cass allen

Architectural & Environmental Acousticians

Noise & Vibration Engineers

115 Chatham Street, Reading

Planning Condition 11

Client:	Oriel Housing Ltd
Ref:	TN01-22447-R0
Date:	13 November 2026
Note by:	Finley Arbon-Donovan, MPhys, AMIOA, Acoustic Consultant

1. INTRODUCTION

1.1 Cass Allen has since been instructed by Oriel Housing Ltd to carry out internal ambient noise tests at the 115 Chatham Street development in Reading as required by Planning Condition 11 of the development consent (Ref.: PL/21/0349). For context the condition states:

> *11. The development hereby approved shall not be first occupied until the noise attenuation and mitigation measures including glazing, ventilation and any other mitigation specified as outlined in the 9.641_115 Chatham Street Reading Acoustic Assessment_210316, prepared by XCO2, dated 16 March 2021, and the Technical Note Noise Survey 9.641 – 115 Chatham Street dated 29 June 2021 have been fully implemented and the results of acoustic testing that demonstrate the standards set out in the acoustic assessments are met have been submitted to and approved in writing by the Local planning Authority. The approved measures shall thereafter be retained for the lifetime of the development.*
>
> *REASON: These details are required due to insufficient acoustic testing being contained within this submission and in order to safeguard the amenity of occupants from unreasonable noise disturbance emanating from outside the building due to the general external noise environment and from operational noise from The Butler Pub and The Face Bar in accordance with Policy CC8 of the Reading Borough Local Plan 2019.*

1.2 As such in line with the requirements discussed within the previous Acoustic Assessment and Technical Note prepared by XC02, the project internal noise criteria are given below given in Table 1 overleaf.

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Table 1 Internal Noise criteria

Location	0700-2300hrs	2300-0700hrs
Living room	35 dB LAeq,16hrs[1]	-
Dining room/area	35 dB LAeq,16hrs[1]	-
Bedroom	35 dB LAeq,16hrs[1]	30 dB LAeq,8hrs[1] 45 dB LAmax[2]
Note 1	The XC02 Acoustic Assessment also suggests that these criteria are decreased by 10 dB when assessing music noise associated with the pubs and bars in the vicinity (i.e. the Face Off Bar, the Butler) – this is discussed in Section 3 below	
Note 2	No more than 15 times a night. Whilst this criterion is not strictly discussed within the previous Acoustic Assessment or Technical note LAmax levels were mentioned and as such it has been deemed appropriate to assess against this criterion is drawn from WHO: 'Guideline for Community Noise' guidance	

2. METHODOLOGY

2.1 The testing involved taking longer term unattended measurements in a representative "worst-case" Unit for each proposed glazing band (please see Appendix 1 for details of the proposed Glazing bands drawn from the XC02 Acoustic Assessment). If noise levels comply with the internal noise criteria (refer to Table 1) in these Units, then they would also be expected to comply with the criteria in all other Units.

2.2 Internal noise tests were carried out between Friday 2nd and Monday 5th October 2026 within Units 09, 14, 19 with the methodology of the testing has been summarised below:

- Internal noise measurements were carried out in the living room and one bedroom of each other the tested Units. The 'worst-case' bedroom (i.e., the bedroom that be exposed to the highest internal noise levels) was chosen for Units containing multiple bedrooms.
- Measurements were taken over the entire survey period to ensure that all "worst-case" periods (i.e. rush-hour) were quantified. Please note that while the survey was primarily carried out over a weekend the evening and morning rush hour periods were measured on both Friday 2nd and 5th Monday the results of which indicate that no noticeable noise change is expected to occur between weekday and weekend traffic (please see Appendix 2 for more details). Furthermore, this period was also selected as it is the expected to be the busiest operation period for pubs and bars in the local vicinity, such as the Face Off Bar indicated to be open until 0400 on Saturdays and Sundays mornings.
- A sound level meter (SLM) was positioned at least 1m away from any reflective surfaces within the room. The SLM was set to measure the internal average noise level every 5 minutes (LAeq,5mins) for the entire survey period.

