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ROAD TRAFFIC NOISE ASSESSMENT

Blacksmiths Arms, Tythe Barn, Alton
Staffordshire ST10 4AZ

Client:
Jade Power-Vaughan

Report Date: 28th August 2025
Ref: 20250828 9665 Alton BS8233
Local Authority: SMD/2024/0242
Site Visit by: S B Mellor MA CMIOSH MIOA
Site Visit: 26th & 27th August 2025

Prepared by: M A Kenyon MSc BSc MIOA



Checked by: D A B Kenyon BSc CIEH MIOA



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1.0 INTRODUCTION

At the request of Rob Duncan Planning, acting on behalf of their client Jade Power-Vaughan, Martec Environmental Consultants Ltd. undertook an assessment of road traffic noise affecting a development site at the former Blacksmiths Arms, Tythe Barn, Alton STAFFS.

This report considers the impact of road traffic noise on the site and details the measurements taken, the requirements of the local authority's planning consent and makes recommendations for mitigation, as necessary.

Acoustic Terminology is set out at Appendix 1 with the consultants' qualifications at Appendix 2, References at Appendix 3, full measurements are at Appendix 4 and weather data at Appendix 5.

2.0 BACKGROUND TO ASSESSMENT

Planning permission to convert the building from a public house to a three dwelling houses [Staffordshire Moorlands Ref. SMD/2024/0242] stated that:

16. Before the development is first brought into use, measures for protecting the proposed residential units from road traffic noise shall be

applied to the development in accordance with details to be submitted to and approved in writing by the Local Planning Authority. The submitted scheme shall have due regard for the British Standard BS8233:2014 Guidance on Sound Insulation for Buildings and the Professional Practice Guidance on Planning & Noise:

Residential Development. It shall be designed to achieve noise levels of less than 30db Laeq in bedrooms (23:00 to 07:00) 35 dB LAeq in bedrooms (07:00 to 23:00), less than 40 dB LAeq in living areas (07:00 to 23:00) and less than 55dBA in garden areas (07:00 to 23:00).

A report shall be produced containing all raw data and showing how calculations have been made. A copy of such report shall be submitted to and approved in writing by the Local Planning Authority prior to the first occupation of the development

Reason:-

To protect occupiers from noise and safeguard their residential amenities."

The site is shown in Figure 1 below, it can be seen that the significant source of noise, is road traffic on nearby roads. Figure 2 shows the proposed floor plans.

