

REPORT REFERENCE:

SA – 6875-1

NOISE IMPACT ASSESSMENT

British Standard 4142:2014+A1:2019

CLIENT:

Los Angeles Ltd
160 High Road
Page Green Terrace
London
N15 4NV

SITE:

160 High Road
Page Green Terrace
London
N15 4NV

SURVEY DATES:

24th – 27th October 2024

Authorised By:



Mr. B. J. Scrivener MIOA.

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1 FORENOTE

I am an acoustic consultant and engineering specialist. I hold a Diploma in Acoustics and Noise Control Engineering and studied at Nescot Technical College in Epsom. I qualified in June 2003 but have been working in the acoustics industry since 1997. I am a full member of the Institute of Acoustics. I am the Technical Director and owner of Sound Advice Acoustics Ltd.

Sound Advice Acoustics Ltd has full UKAS accredited in accordance with BS EN ISO 17025: 2005 'General Requirements for the Competence of Testing and Calibration Laboratories', to carry out pre-completion sound insulation tests in accordance with the Building Regulations Approved Document E 2003 'Resistance to the Passage of Sound'

The following survey has been carried out in accordance with the Institute of Acoustics Code of Conduct and this is my primary duty and not to those who issued the instruction and this report is therefore submitted as factual impartial acoustic advice. Throughout any noise assessment carried out, the purpose is to obtain data and present to the client a detailed technical noise report with my independent findings assessment, recommendations and conclusions. My duty as an independent consultant is to deliver impartial results and report. Therefore for the purpose of this particular case my duty as an independent acoustic expert witness is to the courts.

I have worked with many night clubs restaurants and bars throughout the UK giving detailed analysis of noise levels affected local residents, businesses and other establishment that could be adversely affected by noise.

We also specialise in plant room design consultancy for the Supermarket Industry and clients include Tesco's, Marks & Spencer, John Lewis Group.

2 EXECUTIVE SUMMARY

1.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Los Angeles Ltd to undertake a background noise survey to British Standard 4142: 2014 +A1:2019 to determine the impact of their existing multi-occupancy art and music studio facility. In addition, an acoustic sound proof recording room has also been constructed within the ground floor communal area and the suitability of this construction will also be assessed within this report.

1.2 Scope of Report

The measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017 to establish if the proposed site has a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. This report aims to establish the following:

- Existing background noise levels at the residential façade (L_{A90});
- Noise levels from the Proposed Plant (L_{Aeq});
- Impact on the nearest noise sensitive property;
- Review Internal Noise Breakout from Recording Studio;
- Mitigation Levels if Required.

1.3 Measured Background Noise Levels

Continuous background noise measurements were undertaken between the 24th – 27th October 2024 at the Assessment Position 1. The day time background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 44 dB and the night time background noise level between 23:00 and 07:00 found to be $L_{A90,15 \text{ MIN}}$ 38 dB at the assessment position. This background noise level has been assessed during daytime and night time hours to allow for any night time operations.

Daytime Equivalent Existing Background Noise Levels (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 44 dB
Night time Equivalent Existing Background Noise Levels (23:00 – 07:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 38 dB

1.4 Plant Selection Noise Level Analysis

1.4.1 Summary

Any plant selected should not exceed the manufacture's published power or sound pressure level as detailed below:-

Time Period	Maximum Permitted Manufacture's Published Sound Pressure Level @ 1m	Maximum Permitted Manufacture's Published Sound Power Level
Daytime (07:00 – 23:00)	Lp 42 dB(A)	Lw 53 dB(A)
Night time Noise Levels (23:00 – 07:00)	Lp 37 dB(A)	Lw 48 dB(A)

1.4.2 Detailed | Octave Band Analysis

The above calculations have demonstrated that in order to meet the criteria of -10 dB below the recorded background noise level, the following external noise level plant criteria should be achieved at 1.0m and 10.0m from all units operating at the same time under normal load.

DAYTIME 07:00 – 23:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.1	42.1	40.7	42.1	36.8	29.7	25.7	20.4	-12.4	42	Calculated Noise Source Level @ 1.0m
23.1	22.1	20.7	22.1	16.8	9.7	5.7	0.4	-32.4	22	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)										

NIGHT TIME 23:00 – 07:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.8	36.4	34.1	34.7	33.5	27.5	23.4	19.3	-8.2	37	Calculated Noise Source Level @ 1.0m
23.8	16.4	14.1	14.7	13.5	7.5	3.4	-0.7	-28.2	17	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)										

The above calculations have been made on the worst-case scenario with the plant being positioned no closer than 1.0m (linear) to the nearest affected window.

Based on the above being achieved, the following noise assessment can be concluded.

1.5 Assessment

1.5.1 Daytime (07:00 – 23:00).

Rating Level	33 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	43 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

1.5.2 Night Time (23:00 – 07:00).

Rating Level	28 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	38 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

1.5.3 Conclusions

The operation of any proposed external units has been assessed to establish if the development will have a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. Measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest residential façade to the site and the assessment of the impact of the site operation on nearby residential properties. The resulting emissions from the site running on a worst-case scenario show no conflict with 'low impact' criteria and give a strong indication that complaint and impact on the local amenity is unlikely, provided the recommended maximum noise levels plant criteria is achieved as detailed within this report.

The plant criteria was set as any external plant units are yet to be designed and it is recommended that this criteria be set as a planning condition.