2.3 All major roads around the site were observed to have free-flowing traffic with no visible road works that would result in reduced or atypical traffic flows. Road traffic noise levels there therefore

considered typical at the time of any measurement. Furthermore, all pubs and bars in the area were known to be open and operating as normal.

3. RESULTS AND DISCUSSION

Transportation Noise Results

3.1 The full results of the measurements for transportation noise are given in Appendix 2 and have been summarised in Table 2 against their respective glazing band. A 3 dB correction has been included to account for the rooms being unfurnished.

Table 2 Measured Internal Transportation Noise Levels

Unit Number	Room	Average Daytime (LAeq,0700-2300)	Average Night-time (LAeq,2300-0700)	15th Nighttime Maximum Noise Level (LAmax)
09 (Red Glazing Band)	Living Room	33 dB	-	-
	Bedroom	30 dB	25 dB	42 dB
14 (Green Glazing Band)	Living Room	26 dB	-	-
	Bedroom	24 dB	21 dB	28 dB
19 (Blue Glazing Band	Living room	28 dB	-	
	Bedroom	21 dB	19 dB[1]	32 dB

Note 1: This is around the noise floor of the meter used and therefore actual values are expected to be lower

Note 2: A -3 dB correction has been applied to account for the reduction in reverberation once the rooms are furnished

3.2 It can be seen from the above that all measured noise levels comply with the criteria shown in Table 1 and therefore all units comply with the transportation noise standards set out by the XC02 assessment and therefore by Condition 11.

Music Noise Results

3.3 During the measurement period music noise was observed associated from a live music night at the Butler pub from 1900-0100 on Saturday 3rd 2026. No other music noise was observed from any other commercial venue (e.g. the Face-off bar) across the entire testing period. The results of the measured music noise are also given in Appendix 2 and are summarised in Table 3 below.

3.4 It should be noted that the Butlers music license only allows for live music noise between 1000-2400 and as such the period between 2400-0100 has been excluded from analysis as it does not represent what would be a typical acoustic environment during a Butler live music night.

3.5 Table 3 below presents music noise levels in the 'worst case' unit affected by music noise. This has been determined by subtracting the transportation noise contribution to the measurements (determined from the other measurements taken over similar periods without music noise) and correcting then time correcting them to the overall time periods outlined in Table 1. These calculations are shown in Appendix 3.

Table 3 Measured Internal Music and Transportation Noise Levels

Unit Number	Room	Average Daytime (LAeq,0700-2300)	Average Night-time (LAeq,2300-0700)	15th Nighttime Maximum Noise Level (LAmax)
14 (Green Glazing Band)	Living Room	27 dB	-	
	Bedroom	20 dB	20 dB	35 dB

Note 1: A -3 dB correction has been applied to account for the reduction in reverberation once the rooms are furnished

3.6 It can be seen from the above that internal noise levels resulting from the Butler live music night in bedrooms are expected to be 10 dB below the criteria set out in Table 1 as requied by the XC02 assessment and Planning Condition 11.

3.7 Living room are slightly higher being 8 dB below the nominated criteria however it should be noted that the music noise criteria proposed by XC02 was based on the following text from BS8233:2014 "*Guidance on sound insulation and noise reduction for buildings"* (BS8233) which states that if "n*oise has a specific character if it contains features such as a distinguishable, discrete and continuous tone, is irregular enough to attract attention, or has strong low-frequency content, in which case lower noise limits might be appropriate".*

3.8 It is our view, given that the calculated value is only marginally higher than the targeted criteria, that 8 dB below the values in Table 1 also consitutes "lower noise limits" in line with BS8233 guidance and therefore still achieves the standards set out by the XC02 assessment as required by Planning Condition 11.

3.9 In summary bedrooms are expected to achieve the nomniated criteria given in the XC02 assessment with living rooms marginally (i.e. by 2 dB) exceeding it. However whilst the levels in living room are higher than ideal, music noise levels still achieve “lower noise limits” in line with BS8233 guidance used by the XC02 assessment. As such it is out view that all the units still achieve acceptable critieria and that Condition 11 can hence be discharged.

