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549 Uxbridge Road
Hayes, Hillingdon

Noise Impact Assessment Report
Report 30486.NIA.01

Prasenjit Kumar Singh
549 Uxbridge Road
Hayes, Hillingdon
UB4 8HP

Report 30486.NIA.01 Rev A Revision History			
First Issue Date: 23/05/2025			
A	**06/06/2025**: Updated site description, added NPPF reference, and clarified scope regarding internal acoustic measures.	D	
B		E	
C		F	
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List of Attachments

1.0 INTRODUCTION

KP Acoustics Ltd has been commissioned by Dr Prasenjit Kumar Singh to assess the potential noise impact associated with the occupant comings and goings as part of the proposed internal conversion of the existing property at 549 Uxbridge Road, Hayes, UB4 8HP into a 9-bedroom House in Multiple Occupation (HMO), at the request of the local authority.

An environmental noise survey was undertaken on site to determine prevailing background noise levels to inform our assessment of comings and goings associated with the proposal.

2.0 SITE SURVEYS

2.1 Site Description

The existing property comprises a two-storey detached residential dwelling located at 549 Uxbridge Road, Hayes. Internally, the building contains multiple rooms distributed across both floors, including shared kitchen and bathroom facilities. The proposed development involves the internal conversion of the building into a 9-bedroom House in Multiple Occupation (HMO), with no extensions or changes to the external footprint. Access to the site remains via the existing entrance on Uxbridge Road.

The site is bounded by Uxbridge Road and the A4020 to the north, a suburban residential area to the west, an open space with tennis courts to the south, and a row of residential houses to the east.

2.2 Environmental Noise Survey Procedure

A noise survey was undertaken on the proposed site as shown in Figure 2.1. The location was chosen in order to collect data representative of the worst-case levels expected on the site due to all nearby sources.

Continuous automated monitoring was undertaken for the duration of the survey between 16:00 on 20/05/2025 and 16:00 on 21/05/2025.

Weather conditions were generally dry with light winds and therefore suitable for the measurement of environmental noise. The measurement procedure complied with ISO 1996-2:2017 Acoustics '*Description, measurement and assessment of environmental noise - Part 2: Determination of environmental noise levels*'.

2.3 Measurement Positions

Measurement positions are as described within Table 2.1 and shown within Figure 2.1.

Icon	Descriptor	Location Description
1	Noise Measurement Position 1	The microphone was attached to a pole on a window on the first floor of the front façade, as shown in Figure 2.2. The microphone was located within 1.5 metres of the nearest surface and therefore includes local reflections.

Table 2.1 Measurement positions and descriptions

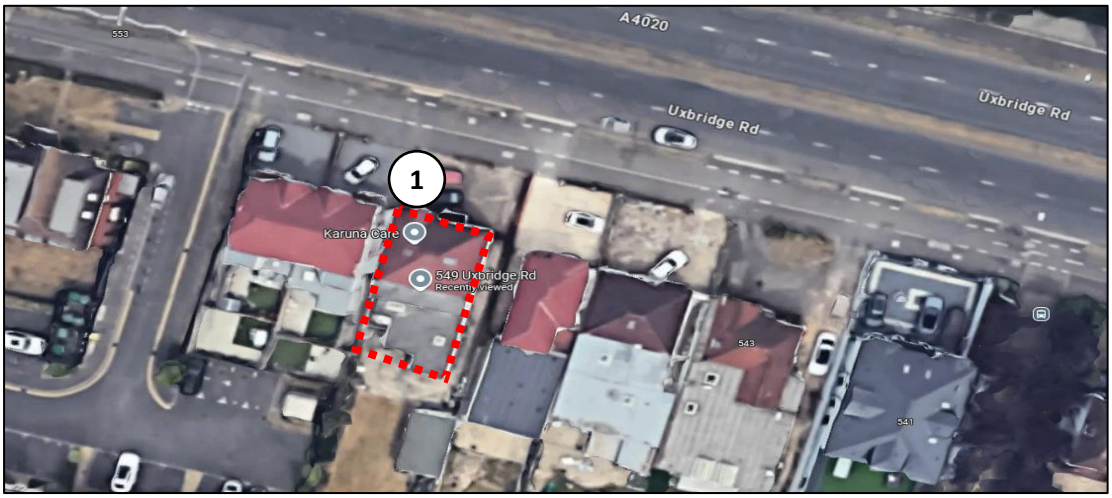

Figure 2.1 Site measurement positions (Image Source: Google Maps)

2.4 Equipment

The equipment calibration was verified before and after use and no abnormalities were observed. The equipment used is described within Table 2.2.