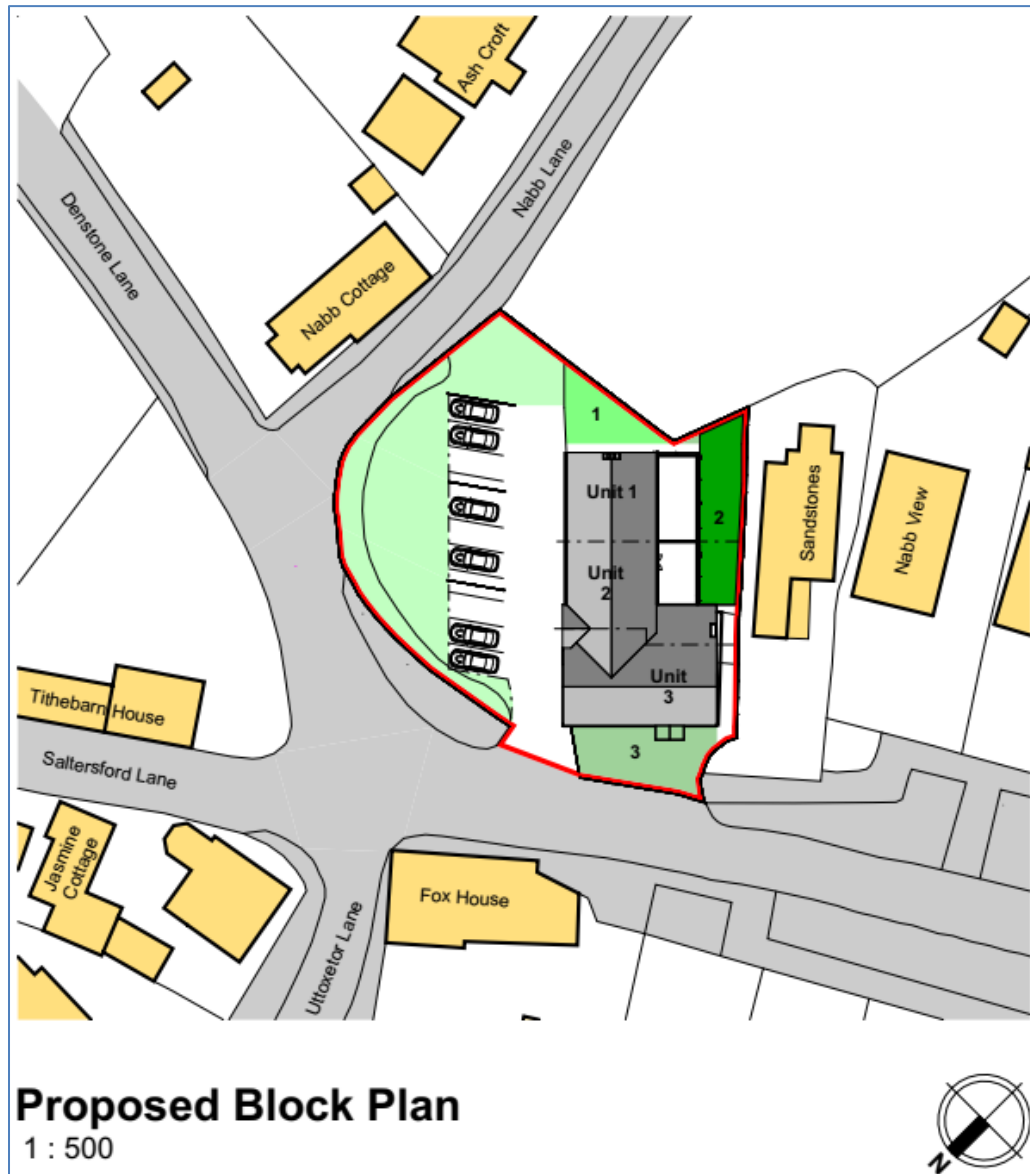


Figure 1: Proposed Site Layout Plan

There are issues with the above wording and consequently for design purposes, the local authority's requirements have been interpreted as shown in Table 1 below:

Activity	Location	07:00 to 23:00	23:00 to 07:00
Sleeping (daytime resting)	Bedroom	35 LAeq,16hr	30 LAeq,8hr
Resting	Other Habitable Rooms	40 LAeq,16hr	--
Resting	Main Amenity Space	55 LAeq,16hr	--

Table 1: Local Authority Target Noise Levels [Reverberant internal/free-field external]

The ProPG mention in the condition makes it clear that, where possible, the target internal noise levels in Table 1, in this case set by the local authority, should be achieved with windows open.

Following on from the above, the question then arises as to what attenuation should be assumed for an open window. Section 2.33 of the ProPG states

“It should be noted that the acoustic performance of the building envelope will be reduced in the event windows are opened for ventilation or cooling purposes, typically reducing the insulation to no more than 10 to 15 dB(A).”

In addition, it will be recalled that the ProPG states that if nighttime **external** noise events are 60 L_{Amax,F} or less, then there is negligible risk of noise and no adverse **effect**; given that the corresponding **internal** target noise level is 45 L_{Amax,F}, it can be seen that the ProPG is assuming that the difference between external and internal levels, i.e. the attenuation of a façade with an open window, is 15 dBA [60-45=15]. Similarly, daytime external noise levels of 50 L_{Aeq,16hr} fall into the negligible risk category, i.e. open windows must be capable of achieving the internal noise target of 35 L_{Aeq,16hr} with no special measures; again, implying that the attenuation of a façade with an open window, is 15 dBA [50 - 35=15].

In addition to the above, the Defra research report NANR116 tested a variety of open windows and concluded that the difference between external and internal road traffic noise levels, ranged from 12 dBA [wide open outward opening side-hung casement] to 18 dBA [top hung opening light of single casement window]. The distribution of performance from NANR116 is as shown in Chart 1 below.

Given the above, for road traffic noise it is considered reasonable to assume a “global” figure of 15 dBA as the difference between external and internal levels for a façade with an open window.

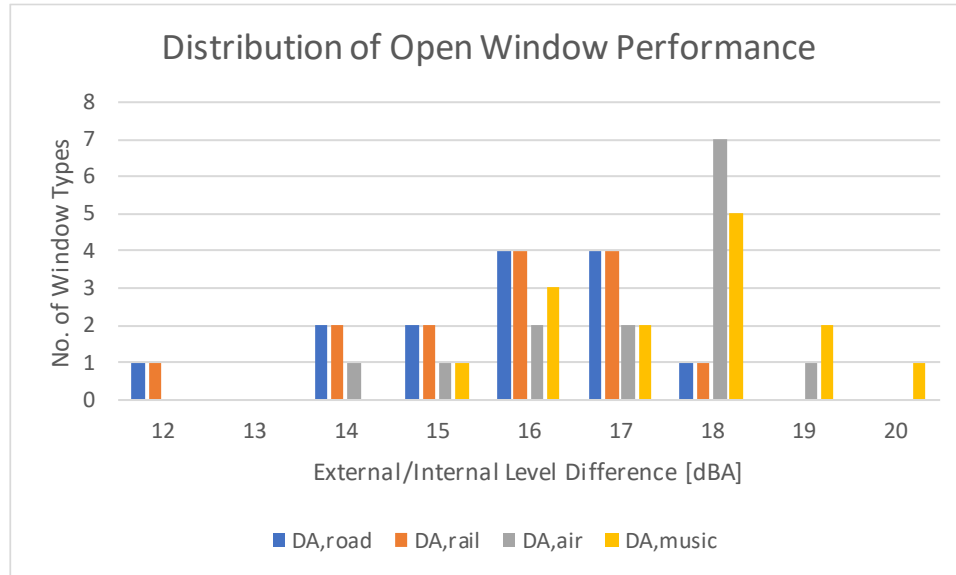


Chart 1: NANR116 test data

Should it not be possible to meet the internal noise targets with openable windows, the ProPG sets out a variety of options that should be considered in an endeavour to avoid the need for windows to be closed, but if this is the only reasonable method by which the internal noise targets can be met, the ProPG requires that the approach should be justified and

“Where the local authority accepts that there is a justification that the internal target noise levels can only practically be achieved with windows closed, which may be the case in urban areas and at sites adjacent to transportation noise sources, special care may be taken to design the accommodation...”