1.6 Sound Insulation Tests

Sound insulation tests have been conducted between the recording studio and communal area and from the recording studio to outside. The results indicated a maximum operational music level within the recording studio of 105 dB(A).

The resultant noise level within the main common area at the rear of the building has been recorded at 41.5 dB(A). It should be noted that this section of the building is separated from the main structure of the neighbouring property. However, a sound insulation test carried out indicated a resultant attenuation of R_w 61 dB between the only available test areas of the ground floor front room of this premises to the hallway of the neighbouring property.

This calculates a resultant external noise level of 28 dB(A) at the nearest noise sensitive premises. This is significantly lower than the prevailing background noise level and therefore even with the neighbouring or adjoining properties windows partially open, the resultant noise levels within the noise sensitive premises will be below that of the BS 8233 : 2014 requirement of $L_{Aeq\ 8\ HOUR}$ 35 dB for daytime noise levels.

1.7 NPPF 2023

National Planning Policy Framework 2023 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

1.8 Planning Approval Recommendation

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2023, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

2 INTRODUCTION

2.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Los Angeles Ltd to undertake a background noise survey to British Standard 4142: 2014 +A1:2019 to determine the impact of their existing multi-occupancy artist media photography music recording studio production facility. In addition, an acoustic sound proof recording room has also been constructed within the ground floor communal area and the suitability of this construction will also be assessed within this report.

The purpose of this assessment is to ensure the acoustic protection of noise sensitive premises closest to the proposed new kitchen extract. Noise sensitive premises are not restricted to residential dwellings as offices can be affected by unwanted external noise. However, the student accommodation units directly above the site have been identified as the nearest noise sensitive and therefore all calculations and assessments are to be made to these positions. This noise report has been compiled in order to accompany a planning and licencing application for the premises to have access 24 hours a day to the creative workspace / artists' studios and other areas within the demise that are non-noise generating. With regards to the recording studio, although positioned centrally within the building, this space is currently only used between 12pm and 7pm daily.

Any amplified music or percussion is only played within the recording studio and this is reflected within the operators noise management plan.

2.2 Ambient and Background Measurements

External noise levels are to be recorded over, what has been considered for the site, an average / typical time period in order to assess the daytime noise levels. Levels have been recorded over more than one day in order to ensure the uncertainty of measurement aspects of BS 4142:2014+A1:2019 have been satisfied and that the data recorded is representative for the purpose of a robust assessment.

With regards to external ambient noise, environmental noise levels are to be monitored at the site in accordance with British Standard 7445: 2003 'Description and measurement of environmental noise assessments and assessments made in-line with PProPG: Planning and Noise.

2.3 BS 4142: 2014+A1:2019

British Standard 4142: 2014 +A1:2019 is to be adopted for the basis of this background noise level assessment. A BS 4142: 2014 +A1:2019 noise assessment will be carried out in order to demonstrate that any new externally mounted plant units associated with the site will not have a significant and demonstrable adverse impact on the nearest noise sensitive premises in accordance with the National Planning Policy Framework.

Please note that Music venues fall outside the scope of BS 4142: 2014 +A1:2019 and therefore only external plant is to be addressed using this standard. At this time of the application, the precise details of any external plant is unknown and therefore a maximum noise level criteria is to be set in order to demonstrate the proposed venue can operate within the requirements of BS 4142: 2014 +A1:2019, NPPF & NPSE as a whole.

2.4 National Planning Policy Framework 2023 & Noise Policy Statement for England 2010

References and evaluations are to be made to the National Planning Policy Framework 2023 (NPPF) and the Noise Policy Statement for England 2010 (NPSE). The purpose of this document is to include all aspects of environmental noise within assessments i.e. environmental noise, neighbour noise and neighbourhood noise. Noise is to be considered alongside other relevant issues relating to the site and should not be considered in isolation, according to the NPSE.

There are several key phrases within the NPSE aims and these are discussed below.

2.5 “Significant adverse” and “adverse”

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

2.6 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.

