of the site

The measurement positions were selected as being the most secure, accessible locations that are considered representative of existing baseline ambient noise levels at the nearest noise sensitive properties to the site.

The measured noise levels at position A are considered to be representative of the noise sensitive (residential) properties to the south-west of the site. The measured noise levels at position B are considered to be representative of the noise sensitive (residential) properties to the north-east of the site.

The equipment used for the noise survey is listed in Table 4.2.

Table 4.2 Description of Equipment used for Internal and External Noise Survey

Measurement Position	Item	Make & Model	Serial Number
A	Type 1 automated logging sound level meter	Norsonic 140	1406016
	Type 1 ½" microphone	Norsonic 1225	168116
B	Type 1 automated logging sound level meter	Norsonic 140	1406015
	Type 1 ½" microphone	Norsonic 1225	168230
Calibrator		01 dB CAL21	87267

L_{Aeq} sound pressure levels were measured throughout the noise survey over contiguous 15-minute intervals.

Due to the nature of the noise survey, i.e. unmanned, we are unable to comment on the weather conditions throughout the entire noise survey period. However, at the beginning and end of the survey period, there was noted to be no rainfall, a clear sky and only light wind. These conditions are understood to be representative of the survey period and are considered appropriate for undertaking environmental noise measurements.

The noise monitoring equipment was calibrated before and after the noise survey period. No significant change was found. Laboratory equipment calibration certificates can be provided upon request.

4.2 Noise Survey Results

Appendix B presents time history graphs showing the measured L_{Aeq} sound pressure levels at each position throughout the noise survey (shown as 15-minute periods).

The typical measured ambient noise levels during the proposed operating periods (07:30 – 18:30 hours) were **57 dB L_{Aeq} (1 hour) at position A** and **46 dB L_{Aeq} (1 hour) at position B**.

We would consider the levels measured to be reasonable, taking into account the location of the measurement positions and the dominant nearby noise sources.

Due to the nature of the unmanned noise survey, we are unable to comment on the exact external noise climate throughout the entire survey period. However, at the beginning and end of the survey period the daytime noise climate at the external measurement positions was noted to be dominated to varying extents by road traffic using Bath Road to the south-east of the site.

5.0 Noise Impact Assessment – Internal Activities

This section presents our assessment of transmission of internal activity noise to the nearest noise sensitive properties to the site.

5.1 Basis of Assessment

The building is of traditional masonry construction with single glazed windows, which will be upgraded to improve thermal performance and in doing so improve the sound reduction performance.

auricl has previously undertaken measurements of typical internal and external activity noise levels in a nursery that was selected as being similar in size, location, use and character to the proposed site at 60 Bath Road, therefore the measured activity noise levels could be considered representative of the proposals.

Typical measured noise levels for an internal area are presented in Table 5.1.

Table 5.1 Typical Internal Activity Noise Levels

Measured $L_{eq,T}$ (dB) Sound Pressure Level at Octave Band Centre Frequency (Hz)								$L_{Aeq,T}$ (dB)
63	125	250	500	1k	2k	4k	8k	
57	59	63	68	68	65	60	52	72

5.2 Noise Transmission to Outside

We have undertaken calculations to predict internal activity noise transmission to external areas in accordance with the methodology specified in BS EN 12354: 2000 *“Building acoustics – Estimation of acoustic performance of buildings from the performance of elements – Part 4. Transmission of indoor sound to the outside”*.

Our calculations have considered the residential properties to the south-west and north-east, based on the windows of the nursery being closed and ventilation provided mechanically. We have considered the largest proposed room – Pathfinders at first floor level, with a maximum occupancy of 33 children.

Our calculations are based on the typical internal activity noise levels shown in Table 5.1, the predicted sound reduction performance of the building envelope and the distance to the nearest noise sensitive properties.

Our noise break-out calculations are presented in Tables 5.2 and 5.3.