If closed glazing is required to achieve suitable internal noise targets, some local authorities require the glazing to be sealed; however, the ProPG explicitly states at Sn.2.22:

“Using fixed unopenable glazing for sound insulation purposes is generally unsatisfactory and should be avoided;”

Consequently, the ProPG confirms that windows should be well sealed but not be sealed shut, i.e. they can still be opened.

4.0 MEASUREMENTS

The instrumentation was installed midday on Tuesday 26th August 2025 and collected at 1pm the following day. Location 1 was at the front façade of Plot 1 [See Figure 1], Location 2 was at the rear edge of Plot 1 rear patio, and Location 3 was the front façade of Plot No.3.

For each meter, the microphone was pole mounted at an approximate height of 4m above local ground height, 1m from the building facade at first floor level for the measurements at locations 1 and 3, and free-field at Location 2 [edge of rear patio]; all the meters were fitted with RION WS02 "all weather" wind muffs.

Model	Instrument	Serial No.	Lab Cal Certificate	Re-Calibration Due
Svan 977	Sound Level Meter	36870	1502651-1	30/7/2026
Svan SV12L	Preamp	71675	1502651-1	30/7/2026
ACO Pacific 7052E	Microphone	70160	1502651-1	30/7/2026
Svan 977A	Sound Level Meter	69280	1501866-1	7/3/2026
Svan SV12L	Preamp	71675	1501866-1	7/3/2026
ACO Pacific 7052E	Microphone	70160	1501866-1	7/3/2026
Svan 977C	Sound Level Meter	97425	1504401-1	23/1/2027
Svan SV12L	Preamp	106428	1504401-1	23/1/2027
MTG MK255	Microphone	19919	1504401-1	23/1/2027
Svan SV33B	Calibrator	112680	1502651-2	30/7/2026

Table 2: Instrumentation

All the instrumentation had had been laboratory calibrated as shown above and then correctly 'field calibrated' before and after the measurements.

5.0 RESULTS

5.1 Noise

The dBA results appear in full at the rear of this report, and in summary in Table 3 below [converted to the equivalent free-field levels where appropriate].

Location	Day LAeq,16hr	Night LAeq,8hr
MP1 [front Plot 1]	53.4	46.5
MP2 [rear Plot 1]	46.8	39.8
MP3 [front Plot 3]	60.9	55.7

Table 3: Period Results [dBA free-field]

The spectral weekday results appear at Table 4 below.

Location	Octave Band Centre Frequency [Hz]				
	125	250	500	1000	2000
1	53.1	51.3	47.4	48.7	44.2
2	45.1	41.7	38.6	38.5	34.2
3	57.5	57.5	55.3	56.5	52.2

Table 4: Spectrum Results [dB free-field logarithmic average]

5.2 Weather

The data from a nearby weather station reporting its results on Wunderground.com is shown in Appendix 5.

In relation to noise monitoring when the source is close to the monitoring position, as here, weather conditions are less likely to influence results; however, it can be seen that winds were generally around southwest and below 5 kph. As regards rain, it was dry throughout the monitoring.

In conclusion, it is not considered that the prevailing weather conditions are likely to have significantly affected the conclusions to the report.

6.0 ASSESSMENT OF MEASURED LEVELS

6.1 External Noise Levels

From Table 4 it can be seen that noise levels at Location 2, at the rear of the building where the private amenity space is located meets the local

authority's target noise level.

Location 3 is at the front of the property [Plot 3] and is essentially a paved front 'garden'; it is not considered that the BS8233 criteria would apply to this space.

6.2 Internal Noise Levels

British Standard 8233:2014 and several other similar documents all indicate that when glazing is open 'for ventilation' the difference between internal and external noise levels should be taken as 15dBA no matter the room size or window area; similarly, Reference 5 indicates that the attenuation of closed thermal glazing is 33dB for road traffic.

Taking the measured noise levels, compliance with the local authority's internal noise criteria can be predicted as shown in Table 5 below.