2.7 LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

2.8 SOAEL – Significant Observed Adverse Effect Level

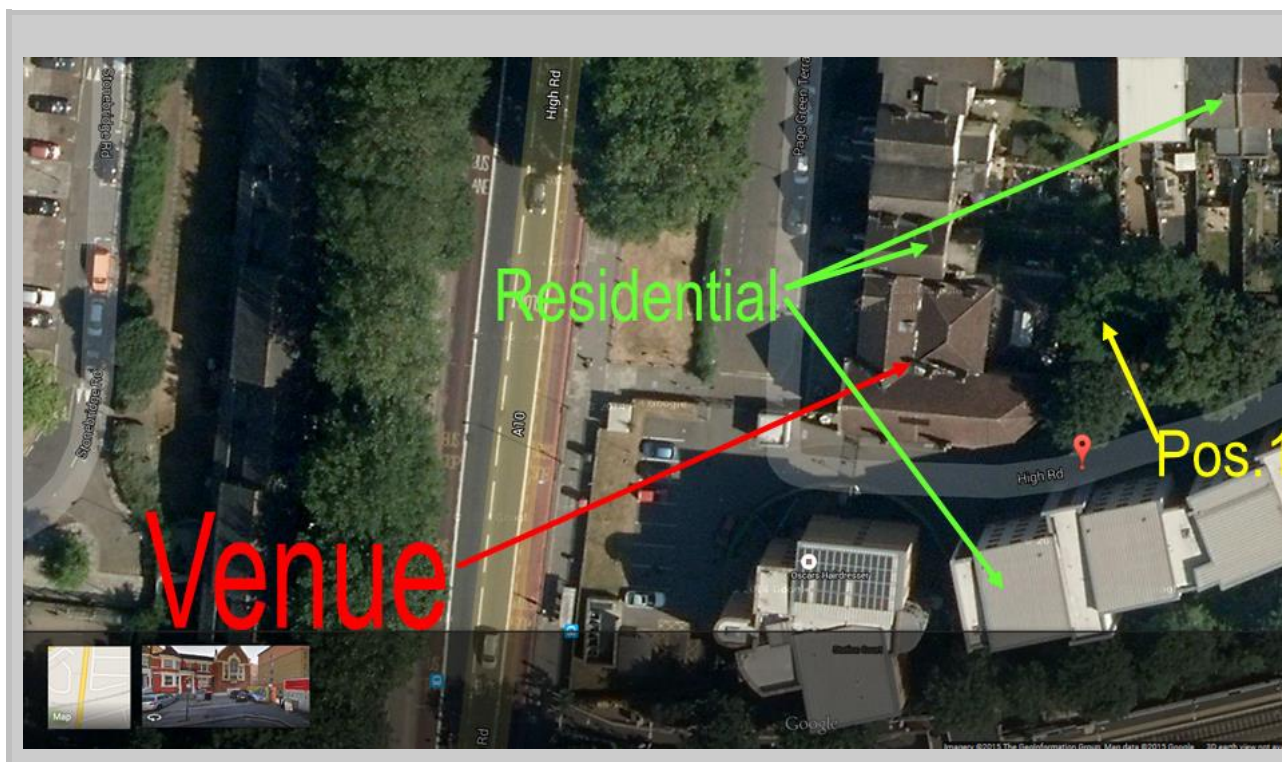
This is the level above which significant adverse effects on health and quality of life occur.

It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

3 SITE LOCATION

3.1 Assessment Position and Background Position

Continuous measurements were undertaken at the assessment position between the 24th – 27th October 2024. Measurement was undertaken at ground floor level at the representative nearest noise sensitive premises / receptor in accordance with ISO1996 part 2: 2017.



4 RESULTS

4.1 Downloaded results, and averages

4.1.1 07:00 – 07:00 24th – 25th October 2024

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	54.4	86.8	44.0	55.5	54.5	53.1	54.5	49.2	42.1	38.1	32.8	0.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	45.2	78.2	38.0	52.0	44.6	42.3	42.9	41.7	35.7	31.6	27.5	0.0

4.1.2 07:00 – 07:00 25th – 26th October 2024

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	49.8	77.5	45.0	55.8	50.4	47.5	46.7	44.5	41.1	41.0	36.3	0.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	46.5	75.0	43.0	52.0	47.0	44.8	44.2	42.8	37.1	32.6	27.9	0.0

4.1.3 07:00 – 07:00 26th – 27th October 2024

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	52.4	83.6	44.0	55.8	51.9	50.0	50.0	47.0	42.7	43.5	40.5	0.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	47.5	88.9	42.0	51.7	47.7	46.1	46.1	43.6	36.8	32.7	28.2	0.0

Continuous background noise measurements were undertaken between the 24th – 27th October 2024 at the Assessment Position 1. The day time background noise levels between 07:00 and 23:00 was found to be LA90,1 hour 44 dB and the night time background noise level between 23:00 and 07:00 found to be LA90,15 MIN 38 dB at the assessment position. This background noise level has been assessed during daytime and night time hours to allow for any night time operations.

Daytime Equivalent Existing Background Noise Levels (07:00 – 23:00)	Measured Levels at Assessment Position 1	LA90, t 44 dB
Night time Equivalent Existing Background Noise Levels (23:00 – 07:00)	Measured Levels at Assessment Position 1	LA90, t 38 dB

5 APPARATUS

5.1 Equipment Calibration

The equipment was calibrated using a sound pressure level of 114.0 dB at an octave band centre frequency of 1000Hz with reference to $2 \times 10^{-5} \text{ Nm}^{-2}$ before and after the tests and the equipment set to have no inaccuracy greater than 0.2 dB.

All the following equipment was calibrated in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates. Calibration schedules are implemented within Sound Advice Acoustics Ltd in accordance with UKAS directive LAB 23.

5.2 Position 1

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Svantek UK	SV 307A	157229	2 YEARS	N/A	06.08.2024
Calibrator	Svantek UK	SV 33b	154757	1 YEAR	N/A	11.07.2024
Microphone	Svantek UK	ST 30A (v3)	157818	2 YEARS	N/A	06.08.2024

The noise meter was calibrated before and after the assessment period and found to be within the tolerance of the manufacturer's guidance. Full Calibration certificates are available upon request.

6 CALCULATIONS FOR ANY FUTURE EXTRENAL M&E / AC PLANT

The following calculations have been based on the recorded LA90 background noise level over a typical 24 hour period at the measurement position 1 and include the possibility of night time operations.