Measurement instrumentation		Serial no.	Calibration Date	Cert no.
Noise Kit 40	NTI Audio XL2 Class 1 Sound Level Meter	A2A-24279-E1	27/01/2024	UK-24-007
	Free-field microphone NTI Acoustics MC230A	A26879		
	Preamp NTI Acoustics MA220	14180		
	NTI Audio External Weatherproof Shroud	-	-	-
B&K Type 4231 Class 1 Calibrator		2147411	14/06/2024	UKAS24/06 438

Table 2.2 Measurement instrumentation

3.0 RESULTS

The $L_{Aeq: 5min}$, $L_{Amax: 5min}$, $L_{A10: 5min}$ and $L_{A90: 5min}$ acoustic parameters were measured throughout the duration of the survey. Measured levels are shown as a time history in Figure 30486.TH1.

Measured noise levels are representative of noise exposure levels expected to be experienced by all facades of the proposed development, and are shown in Table 3.1.

Time Period	Noise Measurement Position 1 (Measured Noise level – dBA)
Daytime $L_{Aeq,16hour}$	72
Night-time $L_{Aeq,8hour}$	67

Table 3.1 Site average noise levels for daytime and night time

Please note that measurements are located at a distance less than 1.5 metres from the nearest reflective surface and therefore a 3dB correction has been applied to the results in Table 4.1 to obtain a free-field measurement as per ISO1996 Part 2.

4.0 NOISE ASSESSMENT CRITERIA AND GUIDANCE

4.1 Local Authority Requirements

We understand the following has been received from the Local Authority.

"A noise impact assessment is required demonstrate increase comings and goings associated with the intensification of the use are manageable for amenity of the area."

4.2 Guidelines for Environmental Noise Impact Assessment Version 1.2 (November 2014)

There is no specific standard for assessment with regards to noise emissions from external amenity and play areas. However, IEMA Guidelines for Environmental Noise Impact Assessment Version 1.2 (November 2014) provide suitable guidance which can be used in order to quantify the effects of changes in noise levels and have been used to indicate effects of the external areas.

To determine the overall noise impact, the aforementioned document presents the combination of magnitude and sensitivity criteria into a Degree of Effect matrix as shown in Table 4.1 with the corresponding descriptor in Table 4.3.

		IMPORTANCE/SENSITIVITY OF RECEPTOR			
		High	**Medium**	**Low**	**Negligible**
MAGNITUDE/SCALE OF CHANGE	**Large**	Very Substantial	Substantial	Moderate	None
	Medium	Substantial	Substantial	Moderate	None
	Small	Moderate	Moderate	Slight	None
	Negligible	None	None	None	None

Table 4.1 Degree of effect matrix

Very Substantial	Greater than 10 dB L_{Aeq} change in sound level perceived at a receptor of great sensitivity to noise
Substantial	Greater than 5 dB L_{Aeq} change in sound level at a noise-sensitive receptor, or a 5 to 9.9 dB L_{Aeq} change in sound level at a receptor of great sensitivity to noise
Moderate	A 3 to 4.9 dB L_{Aeq} change in sound level at a sensitive or highly sensitive noise receptor, or a greater than 5 dB L_{Aeq} change in sound level at a receptor of some sensitivity
Slight	A 3 to 4.9 dB L_{Aeq} change in sound level at a receptor of some sensitivity
None	Less than 2.9 dB L_{Aeq} change in sound level and/or all receptors are of negligible sensitivity to noise or marginal to the zone of influence of the proposals

Table 4.2 Effect descriptor

4.3 Noise Policy Statement for England 2023

The National Planning Policy Framework (NPPF) has superseded and replaces Planning Policy Guidance Note 24 (PPG24), which previously covered issues relating to noise and planning in England. Paragraph 180 of NPPF 2023 states that planning policies and decisions should aim to:

- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans

In addition, Paragraph 191 of the NPPF states that '*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should':*

- 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

The Noise Policy Statement for England (NPSE) was developed by DEFRA and published in March 2010 with the aim to 'Promote good health and good quality of life through the effective management of noise within the context of Government policy on sustainable development.'