4. CONCLUSIONS

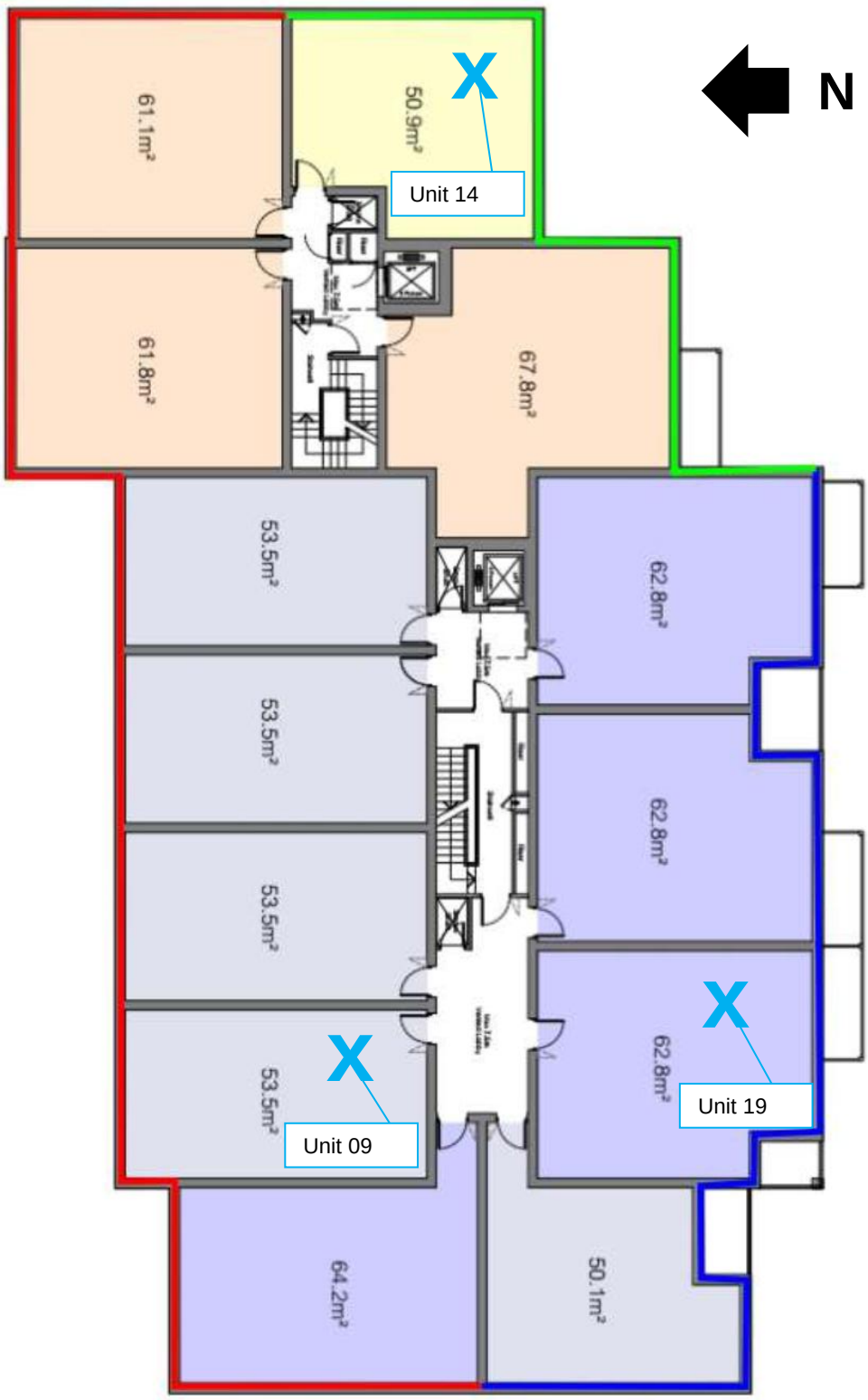
4.1 The results of the internal noise testing show that all the tested Units comply with the internal noise criteria set out in Table 1 for transportation noise. The results also indicate that bedrooms are expected to achieve the nomniated criteria given in the XC02 assessment with living rooms marginally (i.e. by 2 dB) exceeding it. However whilst the levels in living room are higher than ideal, music noise levels still achieve “lower noise limits” in line with BS8233 guidance used by the XC02 assessment. As such the development is considered to have met the requirements of Planning Condition 11.

