

Post-completion Validation Assessment

Site Address:	Plots 4, 5 & 6, South Side of William Street, Littleborough, OL15 8JP
Project Reference No:	NP-012276
Subject:	Internal Noise Survey Assessment
Client:	Dimora Construction Ltd
Reported By:	H. Wilson, BSc
Checked By:	M. Caley, MSc, MIOA
Date:	05/03/2025

Introduction

NOVA Acoustics Ltd has been commissioned to undertake a post-completion internal noise survey at the above address. The aim of the assessment is to ascertain whether the installed sound insulation scheme achieves the noise criteria specified by the local authority.

Local Authority Correspondence and Conditions

The applicant received conditional planning approval for the development in February 2024 from Rochdale Borough Council. The application was titled as follows:

Ref: 23/01298/DOC

"Submission of details to comply with conditions 5 (ground contamination) and 9 (Noise) on planning permission 23/00245/VRCON".

The purpose of this technical assessment is to assist in discharging Condition 9, which relates specifically to internal noise levels within the development. The condition is worded as follows:

Condition 9

"Amended Condition 9 (varied under condition 8 of 22/00882/VRCON) – Development in accordance with recommendations of section 6 of Noise Impact Assessment The development hereby approved shall be constructed in complete accordance with the recommendations of sections 6 of the submitted Environmental Noise Survey, Noise Break-In Assessment & Sound Insulation Scheme by Nova Acoustics dated 17/05/2021, Project Number 5941JP, Version 01. The units hereby approved shall not be occupied until a verification report has been submitted to and approved in writing by the Local Planning Authority to demonstrate that the following internal and external noise levels have been achieved:

- 35 dB(A) Leq (1 hour) in the bedrooms with windows shut and other means of ventilation provided between 7 am and 11pm;
- 30dB(A) Leq (5mins) in the bedrooms with windows shut and other means of ventilation provided between 11pm and 7am;
- 35 dB(A) Leq (1 hour) in the living room/s with windows shut and other means of ventilation provided between 7 am and 11pm;
- 40dB(A) Leq (1 hour) in other habitable rooms with windows shut and other means of ventilation provided at all times

The necessary measures shall be retained at all times thereafter”.

Survey Methodology

The survey was undertaken in general accordance with the Association of Noise Consultants’ publication ‘ANC Guidelines: Measurement of Sound Levels in Buildings 2020’.

Noise levels were measured at a single location within each room, with the measurement microphone positioned at a height of 1.5m above floor level and at least 1.5m from any external wall / window.

The survey included unattended measurements within the most exposed room over a 3-day period in addition to short-term attended measurements (during daytime hours only). All windows were closed with trickle ventilators open, allowing for suitable levels of ventilation. During the time of the survey, rooms were unfurnished. The sound levels meters were configured to measure $L_{Aeq,T}$ and $L_{AFmax,T}$ over consecutive 1 minute intervals for the duration of the survey.

The measurement equipment used was Type 1 as defined in BS EN 61672:2003. The equipment was calibrated at the start and at the end of the survey using a handheld calibrator compliant with BS EN 60942:2003 (Class 1), with negligible deviation noted. All sound level meters are calibrated every 24 months, and all calibrators are calibrated every 12 months by a third-party calibration laboratory.

A summary of the equipment used during the survey is outlined below.

Piece of Equipment	Serial No.	Calibration Deviation (dB)
Svantek SV971A Class 1 Sound Level Meter	141359	≤0.1
Svantek SV33B Class 1 Calibrator	106876	
Svantek SV971A Class 1 Sound Level Meter	141346	≤0.1
Svantek SV33B Class 1 Calibrator	106876	
Svantek SV971A Class 1 Sound Level Meter	141427	≤0.1
Svantek SV33B Class 1 Calibrator	106876	

Table 1 – Survey Equipment Details

Long-term Internal Noise Levels Assessment

Continuous measurements were undertaken from Friday 28th February 2025 to Monday 3rd May 2025 within the following rooms:

- Plot 6 – Living Room/Kitchen
- Plot 6 – Rear Bedroom

This covers both façades that are at highest risk of noise exposure which overlook the industrial units to the rear and the road on the front façade. The table below presents the sound levels measured inside the development compared with the internal noise level criteria presented by the Local Authority.

It should be noted that during the time of the survey the rooms were unfurnished, which is likely to have artificially increased noise levels due to the effects of reverberance. Accordingly, a correction has been included in line with the “*ANC Guidelines: Measurement of Sound Levels in Buildings 2020*”.

Considering that reverberation times in furnished living rooms and bedrooms would generally be in the region of 0.5 seconds, and that the reverberation times were measured at approximately 0.8 – 0.9 seconds, a conservative correction of -2 dB is applied.