Noise Policy Statement England (NPSE) noise policy aims are as follows:

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*

The Noise Policy Statement England (NPSE) outlines observed effect levels relating to the above, as follows:

- NOEL – No Observed Effect Level
    - This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- LOAEL – Lowest Observed Adverse Effect Level
    - This is the level above which adverse effects on health and quality of life can be detected.
- SOAEL – Significant Observed Adverse Effect Level
    - This is the level above which significant adverse effects on health and quality of life occur.

As stated in The Noise Policy Statement England (NPSE), it is not currently possible to have a single objective based measure that defines SOAEL that is applicable to all sources of noise in all situations. Specific noise levels are not stated within the guidance for this reason, and allow flexibility in the policy until further guidance is available.

5.0 NOISE IMPACT ASSESSMENT

The proposed development involves the internal conversion of a detached residential property into a 9-bedroom House in Multiple Occupation (HMO). Comings and goings are expected, particularly at the front façade, where the main entrance is located.

Most movements are anticipated to occur between 07:00 and 23:00, with occasional later activity. It is understood HMO tenants will be obliged to ensure comings and goings are quiet, door slamming is limited, and loitering is minimised outside the property, especially at night time. On this basis, brief interactions between residents or visitors are likely to take place in front of the entrance, which faces Uxbridge Road.

The nearest noise-sensitive receptors are located to the east and west of the site, consisting of residential properties. Noise generated at the entrance is expected to propagate primarily towards the north, east, and west.

The following table shows the predicted noise levels for up to three persons entering or leaving the house under a worst-case scenario and compares these levels with the measured background noise at 1 meter from the proposed residential windows.

Description	Sound Level (dB) at Octave Band Centre Frequency (Hz)							dB(A)
	63	125	250	500	1k	2k	4k	
Normal Voices SWL Ref. Noise control in building services	57	61	64	67	68	65	53	71
3No. persons	5	5	5	5	5	5	5	5
SWL to SPL	-8	-8	-8	-8	-8	-8	-8	-8
Distance loss, SWL to SPL at 9m Hemispherical	-19	-19	-19	-19	-19	-19	-19	-19
dB(A) at window	35	39	42	45	46	43	31	**49**

Table 5.1Worst case impact of patron noise at 1m from residential window 00:00-00:30 hours.

Description	Daytime dB(A)	Night-time dB(A)
Resultant noise level from people gathering outside to the at the receptor window, dBA [1]	49	
Existing ambient noise levels [2]	68	64
[3] Total Logarithmic sum of [1],[2]	68	64
Difference [3] – [2]	**0**	**0**

Table 5.2 Comparison of predicted noise levels from people gathering with existing ambient noise levels.

The change in noise levels at the receptor window, resulting from people gathering outside, has been assessed against the IEMA Guidelines for Environmental Noise Impact Assessment (Version 1.2, 2014).

The predicted increase in noise levels is +0 dB, based on IEMA criteria, this corresponds to an effect level of *"None",* indicating that the impact from comings and goings is not significant in acoustic terms.

6.0 CONCLUSION

An environmental noise survey was undertaken at 549 Uxbridge Road, Hayes, UB4 8HP, to assess the existing ambient noise levels at the front of the property. The survey allowed for the evaluation of representative daytime and night-time L_{Aeq} values at the location where increased activity due to comings and goings is expected as part of the proposed conversion into a 9-bedroom House in Multiple Occupation (HMO).

The measured data were used to assess the potential noise impact of brief outdoor interactions between residents or visitors at the main entrance. Predicted noise levels from such activity were compared to existing ambient conditions, and the resulting change in noise levels was evaluated in line with IEMA guidance.