Condition	Plot 1 front [MP1]		Plot 1 rear [MP2]		Plot 3 front [MP3]	
	Day LAeq,16hr	Night LAeq,8hr	Day LAeq,16hr	Night LAeq,8hr	Day LAeq,16hr	Night LAeq,8hr
External Level	53.4	46.5	46.8	39.8	60.9	55.7
Open Glazing	-15		-15		-15	
Internal Level	38.4	31.5	31.8	24.8	45.9	40.7
Criteria	35	30	35	30	35	30
Exceedance	3.4	1.5	-3.2	-5.2	10.9	10.7
Criteria Met?	No	No	Yes	Yes	No	No
Closed Thermal Glazing	-33		-33		-33	
Internal Level	20.4	13.5	13.8	6.8	27.9	22.7
Criteria	35	30	35	30	35	30
Exceedance	-14.6	-16.5	-21.2	-23.2	-7.1	-7.3
Criteria Met?	Yes	Yes	Yes	Yes	Yes	Yes

Table 5: Predicted Internal Noise Levels [dBA]

It can be seen that with open glazing, the local authority's criteria are **not** met on the front facades [NE & NW] but are met at the rear facades [SE & SW], whereas with closed thermal glazing the criteria are met on the front facades. Therefore, closed glazing with some form of mechanical ventilation, will be necessary for all habitable rooms if they only have windows on the front [NE & NW] facades.

Check predictions have been conducted for the two 'front' rooms most likely to be affected by noise in Tables 6 and 7 below, room, window, wall and roof dimensions have been scaled from the approved plans for the development.

BS EN 12354-Calcs		Use	Volume	Volume	52.8						
Version	4.4	length				Building Atten dBA (60.9 - 31.3)				30	
© 2018 Martec Environmental Consultants Ltd & Acute Acoustics Ltd			width		RT	0.3					
			height		Octave Band Centre Frequency [Hz]						dBA
					125	250	500	1k	2k		
			External Spectrum Leq (Free Field & Lin)		57.5	57.5	55.3	56.5	52.2	59.6	
			Adjustment to Given Level if required							60.9	
			External Spectrum Adjusted for Level		58.8	58.8	56.6	57.7	53.5	60.9	
Wall			Area m2	Element Sound Reduction Index [SRI]						Contrib	
BS8233 Brick & Block External Wall			21.9	40	44	45	51	56	14.5		
Drs/Wndws											
BS8233 6-12-6 insulated glass unit			3.2	26	29	33	28	24	27.3		
Roof Lights											
None			0.0	0	0	0	0	0	0.0		
Door											
None			0.0	0	0	0	0	0	0.0		
Roof											
None			0.0	0	0	0	0	0	0.0		
Vent Dn,e			# Vents								
Trickle_vent_with_indirect_air_path_(4000mm^2)			1.0	30	31	31	32	28	29.0		
										dBA	
			Internal SPL/dBLin	30.3	28.3	25.1	26.8	26.5	31		

Table 6: Plot 3-1st Floor Corner Bedroom - Predicted Daytime Noise Level [LAeq,16hr]

In Table 6 above it can be seen that the predicted daytime level of 31 LAeq,16hr meets the local authority's daytime criteria of 35 LAeq,16hr for

bedrooms, with closed thermal glazing and a trickle vent with and indirect airpath; the 5.2dB lower nighttime would meet the nighttime criteria of 30 LAeq,8hr [31-5=26 LAeq,8hr].

In Table 7 below it can be seen that the predicted daytime level of 33 LAeq,16hr meets the local authority's daytime criteria of 40 LAeq,16hr for living rooms.

BS EN 12354-Calcs		Use	Volume	Volume	141.6				
Version	4.4	length					Building Atten dBA (60.9 - 33.0)		28
© 2018 Martec Environmental Consultants Ltd		width		RT	0.5				
© Acute Acoustics Ltd		height		Octave Band Centre Frequency [Hz]					dBA
				125	250	500	1k	2k	
External Spectrum Leq (Free Field & Lin)				57.5	57.5	55.3	56.5	52.2	59.6
Adjustment to Given Level if required									60.9
External Spectrum Adjusted for Level				58.8	58.8	56.6	57.7	53.5	60.9
Wall			Area m2	Element Sound Reduction Index [SRI]					Contrib
BS8233 Brick & Block External Wall			15.5	40	44	45	51	56	10.9
Drs/Wndws									
BS8233 6-12-6 insulated glass unit			9.6	26	29	33	28	24	30.0
Roof Lights									
None			0.0	0	0	0	0	0	0.0
Door									
None			0.0	0	0	0	0	0	0.0
Roof									
None			0.0	0	0	0	0	0	0.0
Vent Dn,e			# Vents						
Trickle_vent_with_indirect_air_path_(4000mm^2)			2.0	30	31	31	32	28	29.9
									dBA
			Internal SPL/dBLin	31.8	29.8	26.2	28.6	28.4	33

Table 7: Plot 3 Ground Floor Kitchen/Living Room - Predicted Daytime Noise Level [LAeq,16hr]

7.0 CONCLUSIONS AND RECOMMENDATIONS

Noise Levels in the rear [private] amenity spaces meet the local authority's criteria.

The predictions indicate that the internal noise criteria can be achieved

by open windows for habitable rooms on the rear façade [SE & SW] of the building; for habitable only having windows on the front facades [NE & NW] the criteria can be met by closed standard thermal glazing and ventilation

All rooms with a requirement for closed glazing [above] will need to be provided with either a Mechanical Extract Ventilation (MEV) or a Positive Input Ventilation (PIV) system which extracts/supplies air from the habitable rooms, but which does not allow significant noise to enter from the outside, either because of the system's attenuation or because it vents to/from a quieter façade of the building.