Quality Assurance

CHECKED BY
Sam Bryant, MPhys CEng MIOA, Director

Appendix 1 Unit Measurement Positions

The tested units are indicated by a light blue cross below. Each unit was selected as they are a representative "worst-case" for each of the proposed glazing bands marked up below (i.e. red, blue, green)



Appendix 2 Survey Results

Equipment Used

Equipment	Manufacturer	Model	Serial Number
Class 1 Sound Level Meter	ACOEM	CUBE	10833
Class 1 Sound Level Meter	NTi Audio	NL-32	01213688
Class 1 Sound Level Meter	NTi Audio	NL-32	00903342
Class 1 Sound Level Meter	NTi Audio	NL-32	00903343
Class 1 Sound Level Meter	NTi Audio	NL-32	00482672
Class 1 Sound Level Meter	NTi Audio	NL-32	00403193
Calibrator	RION	NC-74	34551703

Note 1: All sound level meters were calibrated before and after measurement periods and no significant drift in calibration was found to have occurred. The results of the measurements are therefore considered to be representative.

Unattended Noise Level Results – Internal Ambient Transportation Noise Results – Excluding 0700 03/10/2026 to 0700 04/10/2026

Unit Number	Room	Average Daytime (LAeq,0700-2300)	Average Night-time (LAeq,2300-0700)	15th Nighttime Maximum Noise Level (LAmax)
09	Living Room	33 dB	-	-
	Bedroom	30 dB	25 dB	42 dB
14	Living Room	26 dB	-	-
	Bedroom	24 dB	21 dB	28 dB
19	Living room	28 dB	-	
	Bedroom	21 dB	19 dB[1]	32 dB

Note 1 – A 3 dB correction has been applied to account for the unfurnished rooms

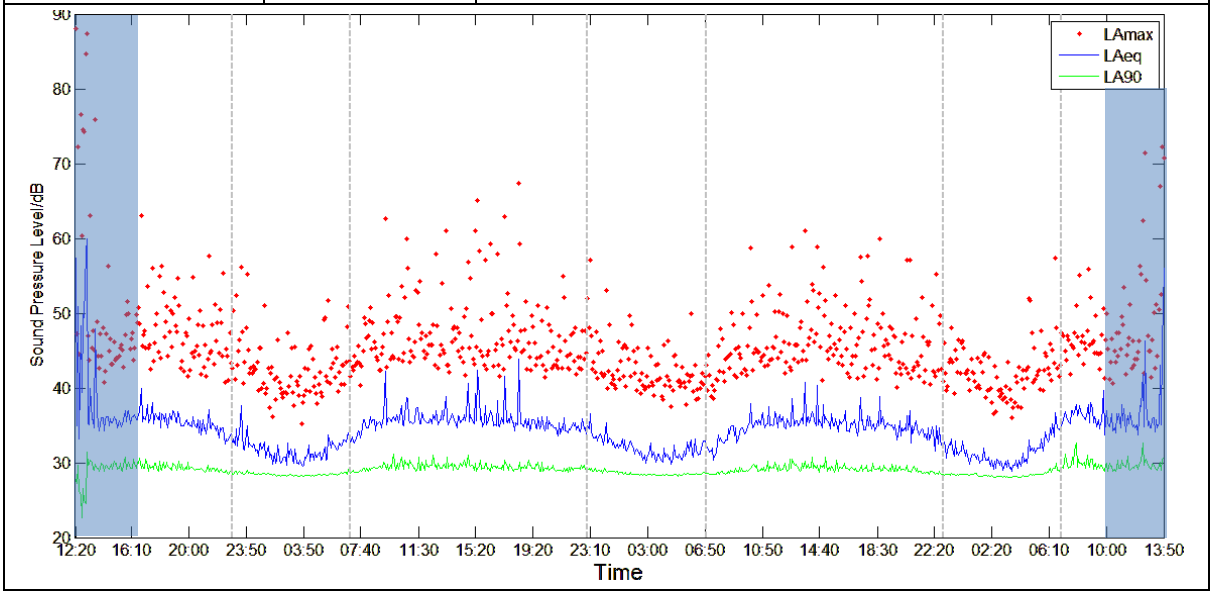
Unattended Noise Level Results – Internal Ambient Transportation/Music Noise Results – 0700 03/10/2026 to 0700 04/10/2026