The assessment determined that the predicted increase in noise levels is 0 dB, which falls below the threshold of perceptibility and corresponds to an effect level of “None.”

Furthermore, the resultant absolute noise levels remain within acceptable ranges based on relevant health-based guidance.

As such, the proposed development is not expected to result in a significant acoustic impact on the surrounding residential environment.

It should be noted that internal acoustic conditions are outside the scope of this assessment, as they were not included in the original brief.

549 Uxbridge Road, Hayes, UB4 8HP - Position 1
Environmental Time History
20/05/2025 to 21/05/2025

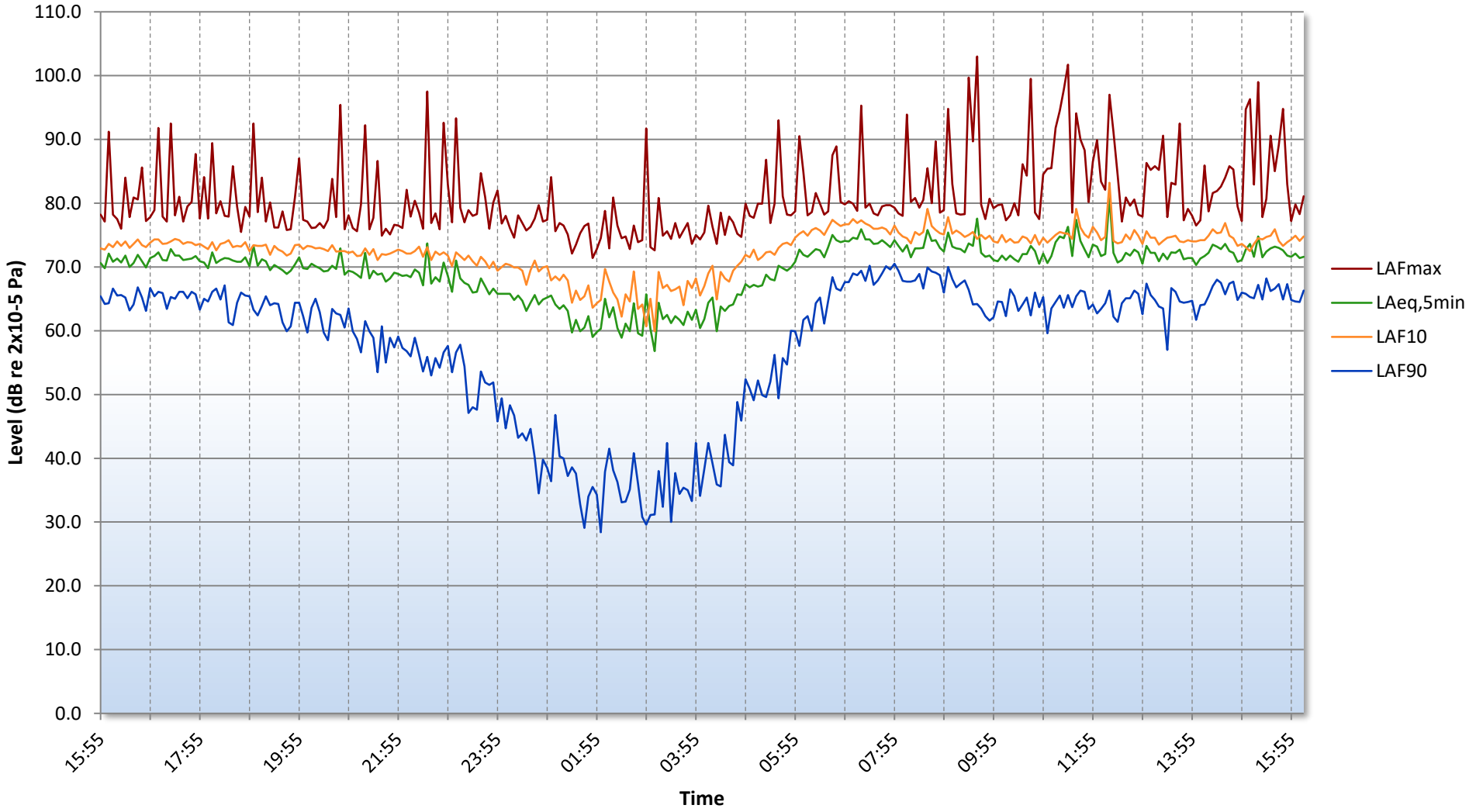

Figure 30486.TH1

APPENDIX A

GENERAL ACOUSTIC TERMINOLOGY

Decibel scale - dB

In practice, when sound intensity or sound pressure is measured, a logarithmic scale is used in which the unit is the 'decibel', dB. This is derived from the human auditory system, where the dynamic range of human hearing is so large, in the order of 10^{13} units, that only a logarithmic scale is the sensible solution for displaying such a range.

Decibel scale, 'A' weighted - dB(A)

The human ear is less sensitive at frequency extremes, below 125Hz and above 16Khz. A sound level meter models the ears variable sensitivity to sound at different frequencies. This is achieved by building a filter into the Sound Level Meter with a similar frequency response to that of the ear, an A-weighted filter where the unit is dB(A).

L_{eq}

The sound from noise sources often fluctuates widely during a given period of time. An average value can be measured, the equivalent sound pressure level L_{eq}. The L_{eq} is the equivalent sound level which would deliver the same sound energy as the actual fluctuating sound measured in the same time period.

L_{10}

This is the level exceeded for no more than 10% of the time. This parameter is often used as a "not to exceed" criterion for noise.

L_{90}

This is the level exceeded for no more than 90% of the time. This parameter is often used as a descriptor of "background noise" for environmental impact studies.

L_{max}

This is the maximum sound pressure level that has been measured over a period.

Octave Bands

In order to completely determine the composition of a sound it is necessary to determine the sound level at each frequency individually. Usually, values are stated in octave bands. The audible frequency region is divided into 11 such octave bands whose centre frequencies are defined in accordance with international standards. These centre frequencies are: 16, 31.5, 63, 125, 250, 500, 1000, 2000, 4000, 8000 and 16000 Hertz.