The proposed mitigation measures ensure compliance with the local authority's criteria.

APPENDIX 1

EXPLANATION OF ACOUSTIC TERMS

The dB or the decibel, is the unit of noise. The number of decibels or the level, is measured using a sound level meter. It is common for the sound level meter to filter or 'weight' the incoming sound so as to mimic the frequency response of the human ear. Such measurements are designated **dB(A)**.

A doubling of the sound is perceived, by most people, when the level has increased by 10 dB(A). The least discernible difference is 2 dB(A). Thus, most people cannot distinguish between, say 30 and 31 dB(A).

The Background level of noise is most commonly represented by the level which is exceeded for 90% of the time i.e. the LA90.

If a noise varies over time, then the **equivalent continuous level, or LAeq**, is the notional constant level of noise which would contain the same amount of acoustic energy as the time varying noise.

The following table gives an approximate indication of the comparative loudness of various noises expressed in terms of the A weighted scale:

Source of noise	dB(A)	Nature of Noise
Inside Quiet bedroom at night	25-30	Very Quiet
Quiet office	40-45	
Rural background noise	35-45	
Normal conversational level	55-65	
Busy restaurant	65-75	
Inside suburban electric train	70-80	
Hand clap @ 1m	75-85	
HGV accelerating @ 5m away	85-90	Very Loud

APPENDIX 2

QUALIFICATIONS AND EXPERIENCE OF M. A. KENYON

My full name is Melville Alexander Kenyon. I am the principal of the firm of Martec Environmental Consultants Ltd, a consultancy company that specialises in environmental noise assessment and control. I graduated in 1982 with a bachelor's degree in engineering and subsequently a Master's degree in Environmental Acoustics. I have been a corporate member of the professional body for noise and vibration specialists, the Institute of Acoustics, since 1988, and have sat on the British Standards Committee dealing with noise in buildings [BS.8233:1999].

I have lectured at Liverpool John Moores University on the Diploma of Acoustics course and at Manchester Metropolitan University on their Environmental Health degree course.

The firm of Martec Environmental Engineering was formed in the 1970's and joined The Association of Noise Consultants in 1996. It is now known as Martec Environmental Consultants Ltd.

Since its formation, Martec has advised many groups of both residents and developers about the problems of noise and vibration in the environment.

APPENDIX 3

REFERENCES

- 1 ProPG: Planning and Noise. – June 2017 – IoA, ANC & CIEH
- 2 BS.8233:1999 “Sound Insulation and noise reduction for buildings – Code of practice.”
- 3 Calculation of Road Traffic Noise (CRTN) – Department of Transport and the Welsh Office, HMSO, 1988, ISBN 0-11-550847-3
- 4 Method for Converting the UK Road Traffic Noise Index $L_{A10,18h}$ to the EU Noise Indices for Road Noise Mapping – TRL/Casella Stanger
www.defra.gov.uk/environment/quality/noise/research/crtn/documents/noise-crtn-update2006.pdf
- 5 “Planning Policy Guidance 24: Planning and Noise” Annex 6 – Table 1
- 6 BS EN 12354-3:2000 *Building Acoustics-Estimation of Acoustic Performance in buildings from the performance of elements. Part 3 Airborne sound Insulation against outdoor sound.*
- 7 Road Traffic Forecasts 2015 - DTp March 2015.
- 8 ANC Guidelines "Measurement and Assessment of Groundborne Noise & Vibration – 3rd Edition" - The Association of Noise Consultants 2020
- 9 BS 6472-1:2008 "Guide to evaluation of human exposure to vibration in buildings - Part 1: Vibration sources other than blasting".
- 10 “ProPG: Planning and Noise - May 2017” Association of Noise Consultants, Institute of Acoustics & Chartered Institute of Environmental Health.