Table 5.2 Noise Break-Out Calculations – Noise Sensitive Property to West

Element	Octave Band Centre Frequency (Hz)								L _{Aeq, T} (dB)
	63	125	250	500	1k	2k	4k	8k	
Internal Activity Noise Level	57	59	63	68	68	65	60	52	72
Diffusivity Term, C _d	-6	-6	-6	-6	-6	-6	-6	-6	
Façade Sound Reduction	-21	-26	-29	-32	-35	-34	-29	-36	
Area Correction	+17	+17	+17	+17	+17	+17	+17	+17	
Distance Attenuation	-29	-29	-29	-29	-29	-29	-29	-29	
Directivity Term, D _c	0	0	0	0	0	0	0	0	
Predicted Noise Level at Nearest Noise Sensitive Property	18	14	15	18	15	12	12	<0	24
Existing Typical Measured Ambient Noise Level									57
Predicted Total Future Ambient Noise Level									57
Predicted Increase in Ambient Noise Level									0

Table 5.3 Noise Break-Out Calculations – Noise Sensitive Property to North-East

Element	Octave Band Centre Frequency (Hz)								L _{Aeq, T} (dB)
	63	125	250	500	1k	2k	4k	8k	
Internal Activity Noise Level	57	59	63	68	68	65	60	52	72
Diffusivity Term, C _d	-6	-6	-6	-6	-6	-6	-6	-6	
Façade Sound Reduction	-21	-26	-29	-32	-35	-34	-29	-36	
Area Correction	+17	+17	+17	+17	+17	+17	+17	+17	
Distance Attenuation	-37	-37	-37	-37	-37	-37	-37	-37	
Directivity Term, D _c	0	0	0	0	0	0	0	0	
Predicted Noise Level at Nearest Noise Sensitive Property	10	7	8	10	7	4	5	<0	13
Existing Typical Measured Ambient Noise Level									46
Predicted Total Future Ambient Noise Level									46
Predicted Increase in Ambient Noise Level									0

It can therefore be seen that the predicted internal activity noise levels at the nearest noise sensitive properties correspond with a negligible increase in ambient noise levels.

6.0 Noise Impact Assessment – Outdoor Play Activities

This section presents our assessment of transmission of noise due to outdoor play activities to the nearest noise sensitive property to the north-east of the site.

6.1 Basis of Assessment

auricl has previously undertaken measurements of typical internal and external activity noise levels in a nursery that was selected as being similar in size, location, use and character to the proposed site at 60 Bath Road, therefore the measured activity noise levels could be considered representative of the proposals.

A typical noise level for an outdoor play area was 63 dB L_{pA} measured at a distance of approximately 10m for a play area containing 74 children.

6.2 Predictions

Our noise calculations to the noise sensitive property to the north-east of the site are shown in Table 6.1.

Table 6.1 Outdoor Play Noise Calculations – North-East

Element	Level (dB)
Measured Outdoor Play Activity Noise at 10m (L_{Aeq})	63
Correction for Quantity of Children (33)	-4
Distance Attenuation	-10
Screening Attenuation	-5
Predicted Sound Pressure Level at Receptor	44
Existing Typical Measured Ambient Noise Level	46
Predicted Total Future Ambient Noise Level	48.1
Predicted Increase in Ambient Noise Level	+2.1

It can therefore be seen that the predicted outdoor activity noise level does not exceed the proposed limit in the garden of the nearest noise sensitive property, and the predicted noise level at the house of the nearest noise sensitive property corresponds with a negligible increase in ambient noise levels.

7.0 Noise Impact Assessment – Vehicle Movements

This section presents our assessment of noise levels due to vehicle arrivals, manoeuvres and departures during typical child drop-off and pick-up periods.

7.1 Basis of Assessment

It is considered that the worst-case (i.e. most intense) vehicle movement scenarios will be during morning drop-off (08:00 – 09:00 hour) and evening pick-up (17:00 – 18:00 hours).