Environmental noise terms are defined in BS7445, *Description and Measurement of Environmental Noise*.

APPENDIX A

APPLIED ACOUSTIC TERMINOLOGY

Addition of noise from several sources

Noise from different sound sources combines to produce a sound level higher than that from any individual source. Two equally intense sound sources operating together produce a sound level which is 3dB higher than a single source and 4 sources produce a 6dB higher sound level.

Attenuation by distance

Sound which propagates from a point source in free air attenuates by 6dB for each doubling of distance from the noise source. Sound energy from line sources (e.g. stream of cars) drops off by 3dB for each doubling of distance.

Subjective impression of noise

Hearing perception is highly individualised. Sensitivity to noise also depends on frequency content, time of occurrence, duration of sound and psychological factors such as emotion and expectations. The following table is a guide to explain increases or decreases in sound levels for many scenarios.

Change in sound level (dB)	Change in perceived loudness
1	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	About twice as loud

Transmission path(s)

The transmission path is the path the sound takes from the source to the receiver. Where multiple paths exist in parallel, the reduction in each path should be calculated and summed at the receiving point. Outdoor barriers can block transmission paths, for example traffic noise. The effectiveness of barriers is dependent on factors such as its distance from the noise source and the receiver, its height and construction.

Ground-borne vibration

In addition to airborne noise levels caused by transportation, construction, and industrial sources there is also the generation of ground-borne vibration to consider. This can lead to structure-borne noise, perceptible vibration, or in rare cases, building damage.

Sound insulation - Absorption within porous materials

Upon encountering a porous material, sound energy is absorbed. Porous materials which are intended to absorb sound are known as absorbents, and usually absorb 50 to 90% of the energy and are frequency dependent. Some are designed to absorb low frequencies, some for high frequencies and more exotic designs being able to absorb very wide ranges of frequencies. The energy is converted into both mechanical movement and heat within the material; both the stiffness and mass of panels affect the sound insulation performance.