Unit Number	Room	Average Daytime (LAeq,0700-2300)	Average Night-time (LAeq,2300-0700)	15th Nighttime Maximum Noise Level (LAmax)
09	Living Room	-	-	-
	Bedroom	-	-	-
14	Living Room	30 dB	-	-
	Bedroom	25 dB	24 dB	35
19	Living room	-	-	-
	Bedroom	-	-	-

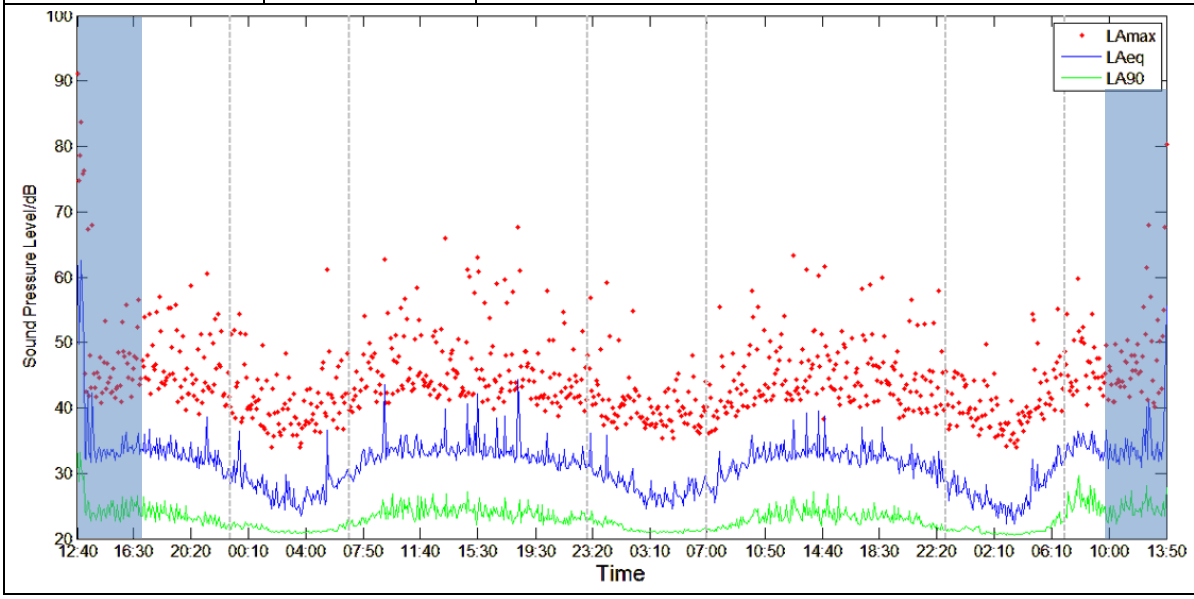
Note 1 – A 3 dB correction has been applied to account for the unfurnished rooms
Note 2 – The above factors in a correction to account for the Butler Pub overrunning their license and playing music between 24:00-01:00