APPENDIX 4

DETAILS OF NOISE MEASUREMENTS

4.1 MP1 – Plot 1 Front Monitoring Location [facade levels]

Start date & time	Duration	LAeq	LAFmax	LAFmin	L01	L10	L50	L90	L95	Octave Band Centre Frequency [Hz]							
										31.5	63	125	250	500	1k	2k	4k
26/08/2025 12:00:00	01:00:00	55.8	76.1	31.2	66.4	58.4	52.2	42.1	39.7	65.2	64.7	58.8	54.9	51.6	52.4	47.6	40.6
26/08/2025 13:00:00	01:00:00	56.7	79.3	34.4	66.7	59.2	53.2	42.3	39.9	65.3	64.6	56.1	55.8	52.2	52.9	49.0	43.3
26/08/2025 14:00:00	01:00:00	57.4	80.6	33.3	66.8	60.0	54.4	42.6	38.5	66.4	65.0	57.8	55.1	52.6	53.6	49.9	45.4
26/08/2025 15:00:00	01:00:00	55.3	75.3	29.4	64.4	58.3	52.1	41.8	39.3	63.9	63.8	58.5	55.6	50.8	51.7	47.2	40.2
26/08/2025 16:00:00	01:00:00	57.7	81.4	33.3	66.3	59.5	54.2	46.3	43.0	65.2	66.3	59.8	58.0	53.4	53.8	49.4	44.2
26/08/2025 17:00:00	01:00:00	58.2	78.6	31.2	67.2	60.4	55.4	47.0	43.2	67.0	67.5	59.3	58.1	53.6	55.1	49.6	42.5
26/08/2025 18:00:00	01:00:00	57.2	77.6	31.6	65.7	59.2	54.0	46.0	42.4	65.3	66.3	58.4	58.4	52.7	53.7	48.5	41.4
26/08/2025 19:00:00	01:00:00	56.8	77.7	35.7	65.2	59.2	54.7	49.4	47.1	65.6	68.0	58.9	55.9	51.4	53.6	48.7	42.0
26/08/2025 20:00:00	01:00:00	54.9	78.5	25.4	63.6	57.7	52.1	34.9	30.7	63.5	64.4	55.2	52.9	50.0	51.6	47.2	41.2
26/08/2025 21:00:00	01:00:00	48.1	71.4	22.2	59.2	52.2	31.4	25.1	24.4	57.4	58.5	49.2	48.5	42.5	45.1	39.9	31.3
26/08/2025 22:00:00	01:00:00	50.1	78.8	20.5	60.0	51.7	33.4	22.6	21.9	58.9	57.2	49.4	48.3	45.6	46.7	42.7	35.3
26/08/2025 23:00:00	01:00:00	46.5	72.3	19.8	57.8	45.1	25.0	21.8	21.3	53.3	53.3	47.5	46.0	41.4	42.7	39.3	32.2
27/08/2025 00:00:00	01:00:00	37.1	63.4	20.3	49.5	33.5	24.1	21.5	21.2	47.4	42.8	37.1	37.2	32.1	34.3	28.0	18.8
27/08/2025 01:00:00	01:00:00	45.3	67.1	20.1	59.1	42.8	25.6	21.4	21.0	56.7	59.1	56.2	47.2	39.5	39.5	33.8	25.8
27/08/2025 02:00:00	01:00:00	36.3	63.7	19.8	43.8	25.8	22.4	20.8	20.5	36.5	39.6	33.2	34.4	30.7	34.1	27.6	17.4
27/08/2025 03:00:00	01:00:00	33.1	60.4	20.4	44.7	31.8	22.6	21.3	21.0	42.2	42.4	40.2	36.2	29.1	26.3	25.2	18.8
27/08/2025 04:00:00	01:00:00	43.6	68.7	20.2	58.0	36.1	23.6	21.5	21.1	57.4	53.5	40.4	40.9	38.5	40.7	35.8	28.4
27/08/2025 05:00:00	01:00:00	54.3	80.2	23.3	63.6	58.5	43.2	32.1	29.0	61.2	61.7	56.0	56.0	49.7	50.9	45.3	36.5
27/08/2025 06:00:00	01:00:00	55.2	73.5	26.8	64.2	60.1	47.8	38.8	36.4	61.2	60.7	52.8	52.6	49.6	52.6	47.2	38.6

Road Traffic Noise Assessment

27/08/2025 07:00:00	01:00:00	55.7	74.8	32.5	64.7	59.6	51.5	40.1	38.5	63.9	63.9	55.6	53.6	50.6	52.6	47.9	40.7
27/08/2025 08:00:00	01:00:00	55.7	82.1	32.3	63.8	58.8	52.5	40.9	38.4	65.5	64.8	56.0	54.5	50.6	52.5	47.9	40.2
27/08/2025 09:00:00	01:00:00	56.8	77.2	34.5	65.1	59.4	55.1	46.0	43.1	66.5	65.7	57.1	55.8	52.1	53.8	48.5	41.4
27/08/2025 10:00:00	01:00:00	57.5	82.9	36.1	66.2	59.2	54.7	45.1	42.6	66.8	65.9	57.2	55.8	52.9	54.0	50.1	42.8
27/08/2025 11:00:00	01:00:00	56.4	77.3	37.4	67.0	58.6	52.6	43.6	41.7	66.0	65.6	57.4	54.2	52.1	53.1	48.4	42.1
27/08/2025 12:00:00	01:00:00	58.7	86.3	34.2	68.0	60.0	52.7	42.9	40.7	66.0	64.8	56.4	56.6	53.6	55.0	51.7	45.6