6.1 DAYTIME 07:00 – 23:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
55.5	54.5	53.1	54.5	49.2	42.1	38.1	32.8	0.0		Recorded Background Noise Levels
3	3	3	3	3	3	3	3	3		Reflection at Residential
15	15	15	15	15	15	15	15	15		BS 4142: 2014 +A1:2019 Corrections
11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4		LAeq - LA90
20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		Distance Correction
0	0	0	0	0	0	0	0	0		Barrier Attenuation
3	3	3	3	3	3	3	3	3		Reflection at Source
29.1	28.1	26.7	28.1	22.8	15.7	11.7	6.4	-26.4	28	Target Level at Residential
6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		Reflections
20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		Distance and Barriers
43.1	42.1	40.7	42.1	36.8	29.7	25.7	20.4	-12.4	42	Calculated Noise Source Level @ 1.0m
23.1	22.1	20.7	22.1	16.8	9.7	5.7	0.4	-32.4	22	Calculated Noise Source Level @ 10.0m

6.2 NIGHT TIME 23:00 – 07:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
52.0	44.6	42.3	42.9	41.7	35.7	31.6	27.5	0.0		Recorded Background Noise Levels
3	3	3	3	3	3	3	3	3		Reflection at Residential
15	15	15	15	15	15	15	15	15		BS 4142: 2014 +A1:2019 Corrections
7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2		LAeq - LA90
20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		Distance Correction
0	0	0	0	0	0	0	0	0		Barrier Attenuation
3	3	3	3	3	3	3	3	3		Reflection at Source
29.8	22.4	20.1	20.7	19.5	13.5	9.4	5.3	-22.2	23	Target Level at Residential
6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		Reflections
20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		Distance and Barriers
43.8	36.4	34.1	34.7	33.5	27.5	23.4	19.3	-8.2	37	Calculated Noise Source Level @ 1.0m
23.8	16.4	14.1	14.7	13.5	7.5	3.4	-0.7	-28.2	17	Calculated Noise Source Level @ 10.0m

6.3 Plant Selection Noise Level Analysis

6.3.1 Summary

Any plant selected should not exceed the manufacture's published power or sound pressure level as detailed below:-

Time Period	Maximum Permitted Manufacture's Published Sound Pressure Level @ 1m	Maximum Permitted Manufacture's Published Sound Power Level
Daytime (07:00 – 23:00)	Lp 42 dB(A)	Lw 53 dB(A)
Night time Noise Levels (23:00 – 07:00)	Lp 37 dB(A)	Lw 48 dB(A)

6.3.2 Detailed | Octave Band Analysis

The above calculations have demonstrated that in order to meet the criteria of -10 dB below the recorded background noise level, the following external noise level plant criteria should be achieved at 1.0m and 10.0m from all units operating at the same time under normal load.

DAYTIME 07:00 – 23:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.1	42.1	40.7	42.1	36.8	29.7	25.7	20.4	-12.4	42	Calculated Noise Source Level @ 1.0m
23.1	22.1	20.7	22.1	16.8	9.7	5.7	0.4	-32.4	22	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)										

NIGHT TIME 23:00 – 07:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.8	36.4	34.1	34.7	33.5	27.5	23.4	19.3	-8.2	37	Calculated Noise Source Level @ 1.0m
23.8	16.4	14.1	14.7	13.5	7.5	3.4	-0.7	-28.2	17	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)										

The above calculations have been made on the worst-case scenario with the plant being positioned no closer than 1.0m (linear) to the nearest affected window.

Based on the above being achieved, the following noise assessment can be concluded.

7 BS 4142:2014+A1:2019 NOISE ASSESSMENT

7.1 Scope of British Standard 4142: 2014

In the assessment of the existing surrounding commercial premises, consideration has been given to the scope of British Standard 4142:2014+A1:2019, which in section 1, details applicability of this standard to rating assessing sound of an industrial and/or commercial nature. It is considered appropriate that both the background noise levels and the rating noise levels obtained fall within the scope of British Standard 4142:2014+A1:2019 by using outdoor sound levels to assess the effect of sound on local residents.

7.2 Terms and Definitions

Symbol	Term	Definition
AP	Assessment Position	Position externally at the façade property under investigation at which the assessment is undertaken which is usually 1m from the 1 st floor bedroom window.
EP	Equivalent Position	Position at which the background noise levels are measured if there is no access to the assessment position or if source under investigation is audible.
$L_s = L_{Aeq, T}$	Specific Level	The average continuous equivalent sound pressure level of the source at the assessment position.
$L_{Ar, Tr}$	Rating Level	The average continuous equivalent sound pressure level of the source at the assessment position with a correction to account for the characteristic features.
$L_r = L_{Aeq, T}$	Residual Level	The average continuous equivalent sound pressure level at the assessment position without the source operating.
$L_{A90, T}$	Background Level	The sound pressure level that is not exceeded 90% of the time at the assessment position.
$L_a = L_{Aeq, T}$	Ambient Level	The totally encompassing sound at the assessment position including the residual and specific noise.

7.3 Assessment Position

The assessment position 1 was established as the neighboring residential premises.

7.4 Calculations

The specific noise levels are calculated at the assessment position located at the residential property adjacent using the calculations detailed within ISO 9613 Part 1 and 2: 1996. These calculations take the manufacturers sound power levels into account for a variety of factors including source directivity, distance, atmospheric absorption, ground absorption and the effects of any barriers and determine the resultant noise levels at the assessment position.

7.5 Equivalent Position

The background noise levels were measured at the equivalent position, chosen as it most represented the closest noise sensitive façade.

7.6 Rating Levels (Character Correction)

It is appropriate to add a character correction where there is a new source that cannot be measured in line with BS 4142: 2014 +A1:2019. There are 3 methods for approaching this.