The Transport Note by Evoke Transport (ref R-24-0184-01 version 01A dated 5 June 2025) predicts that 20 cars will arrive via Bath Road and 3 cars will depart in the morning peak hour (08:00 – 09:00 hours), and then 6 cars will arrive via Bath Road and 21 cars will depart in the evening peak hour (17:00 – 18:00 hours). These figures represent the net change in trips, compared to the current site usage.

auricl has previously measured a typical car movement noise level as follows:

- Car arrive at 10mph 64 dB L_{AE} at 5m
- Car manoeuvre and park 70 dB L_{AE} at 5m
- Car manoeuvre and depart 67 dB L_{AE} at 5m

(Note: L_{AE} = Sound Exposure Level of complete event = L_{Aeq} (1 sec)).

We have considered the nearest noise sensitive properties located to the west of the site as indicated on Figure 2.1, at a distance of approximately 40m from the main site entrance, 20m from the car park and 15m from the site exit.

7.2 Predictions

Our vehicle noise calculations for the selected drop-off and pick-up periods described above are presented in Tables 7.1 and 7.2.

Table 7.1 Vehicle Noise Calculations – Morning Drop-Off

Element	Level (dB)		
	Car Arrive	Car Manoeuvre and Park	Car Manoeuvre and Depart
L_{AE} at 5m	64	70	67
Distance Attenuation	-18	-12	-10
Quantity Correction	+13	+13	+5
Correction to L_{Aeq} (1 hour)	-36	-36	-36
Predicted L_{Aeq} (1 hour) due to Proposed Vehicle Movements	23	35	26
TOTAL Predicted L_{Aeq} (1 hour) due to Proposed Vehicle Movements	36		
Measured Existing L_{Aeq} (1 hour) during Relevant Period	57		
Total Predicted L_{Aeq} (1 hour) during Relevant Period	57		
Predicted Difference in L_{Aeq} (1 hour) during Relevant Period	0		

Table 7.2 Vehicle Noise Calculations – Evening Pick-Up

Element	Level (dB)		
	Car Arrive	Car Manoeuvre and Park	Car Manoeuvre and Depart
L_{AE} at 5m	64	70	67
Distance Attenuation	-18	-12	-10
Quantity Correction	+8	+8	+13
Correction to L_{Aeq} (1 hour)	-36	-36	-36
Predicted L_{Aeq} (1 hour) due to Proposed Vehicle Movements	18	30	35
TOTAL Predicted L_{Aeq} (1 hour) due to Proposed Vehicle Movements	36		
Measured Existing L_{Aeq} (1 hour) during Relevant Period	54		
Total Predicted L_{Aeq} (1 hour) during Relevant Period	54		
Predicted Difference in L_{Aeq} (1 hour) during Relevant Period	0		