4.2 MP2 – Plot 1 Rear Monitoring Location [free-field levels]

Start date & time	Duration	LAeq	LAFmax	LAFmin	L01	L10	L50	L90	L95	Octave Band Centre Frequency [Hz]							
										31.5	63	125	250	500	1k	2k	4k
26/08/2025 12:00:00	01:00:00	55.8	76.1	31.2	66.4	58.4	52.2	42.1	39.7	65.2	64.7	58.8	54.9	51.6	52.4	47.6	40.6
26/08/2025 13:00:00	01:00:00	56.7	79.3	34.4	66.7	59.2	53.2	42.3	39.9	65.3	64.6	56.1	55.8	52.2	52.9	49.0	43.3
26/08/2025 14:00:00	01:00:00	57.4	80.6	33.3	66.8	60.0	54.4	42.6	38.5	66.4	65.0	57.8	55.1	52.6	53.6	49.9	45.4
26/08/2025 15:00:00	01:00:00	55.3	75.3	29.4	64.4	58.3	52.1	41.8	39.3	63.9	63.8	58.5	55.6	50.8	51.7	47.2	40.2
26/08/2025 16:00:00	01:00:00	57.7	81.4	33.3	66.3	59.5	54.2	46.3	43.0	65.2	66.3	59.8	58.0	53.4	53.8	49.4	44.2
26/08/2025 17:00:00	01:00:00	58.2	78.6	31.2	67.2	60.4	55.4	47.0	43.2	67.0	67.5	59.3	58.1	53.6	55.1	49.6	42.5
26/08/2025 18:00:00	01:00:00	57.2	77.6	31.6	65.7	59.2	54.0	46.0	42.4	65.3	66.3	58.4	58.4	52.7	53.7	48.5	41.4
26/08/2025 19:00:00	01:00:00	56.8	77.7	35.7	65.2	59.2	54.7	49.4	47.1	65.6	68.0	58.9	55.9	51.4	53.6	48.7	42.0
26/08/2025 20:00:00	01:00:00	54.9	78.5	25.4	63.6	57.7	52.1	34.9	30.7	63.5	64.4	55.2	52.9	50.0	51.6	47.2	41.2
26/08/2025 21:00:00	01:00:00	48.1	71.4	22.2	59.2	52.2	31.4	25.1	24.4	57.4	58.5	49.2	48.5	42.5	45.1	39.9	31.3
26/08/2025 22:00:00	01:00:00	50.1	78.8	20.5	60.0	51.7	33.4	22.6	21.9	58.9	57.2	49.4	48.3	45.6	46.7	42.7	35.3
26/08/2025 23:00:00	01:00:00	46.5	72.3	19.8	57.8	45.1	25.0	21.8	21.3	53.3	53.3	47.5	46.0	41.4	42.7	39.3	32.2
27/08/2025 00:00:00	01:00:00	37.1	63.4	20.3	49.5	33.5	24.1	21.5	21.2	47.4	42.8	37.1	37.2	32.1	34.3	28.0	18.8
27/08/2025 01:00:00	01:00:00	45.3	67.1	20.1	59.1	42.8	25.6	21.4	21.0	56.7	59.1	56.2	47.2	39.5	39.5	33.8	25.8
27/08/2025 02:00:00	01:00:00	36.3	63.7	19.8	43.8	25.8	22.4	20.8	20.5	36.5	39.6	33.2	34.4	30.7	34.1	27.6	17.4

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27/08/2025 03:00:00	01:00:00	33.1	60.4	20.4	44.7	31.8	22.6	21.3	21.0	42.2	42.4	40.2	36.2	29.1	26.3	25.2	18.8
27/08/2025 04:00:00	01:00:00	43.6	68.7	20.2	58.0	36.1	23.6	21.5	21.1	57.4	53.5	40.4	40.9	38.5	40.7	35.8	28.4
27/08/2025 05:00:00	01:00:00	54.3	80.2	23.3	63.6	58.5	43.2	32.1	29.0	61.2	61.7	56.0	56.0	49.7	50.9	45.3	36.5
27/08/2025 06:00:00	01:00:00	55.2	73.5	26.8	64.2	60.1	47.8	38.8	36.4	61.2	60.7	52.8	52.6	49.6	52.6	47.2	38.6
27/08/2025 07:00:00	01:00:00	55.7	74.8	32.5	64.7	59.6	51.5	40.1	38.5	63.9	63.9	55.6	53.6	50.6	52.6	47.9	40.7
27/08/2025 08:00:00	01:00:00	55.7	82.1	32.3	63.8	58.8	52.5	40.9	38.4	65.5	64.8	56.0	54.5	50.6	52.5	47.9	40.2
27/08/2025 09:00:00	01:00:00	56.8	77.2	34.5	65.1	59.4	55.1	46.0	43.1	66.5	65.7	57.1	55.8	52.1	53.8	48.5	41.4
27/08/2025 10:00:00	01:00:00	57.5	82.9	36.1	66.2	59.2	54.7	45.1	42.6	66.8	65.9	57.2	55.8	52.9	54.0	50.1	42.8
27/08/2025 11:00:00	01:00:00	56.4	77.3	37.4	67.0	58.6	52.6	43.6	41.7	66.0	65.6	57.4	54.2	52.1	53.1	48.4	42.1
27/08/2025 12:00:00	01:00:00	58.7	86.3	34.2	68.0	60.0	52.7	42.9	40.7	66.0	64.8	56.4	56.6	53.6	55.0	51.7	45.6