- a) Subjective method
- b) Objective method (for tonality)
- c) Reference method

7.7 Subjective Method

The subjective method establishes a rating penalty that is added to the specific noise level if any of the following is present at the assessment position. If a tone is expected to be present a character correction of 0 dB to 6 dB is added depending on how perceptible it is at noise sensitive locations.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Tonality Ranging from not tonal to prominently tonal	Not tonal	+0
	Just perceptible	+2
	Clearly perceptible	+4
	Highly perceptible	+6

If the source is expected to be impulsive a character correction of 0 dB to 9 dB is added depending on how perceptible it is at noise sensitive locations.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Impulsivity Considering both the rapidity and any overall change in sound levels	Not impulsive	+0
	Just perceptible	+3
	Clearly perceptible	+6
	Highly perceptible	+9

When the sound features are neither tonal nor impulsive, a character correction of +3 is added for the readily distinctive quality against the acoustic environment or for the intermittency of the source.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Readily Distinctive	Is not present	+0
	Is present	+3
Intermittency	Is not present	+0
	Is present	+3

7.8 Assessment Criterion

The significance of the resulting noise on the residential property depends on the margin by which it exceeds the background noise levels. British Standard 4142:2014+A1:2019 provides the following guidance within section 11.

Difference	Assessment of Impact
+10 dB	Indication of a significant adverse impact
+5 dB	Indication of an adverse impact
+0 dB	Indication of low impact

7.9 Noise Meter Floor

BS 4142:2014+A1:2019 suggests that Care is necessary in circumstances where background sound levels are low to ensure that self-generated and electrical noise within the measurement system does not unduly influence reported values, which might be the case if the measured background sound levels are less than 10 dB above the noise floor of the measuring system. The floor of a typical class 1 noise meter is in the region of 14 dB(A) and therefore measurements of less than 24 dB(A) should be assessed with care.

7.10 BS 4142:2014+A1:2019 Penalties

Whilst BS 4142:2014+A1:2019 allows receptor assessments to be made to achieve levels equal to prevailing background noise levels, it also ensures that appropriate and more stringent penalties are applied to the specific noise level to ensure the correct level of protection for the local residents.

7.11 Assessments

7.11.1 Daytime (07:00 – 23:00).

Rating Industrial Noise affecting Mixed Industrial and Residential Areas			British Standard 4142:2014+A1:2019 Daytime (07:00 to 23:00)
Assessment Position			Neighbouring Residential Premises
Background Position			At the assessment position
Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1\text{ hour}}$	28 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+2 dB	8.1	Tonality Characteristic
Impulsivity	+3 dB	8.1	Impulsive Characteristic
Rating Level	33 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\text{ hour}}$	43 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

7.11.2 Night Time (23:00 – 07:00).

Rating Industrial Noise affecting Mixed Industrial and Residential Areas			British Standard 4142:2014+A1:2019 Night Time (23:00 to 07:00)
Assessment Position			Neighbouring Residential Premises
Background Position			At the assessment position
Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1\text{ hour}}$	23 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+2 dB	8.1	Tonality Characteristic
Impulsivity	+3 dB	8.1	Impulsive Characteristic
Rating Level	28 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\text{ hour}}$	38 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

7.12 Tonal Penalty

A +2 dB penalty has been applied to the specific noise level to allow for any minor tonal elements that may be present from the proposed plant. It should be noted that the calculations made within this report have been done so in octave band centre frequency levels in order to minimise tonal element and therefore applying any more than +2 dB would not be appropriate to this assessment. To safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

7.13 Impulsivity Penalty

A +3 dB penalty has been applied to the specific noise level to allow for any minor impulsive elements that may be present from the proposed plant. It should be noted that the calculations made within this report have been done so with the assessment conclusion of +/- 0 dB below the background noise levels and therefore, the impulsive nature of the plant should not be audible at the nearest associated noise sensitive preceptors. To safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

7.14 Assessment Conclusion

It can be seen from the above assessments that with any new plant achieving the proposed maximum noise level plant criteria detailed within this report, an assessment conclusion of Low Impact could be expected. Therefore, no further mitigation measures would be required if the design criteria are adhered to.

8 NOISE BREAKOUT

8.1 Outline

Sound Advice Acoustics have previously been consulted on the construction of the recording studio and advised on the following construction methods. The attached Appendix A demonstrates the layout of the development with art studios positioned on a large majority of the outer and neighbouring walls.

8.2 Proposed & Confirmed Construction Methods

The music studio is positioned centrally within the building and constructed using the following confirmed construction methods and complies with our original construction specifications.

- ✓ 3x layers of 15mm soundbloc Plasterboard
- ✓ 65mm timber stud frame with foam lining of one side for isolation.
- ✓ Infilled with 45kg/m³ mineral wool slab 50mm thick.
- ✓ 3x layers of 15mm soundbloc Plasterboard

Octave Band Centre Frequency (Hz)								Rw dB
63	125	250	500	1.0k	2.0k	4.0k	8.0k	
31	41	52	58	61	58	62	57	Rw 59 dB
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)								

8.3 Sound Insulation Tests

Sound insulation tests have been conducted between the recording studio and communal area and from the recording studio to outside. The results indicated a maximum operational music level within the recording studio of 105 dB(A).

The resultant noise level within the main common area at the rear of the building has been recorded at 41.5 dB(A). It should be noted that this section of the building is separated from the main structure of the neighbouring property. However, a sound insulation test carried out indicted a resultant attenuation of Rw 61 dB between the only available test areas of the ground floor front room of this premises to the hallway of the neighbouring property.