Unattended Noise Level Results – Internal Ambient Noise Graphs

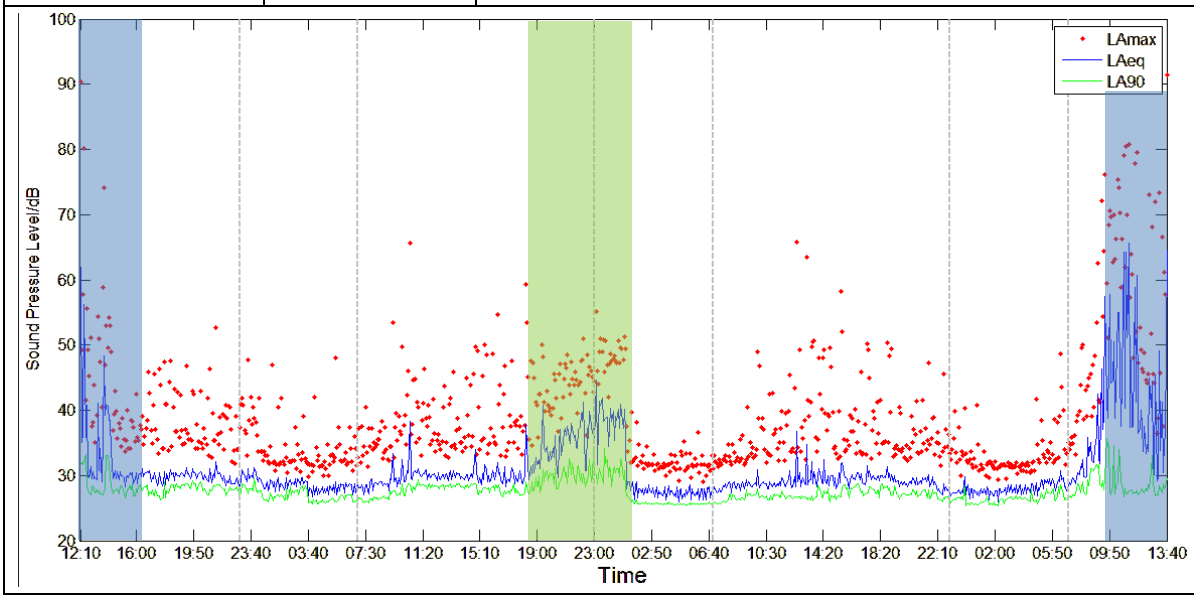
Meas. Period	Position	Periods highlighted in blue below have been excluded from analysis due to disruption from construction activity
02/10/2026 to 05/10/2026	Unit 09 Living Room	



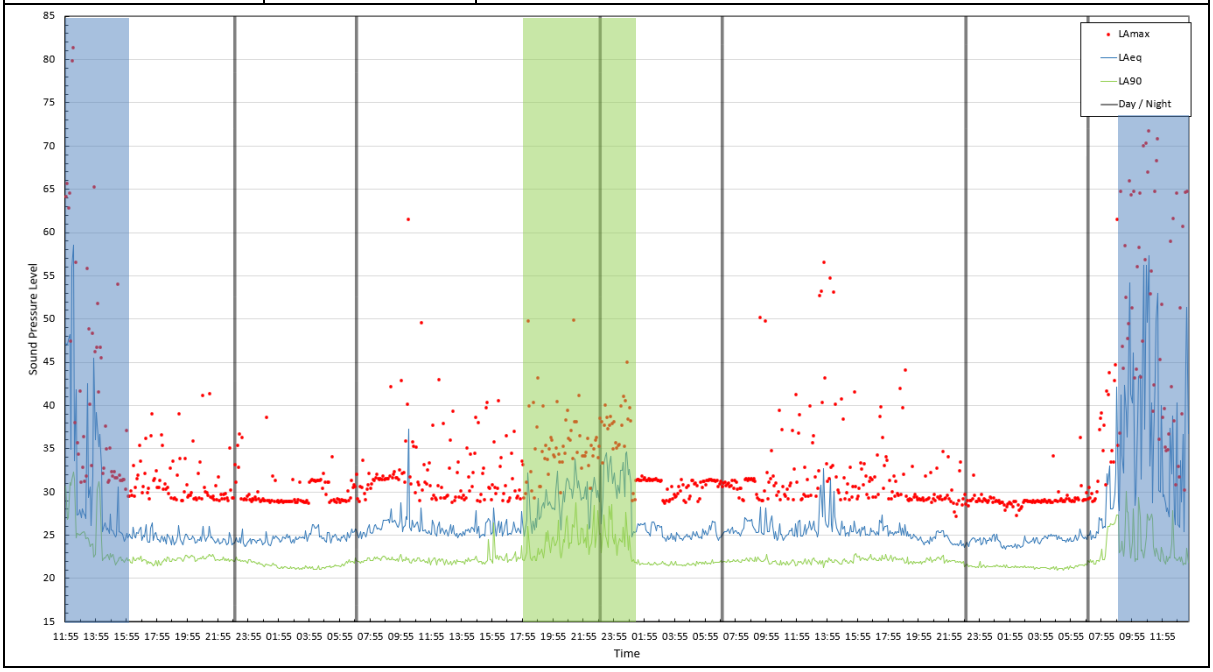
Meas. Period	Position	Periods highlighted in blue below have been excluded due to disruption from construction activity
02/10/2026 to 05/10/2026	Unit 09 Bedroom	