Location	Description	L _P (dB)	L _P (dB)
Plot 6 – Living Room/Kitchen	Measured – Day	31 L _{Aeq,1hour}	--
	Corrected – Day	29 L _{Aeq,1hour}	--
	Local Authority Criteria	35 L _{Aeq,1hour}	--
	Exceedance above Criteria	-6	--
Plot 6 – Rear Bedroom	Measured – Day	35 L _{Aeq,1hour}	--
	Corrected – Day	33 L _{Aeq,1hour}	--
	Local Authority Criteria	35 L _{Aeq,1hour}	--
	Exceedance above Criteria	-2	--
	Measured – Night	30 L _{Aeq,5min}	40 L _{AFmax,1min} ^[1]
	Corrected – Night	28 L _{Aeq,5min}	38 L _{AFmax,1min}
	Local Authority Criteria	30 L _{Aeq,5min}	45 L _{AFmax,1min} ^[2]
	Exceedance above Criteria	-2	-7

Table 2 – Internal Ambient Noise Level Analysis

Notes:

[1] L_{AFmax,1min} exceeded fewer than ten times during the night (23:00 – 07:00), as per the WHO guidelines.

[2] No criteria are specifically defined by the Local Authority. As such, the WHO guidelines criteria have been used.

Short-term Internal Noise Levels Assessment

In addition to the long-term survey, spot measurements were undertaken between 11:10 and 12:10 in the front and rear bedrooms of plot 4.

30-minute measurements were undertaken in one location within each bedroom during daytime hours on the 28th February 2025. The logarithmically averaged results are presented in the table below alongside the internal noise level criteria provided by the Local Authority.

Location	Description	L _p (dB)
Plot 4 – Front Bedroom	Measured – Day	29 L _{Aeq} , 30 Minutes
	Corrected – Day	27 L _{Aeq} , 30 Minutes
	Local Authority Criteria	35 L _{Aeq,T}
	Exceedance above Criteria	-8
Plot 4 – Rear Bedroom	Measured – Day	29 L _{Aeq} , 30 Minutes
	Corrected – Day	27 L _{Aeq} , 30 Minutes
	Local Authority Criteria	35 L _{Aeq,T}
	Exceedance above Criteria	-8

Table 3 – Internal Ambient Noise Level Analysis – Short-term Measurements

Short-term External Noise Levels Assessment

In addition to the internal noise levels assessment, an external spot measurement was undertaken in the garden of plot 6 on 28th February 2025. The measured level is compared with the criterion defined in BS8233:2014 ‘Guidance on sound insulation and noise reduction for buildings’ in the table below.