The above values clearly indicate that music levels of 105 dB(A) generated within the purpose built music room are unlikely to even be audible within the neighbouring properties.

An internal to external sound insulation test has been carried out between the recording studio and outside and an overall sound attenuation value of Rw 63 dB as tabulated below:-

Octave Band Centre Frequency (Hz)								Rw dB
63	125	250	500	1.0k	2.0k	4.0k	8.0k	
46.3	55.9	60.8	62.4	62.7	65.0	72.3	75.1	Rw 63 dB
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)								

This calculates a resultant external noise level of 28 dB(A) at the nearest noise sensitive premises. This is significantly lower than the prevailing background noise level and therefore even with the neighbouring or adjoining properties windows partially open, the resultant noise levels within the noise sensitive premises will be below that of the BS 8233 : 2014 requirement of L_{Aeq} 8 HOUR 35 dB for daytime noise levels.

9 NPPF & NPSE

The National Planning Policy Framework 2023 (NPPF) and assessments to the Noise Policy Statement for England 2010 (NPSE) should be made in conjunction with each other. Paragraphs 185 - 188 of the National Planning Policy Framework 2023 (NPPF) states the following:

Paragraph 185 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:

- a) 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.
- b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

Paragraph 186 Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications.

Paragraph 187 Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

Paragraph 188 The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.

The Noise Policy Statement for England gives various levels of effect as detailed within this report.

With the specifications achieved within this report, the development can be implemented within the guidelines of the aforementioned documents and ensure a conclusion of **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.

10 CONCLUSIONS

10.1 Measured Background Noise Levels

Continuous background noise measurements were undertaken between the 24th – 27th October 2024 at the Assessment Position 1. The day time background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 44 dB and the night time background noise level between 23:00 and 07:00 found to be $L_{A90,15 \text{ MIN}}$ 38 dB at the assessment position. This background noise level has been assessed during daytime and night time hours to allow for any night time operations.

Daytime Equivalent Existing Background Noise Levels (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 44 dB
Night time Equivalent Existing Background Noise Levels (23:00 – 07:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 38 dB

10.2 Plant Selection Noise Level Analysis

10.2.1 Summary

Any plant selected should not exceed the manufacture's published power or sound pressure level as detailed below:-

Time Period	Maximum Permitted Manufacture's Published Sound Pressure Level @ 1m	Maximum Permitted Manufacture's Published Sound Power Level
Daytime (07:00 – 23:00)	L_p 42 dB(A)	L_w 53 dB(A)
Night time Noise Levels (23:00 – 07:00)	L_p 37 dB(A)	L_w 48 dB(A)

10.2.2 Detailed | Octave Band Analysis

The above calculations have demonstrated that in order to meet the criteria of -10 dB below the recorded background noise level, the following external noise level plant criteria should be achieved at 1.0m and 10.0m from all units operating at the same time under normal load.

DAYTIME 07:00 – 23:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.1	42.1	40.7	42.1	36.8	29.7	25.7	20.4	-12.4	42	Calculated Noise Source Level @ 1.0m
23.1	22.1	20.7	22.1	16.8	9.7	5.7	0.4	-32.4	22	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2×10^{-5} Pa)										

NIGHT TIME 23:00 – 07:00

Octave Band Centre Frequency (Hz)									dB(A)	Comments
63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
43.8	36.4	34.1	34.7	33.5	27.5	23.4	19.3	-8.2	37	Calculated Noise Source Level @ 1.0m
23.8	16.4	14.1	14.7	13.5	7.5	3.4	-0.7	-28.2	17	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)										

The above calculations have been made on the worst-case scenario with the plant being positioned no closer than 1.0m (linear) to the nearest affected window.

Based on the above being achieved, the following noise assessment can be concluded.

10.3 Assessment

10.3.1 Daytime (07:00 – 23:00).

Rating Level	33 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level LA90,1 hour	43 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

10.3.2 Night Time (23:00 – 07:00).

Rating Level	28 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level LA90,1 hour	38 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	-10 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	-10 dB		
Conclusion	The assessment level is 'Low Impact'		

10.3.3 Conclusions

The operation of any proposed external units has been assessed to establish if the development will have a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. Measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest residential façade to the site and the assessment of the impact of the site operation on nearby residential properties. The resulting emissions from the site running on a worst-case scenario show no conflict with 'low impact' criteria and give a strong indication that complaint and impact on the local amenity is unlikely, provided the recommended maximum noise levels plant criteria is achieved as detailed within this report.

The plant criteria was set as any external plant units are yet to be designed and it is recommended that this criteria be set as a planning condition.

10.4 Sound Insulation Tests

Sound insulation tests have been conducted between the recording studio and communal area and from the recording studio to outside. The results indicated a maximum operational music level within the recording studio of 105 dB(A).

The resultant noise level within the main common area at the rear of the building has been recorded at 41.5 dB(A). It should be noted that this section of the building is separated from the main structure of the neighbouring property. However, a sound insulation test carried out indicated a resultant attenuation of R_w 61 dB between the only available test areas of the ground floor front room of this premises to the hallway of the neighbouring property.

This calculates a resultant external noise level of 28 dB(A) at the nearest noise sensitive premises. This is significantly lower than the prevailing background noise level and therefore even with the neighbouring or adjoining properties windows partially open, the resultant noise levels within the noise sensitive premises will be below that of the BS 8233 : 2014 requirement of $L_{Aeq, 8 \text{ HOUR}}$ 35 dB for daytime noise levels.