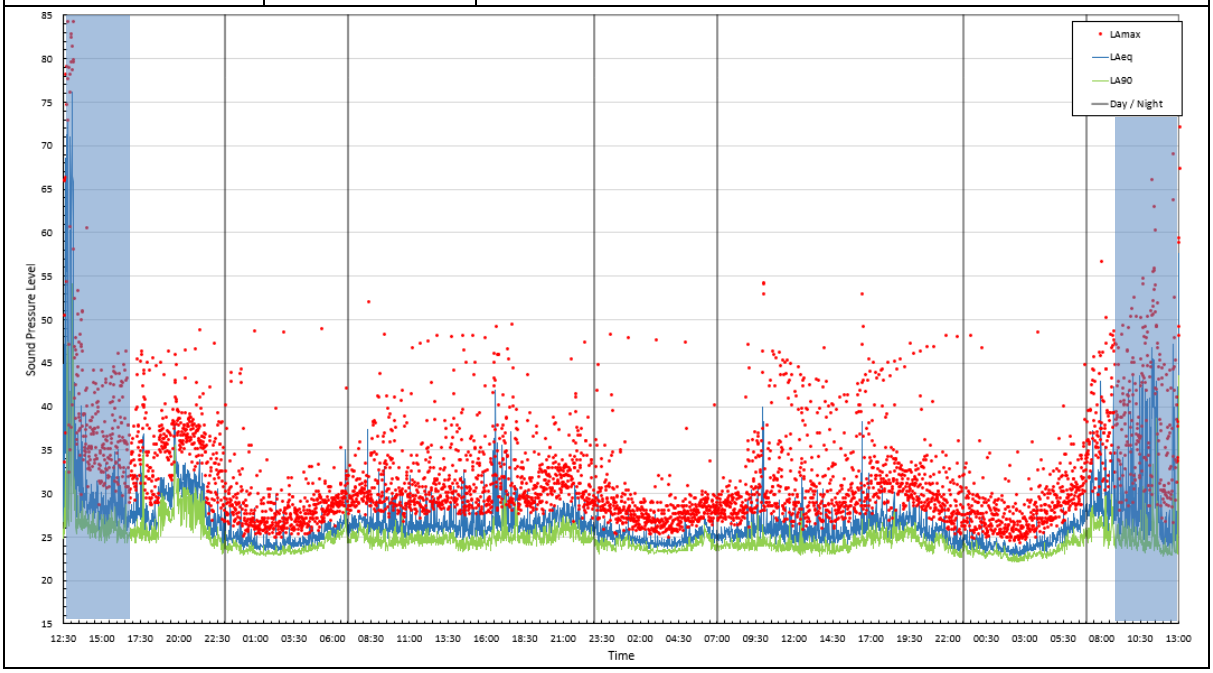
Meas. Period	Position	Periods highlighted in blue below have been excluded due to disruption from construction activity. The period 1900 to 0100 highlighted in green below was where music could be observed associated with the Butler.
02/10/2026 to 05/10/2026	Unit 14 Living Room	