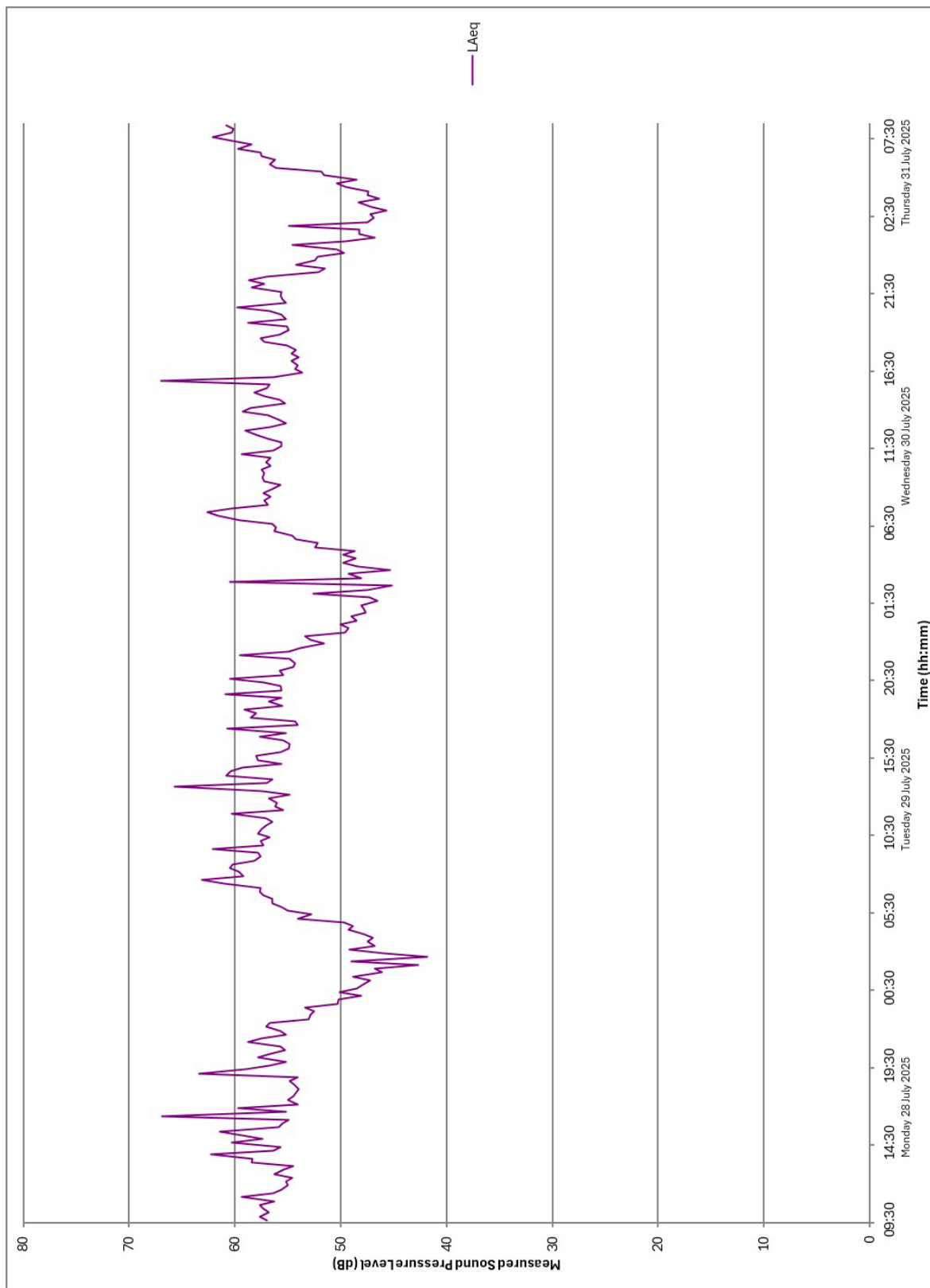
By comparison of the future noise level differences with the noise impact criteria in Section 3.1, it can be seen that the predicted noise impact of the vehicle movements during drop-off and pick-up periods is **negligible**.

Appendix A – Acoustic Terminology

Parameter	Description
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
Sound Pressure Level (L_p)	The sound pressure level is the sound pressure fluctuation caused by vibrating objects relative to the threshold of hearing.
A-weighting (L_A or dBA)	The sound level in dB with a filter applied to increase certain frequencies and decrease others to correspond with the average human response to sound.
$L_{Aeq,T}$	The A-weighted equivalent continuous noise level over the time period T (typically T= 1 hour for noise impact assessments during daytime periods and T = 15 minutes for night-time periods). This is the sound level that is equivalent to the average energy of noise recorded over a given period.
$L_{A90,T}$	The noise level exceeded for 90% of the time (also referred to as the background noise level), measured over the time period, T (typically T= 1 hour for noise impact assessments during daytime periods and T = 15 minutes for night-time periods)

Appendix B – Time History Graphs

Position A



Position B