10.5 NPPF 2023

National Planning Policy Framework 2023 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

10.6 Planning Approval Recommendation

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2023, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

11 APPENDIX A – UNCERTAINTY BUDGET

11.1 Scope

British Standard 4142:2014+A1:2019 entitled “*Uncertainty*” requires the following:

“Consider the level of uncertainty in the data and associated calculations. Where the level of uncertainty could affect the conclusion, take reasonably practicable steps to reduce the level of uncertainty. Report the level and potential effects of uncertainty.”

Annex B of British Standard 4142:2014+A1:2019 entitled “consideration of uncertainty and good practice for reducing uncertainty” makes reference to the University of Salford publication entitled “A Good Practice Guide on the Source and Magnitude of Uncertainty arising in the Practical Measurement of Environmental Noise” edition 1a dated May 2007.

11.2 Uncertainty of Measured Values

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Variability and complexity of sound source	0.50	$\sqrt{2}$	0.35
b	Variability and complexity of residual sound	0.00	$\sqrt{3}$	0.00
c	Residual sound present in specific sound	0.00	$\sqrt{3}$	0.00
d	Background noise position selection	0.10	$\sqrt{3}$	0.06
e	Distance between source and receiver	0.15	$\sqrt{2}$	0.11
f	Number of measurements taken (5 Days)	0.10	$\sqrt{3}$	0.06
g	Measurement time interval variation	0.00	$\sqrt{2}$	0.00
h	Range of times measurements taken	0.10	$\sqrt{3}$	0.06
i	Suitable weather conditions during measurements	0.20	$\sqrt{3}$	0.12
j	Application of British Standard 4142:2014+A1:2019	0.10	$\sqrt{2}$	0.07
k	Rounding of each measurement	0.05	$\sqrt{3}$	0.03
l	Instrumentation – Calibration	1.20	$\sqrt{3}$	0.69
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				1.61

11.3 Uncertainty in Calculations

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Impact of measured sound level on calculations	0.00	$\sqrt{2}$	0.00
b	Assumption on sound power level of source	0.00	$\sqrt{3}$	0.00
c	Uncertainty of calculation method (ISO 9613)	0.20	$\sqrt{3}$	0.12
d	Model fit against real world conditions	0.10	$\sqrt{3}$	0.06
e	Error in the calculation process	0.15	$\sqrt{2}$	0.11
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				0.33

11.4 Uncertainty from Other Factors

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Standing waves or interference patterns	0.15	$\sqrt{3}$	0.09
b	Approximation of sound source to a point source	0.10	$\sqrt{3}$	0.06
c	Maintenance and repair of source over 15 years	0.50	$\sqrt{3}$	0.29
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				0.61

11.5 Combined Reported Expanded Uncertainty

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Section 7.1.2. Uncertainty of measured values	2.7	$\sqrt{2}$	1.14
b	Section 7.1.3. Uncertainty of calculations	2.7	$\sqrt{2}$	0.23
c	Section 7.1.4. Uncertainty from other factors	2.7	$\sqrt{2}$	0.43
Combined Reported Expanded Uncertainty (95% confidence, convergence k = 2)				2.55

It should be noted that the uncertainty calculations have assumed a Type B uncertainty.