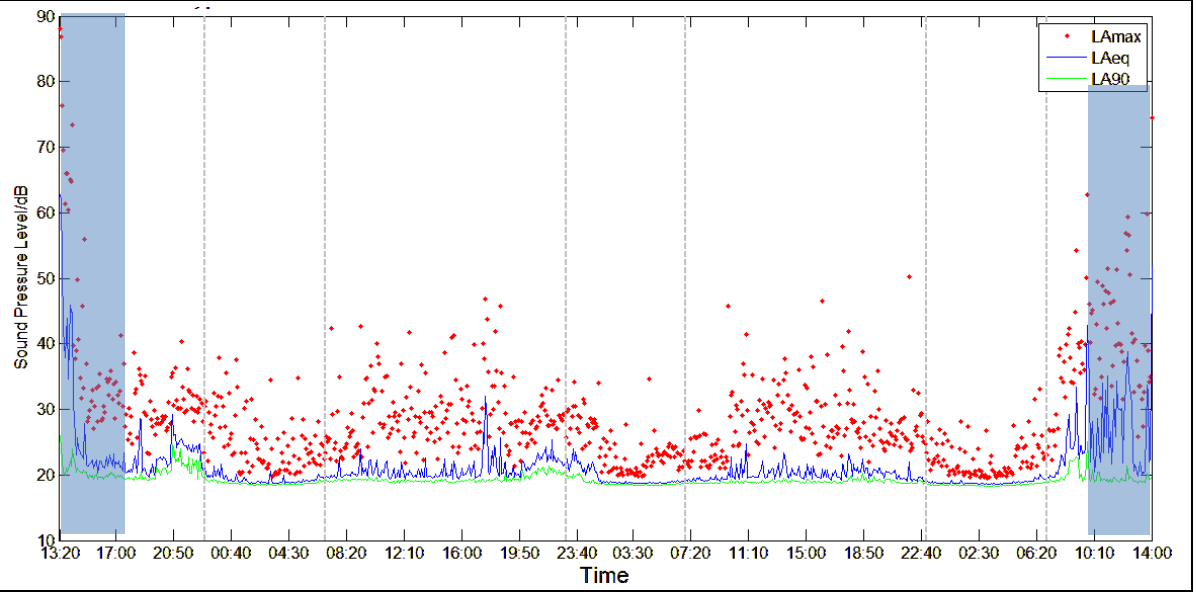
Meas. Period	Position	Periods highlighted in blue below have been excluded due to disruption from construction activity The period 19:00 to 01:00 highlighted in green below was where music could be observed associated with the Butler
02/10/2026 to 05/10/2026	Unit 14 Bedroom	



Meas. Period	Position	Periods highlighted in blue below have been excluded due to disruption from construction activity
02/10/2026 to 05/10/2026	Unit 19 Living Room	



Meas. Period	Position	Periods highlighted in blue below have been excluded due to disruption from construction activity
02/10/2026 to 05/10/2026	Unit 19 Bedroom	



Appendix 3 Music Noise Correction Calculations

	With Music (LAeq, T)	Without Music (LAeq, T)	With Music (LAeq, T)	Without Music (LAeq, T)
Time Period	1900-2300		2300-2400	
Bedroom	30 dB	25 dB	32 dB	24 dB
Living Room	37 dB	29 dB	39 dB	28 dB

	Music noise level excluding transportation noise (LAeq, T)	Music Noise Level Corrected for time period (LAeq, 16 hrs)	Music noise level excluding transportation noise (LAeq, T)	Music Noise Level Corrected for time period (LAeq, 16 hrs)
Time Period	1900-2300		2300-2400	
Bedroom	29 dB	23 dB	32 dB	23 dB
Living Room	36 dB	30 dB	N/A	N/A