4.3 MP1 – Plot 3 Front Monitoring Location [facade levels]

Start date & time	Duration	LAeq	LAFmax	LAFmin	L01	L10	L50	L90	L95	Octave Band Centre Frequency [Hz]							
										31.5	63	125	250	500	1k	2k	4k
26/08/2025 12:00:00	01:00:00	63.1	87.3	36.3	72.6	65.9	56.4	45.4	43.2	68.4	66.1	61.0	62.2	59.8	59.3	55.0	48.8
26/08/2025 13:00:00	01:00:00	63.4	85.4	37.7	72.6	67.0	57.4	45.1	42.6	68.0	66.0	59.7	60.1	59.1	60.0	55.8	50.3
26/08/2025 14:00:00	01:00:00	64.0	85.1	36.2	74.4	67.4	57.7	45.8	43.4	68.4	66.1	61.2	60.6	59.4	60.3	56.9	52.2
26/08/2025 15:00:00	01:00:00	63.3	84.5	34.0	72.6	67.1	57.1	44.5	42.2	68.6	65.5	61.8	63.0	59.2	59.9	55.3	49.0
26/08/2025 16:00:00	01:00:00	64.9	87.8	36.9	73.5	69.0	59.8	49.4	46.1	72.0	68.6	63.3	62.5	60.3	61.5	57.1	52.4
26/08/2025 17:00:00	01:00:00	65.9	82.5	35.7	74.2	70.1	61.6	50.8	45.5	68.3	69.2	63.0	62.9	61.5	62.9	57.9	50.9
26/08/2025 18:00:00	01:00:00	65.3	92.9	38.1	73.7	67.6	58.5	48.4	44.8	66.3	66.9	65.1	64.9	61.6	61.5	56.9	50.4
26/08/2025 19:00:00	01:00:00	63.5	85.8	35.9	73.4	66.7	58.8	51.0	46.3	66.3	67.4	63.2	62.2	59.0	60.0	55.9	49.6
26/08/2025 20:00:00	01:00:00	61.4	87.4	28.0	71.0	63.1	54.6	38.4	34.9	64.1	64.7	59.8	57.6	56.2	57.8	54.5	49.3
26/08/2025 21:00:00	01:00:00	55.4	74.7	23.9	68.1	58.2	36.5	27.4	26.5	59.0	60.8	52.7	53.0	49.9	52.7	47.4	38.6
26/08/2025 22:00:00	01:00:00	57.0	84.8	21.5	68.4	56.3	36.0	26.9	25.8	58.4	58.6	54.0	54.2	54.0	53.3	49.2	42.6

Road Traffic Noise Assessment

26/08/2025 23:00:00	01:00:00	54.1	80.0	20.3	67.3	47.8	28.5	23.7	22.8	54.5	56.1	52.0	52.4	49.9	49.9	47.2	41.4
27/08/2025 00:00:00	01:00:00	45.5	71.3	19.3	58.0	36.5	23.1	21.1	20.7	48.5	46.0	39.2	41.5	40.8	43.3	37.1	26.5
27/08/2025 01:00:00	01:00:00	51.0	79.0	19.3	63.3	41.1	23.5	21.2	20.8	56.2	60.3	59.6	52.5	46.0	46.5	40.8	31.4
27/08/2025 02:00:00	01:00:00	45.0	72.4	19.2	47.1	25.6	22.7	20.9	20.5	39.3	43.6	36.8	39.7	38.8	43.1	37.0	25.3
27/08/2025 03:00:00	01:00:00	41.9	71.1	20.2	51.8	31.4	24.1	22.3	21.9	53.9	49.0	41.5	40.3	37.6	37.9	35.0	28.4
27/08/2025 04:00:00	01:00:00	48.5	73.4	20.5	62.4	37.0	28.2	25.3	23.9	46.9	49.0	43.0	44.1	42.9	46.3	40.4	31.1
27/08/2025 05:00:00	01:00:00	64.5	89.8	27.1	73.6	68.1	48.6	33.6	31.4	62.4	64.3	62.7	64.3	60.9	61.2	55.8	47.7
27/08/2025 06:00:00	01:00:00	64.2	80.5	31.1	73.6	69.4	55.4	39.0	36.8	64.0	63.2	58.6	59.9	58.4	61.9	56.3	47.0
27/08/2025 07:00:00	01:00:00	64.6	83.9	34.8	73.7	68.7	57.8	41.8	39.7	64.1	66.1	60.2	60.5	59.5	61.7	57.0	49.8
27/08/2025 08:00:00	01:00:00	63.6	87.0	35.3	72.7	67.5	57.3	44.3	42.0	66.2	66.3	61.7	61.9	58.3	60.4	55.7	48.4
27/08/2025 09:00:00	01:00:00	63.4	85.0	34.9	72.9	66.9	58.4	47.9	44.8	66.4	66.5	62.0	62.2	58.6	60.1	55.5	49.7
27/08/2025 10:00:00	01:00:00	65.1	92.7	35.2	74.2	66.9	58.4	48.4	44.3	66.9	66.4	61.6	62.1	60.4	61.3	58.3	51.6
27/08/2025 11:00:00	01:00:00	64.0	83.3	36.7	75.6	66.5	57.0	44.3	42.3	66.9	67.1	61.5	60.2	60.1	60.4	56.5	51.2
27/08/2025 12:00:00	01:00:00	67.0	97.3	34.8	77.7	67.6	57.8	45.3	42.0	67.1	66.6	61.5	62.1	61.2	63.5	60.4	55.4

APPENDIX 5

Weather Data [inside red box]

Weather History for IUTTOX1