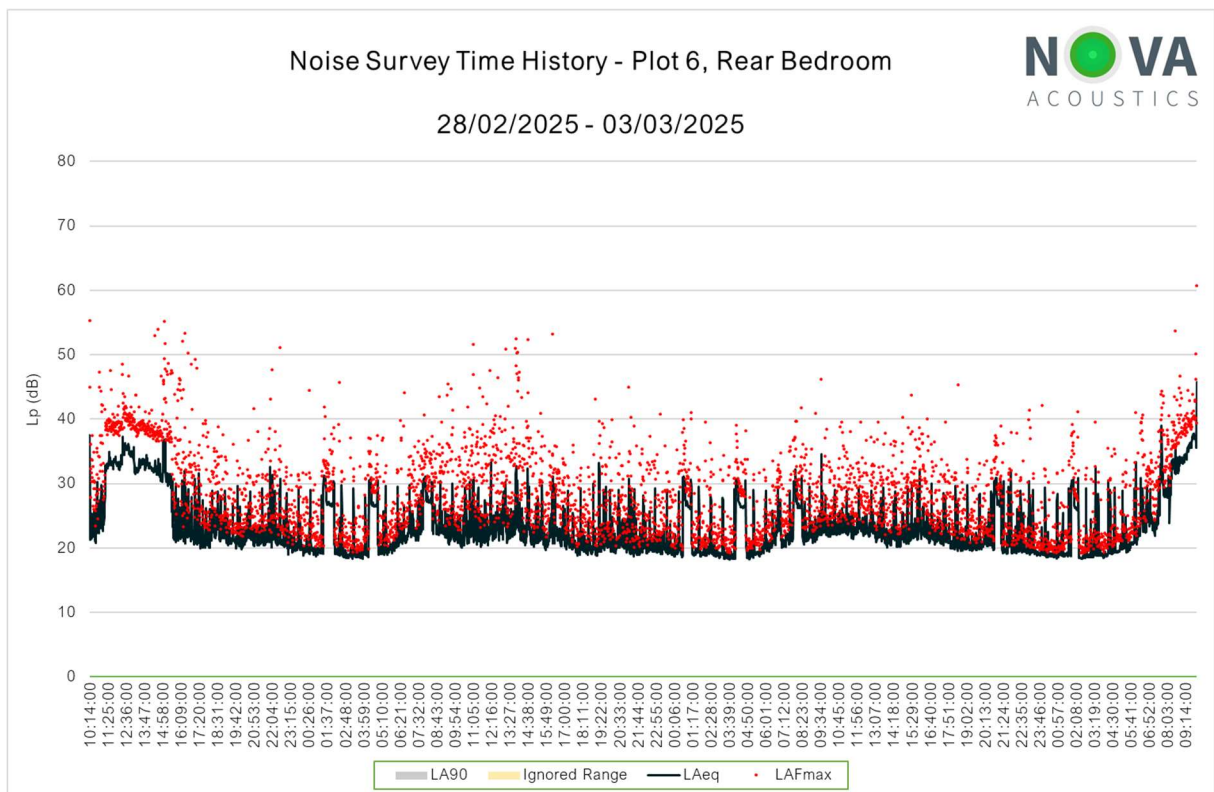
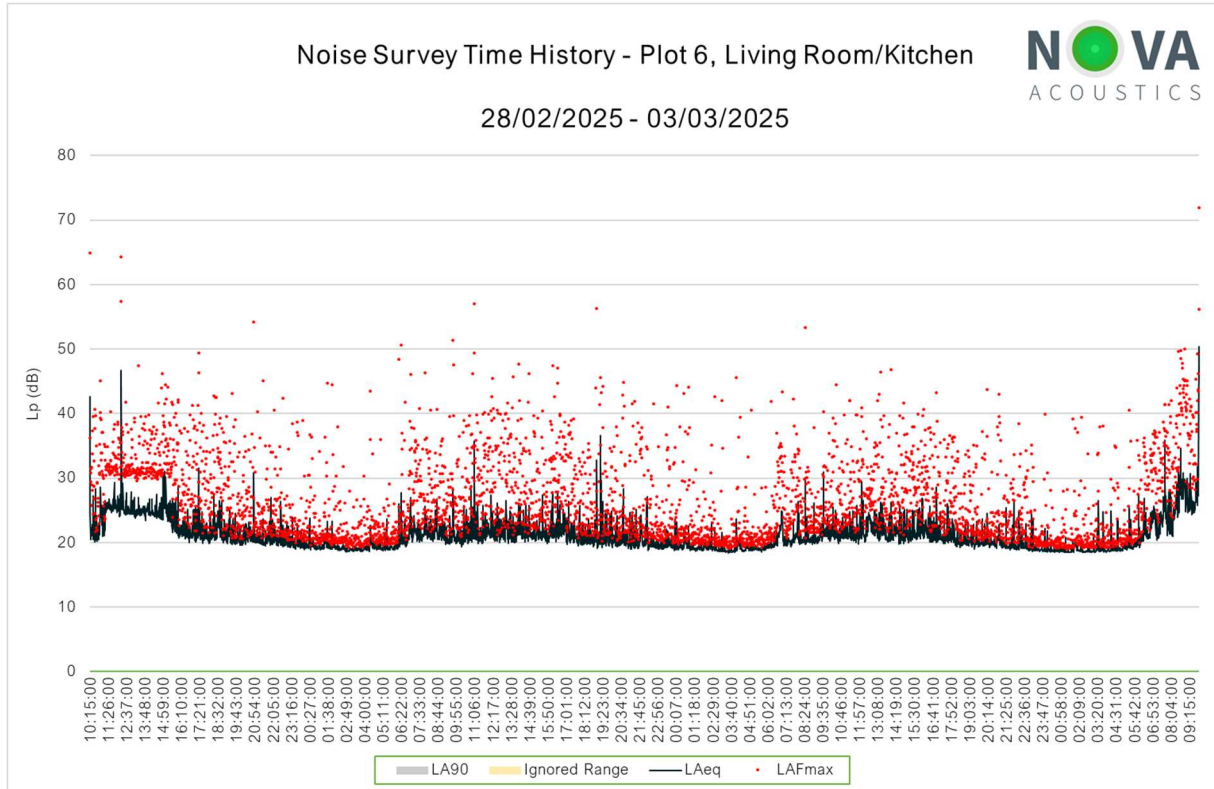
Location	Description	L _p (dB)
Plot 6 - Garden	Measured – Day	44 L _{Aeq} , 30 Minutes
	BS8233 Criteria	50 L _{Aeq} , 30 Minutes
	Exceedance above Criteria	-6

Table 4 – External Noise Level Analysis

Conclusion

The internal and external noise measurements are within the Local Authority and WHO guidelines criteria. As such, it is thought that the development is suitable for residential habitation and Condition 9 can be discharged.

Appendix A – Time History Graphs



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