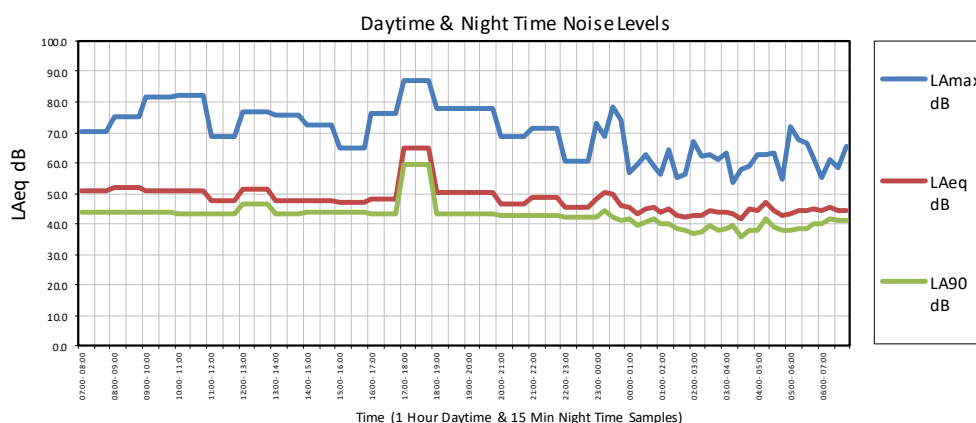
12 APPENDIX B – RESULTS

12.1 24th – 25th October 2024

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmaz 16 HOUR	54.4	86.8	44.0	55.5	54.5	53.1	54.5	49.2	42.1	38.1	32.8	0.0
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmaz 8 HOUR	45.2	78.2	38.0	52.0	44.6	42.3	42.9	41.7	35.7	31.6	27.5	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	50.6	57.1	43.9	53.1	53.5	49.4	49.0	45.4	40.8	39.8	33.7	0.0
08:00 - 09:00	51.9	75.0	43.8	54.7	56.0	51.5	50.8	47.2	41.4	35.6	33.1	0.0
09:00 - 10:00	50.9	81.8	43.8	54.6	52.4	50.3	49.9	46.1	40.3	37.3	35.9	0.0
10:00 - 11:00	50.8	82.3	43.5	54.8	52.7	50.4	50.3	45.9	37.4	38.1	29.8	0.0
11:00 - 12:00	47.4	68.8	43.5	55.3	48.6	45.0	44.1	42.9	37.6	37.8	35.5	0.0
12:00 - 13:00	51.3	76.7	46.6	57.5	49.6	49.8	46.5	45.6	44.7	42.6	36.9	0.0
13:00 - 14:00	47.7	75.7	43.3	54.8	48.0	45.0	44.3	43.4	40.0	36.9	33.2	0.0
14:00 - 15:00	47.8	72.3	43.7	55.1	47.5	44.0	44.2	43.4	40.7	36.3	33.7	0.0
15:00 - 16:00	47.2	65.1	43.9	55.3	48.7	45.7	44.4	43.4	37.7	34.6	30.4	0.0
16:00 - 17:00	48.4	76.0	43.4	55.3	49.2	44.9	43.6	44.2	41.9	37.0	31.1	0.0
17:00 - 18:00	65.0	86.8	59.4	59.5	64.2	63.5	65.7	59.5	50.4	43.9	34.1	0.0
18:00 - 19:00	50.3	77.8	43.1	56.0	51.5	49.4	49.1	45.9	39.2	35.7	31.0	0.0
19:00 - 20:00	46.7	68.8	42.8	55.6	50.9	47.8	44.4	42.0	36.4	33.0	27.9	0.0
20:00 - 21:00	48.6	71.3	42.6	55.6	52.0	48.7	47.3	44.2	37.5	32.9	28.0	0.0
21:00 - 22:00	45.6	60.5	42.1	53.2	47.8	44.7	43.1	41.8	35.8	31.1	27.3	0.0
22:00 - 23:00	46.8	77.2	42.0	52.8	46.3	44.3	44.6	43.1	37.3	33.7	27.7	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	48.1	73.0	42.4	52.6	45.3	43.4	47.5	43.7	37.9	33.1	27.9	0.0
23:15 - 23:30	50.5	68.8	44.6	54.8	48.4	46.8	49.6	46.7	39.9	34.7	28.4	0.0
23:30 - 23:45	49.7	78.2	42.3	52.3	45.0	43.1	47.4	47.3	38.4	33.2	28.4	0.0
23:45 - 00:00	46.0	74.2	41.4	53.4	44.3	42.3	43.6	42.2	37.0	33.4	29.0	0.0
00:00 - 00:15	45.3	57.1	41.5	56.9	46.5	43.6	43.2	41.6	35.5	30.3	26.2	0.0
00:15 - 00:30	43.6	59.6	39.8	51.3	43.2	40.9	40.1	40.5	34.7	29.3	26.1	0.0
00:30 - 00:45	44.8	62.7	40.8	50.5	44.9	42.0	41.9	41.6	35.7	31.1	27.1	0.0
00:45 - 01:00	45.7	58.8	41.9	52.1	44.9	43.5	44.1	42.1	35.6	30.1	26.2	0.0
01:00 - 01:15	43.8	56.1	40.0	51.6	42.1	40.5	39.6	40.8	36.0	29.6	25.9	0.0
01:15 - 01:30	45.0	64.3	40.0	49.0	42.7	40.3	40.1	42.4	37.1	30.1	26.3	0.0
01:30 - 01:45	43.0	55.1	38.6	48.1	42.3	39.9	39.6	40.2	34.0	27.7	25.8	0.0
01:45 - 02:00	42.5	56.4	38.1	47.5	40.0	38.7	38.9	39.7	33.9	28.5	26.1	0.0
02:00 - 02:15	42.6	66.9	36.6	48.2	42.2	39.6	39.1	39.6	33.9	29.7	26.1	0.0
02:15 - 02:30	42.5	62.1	37.4	47.9	41.5	39.4	39.3	39.6	33.7	28.5	25.9	0.0
02:30 - 02:45	44.7	62.5	39.5	51.3	45.2	43.4	42.9	40.8	34.3	30.2	26.3	0.0
02:45 - 03:00	43.7	60.9	37.9	51.5	41.8	39.5	40.2	40.2	34.9	32.8	29.2	0.0
03:00 - 03:15	43.7	63.3	38.5	50.4	45.8	41.2	41.2	40.2	34.0	30.1	26.2	0.0
03:15 - 03:30	43.1	53.4	39.4	49.0	41.8	41.0	40.6	39.8	33.9	28.1	26.1	0.0
03:30 - 03:45	41.9	57.9	35.8	46.0	41.1	40.8	38.8	38.3	33.0	28.8	26.5	0.0
03:45 - 04:00	44.8	59.2	37.8	50.7	43.4	42.8	43.5	40.5	34.4	31.6	28.4	0.0
04:00 - 04:15	44.6	62.6	38.0	53.4	44.5	42.2	43.1	40.8	34.2	29.8	26.8	0.0
04:15 - 04:30	46.9	62.5	41.7	53.6	49.0	46.4	45.3	42.6	35.9	34.1	29.1	0.0
04:30 - 04:45	44.5	63.3	39.1	51.4	42.9	40.1	39.9	39.7	37.8	35.5	27.6	0.0
04:45 - 05:00	42.8	54.5	38.0	49.5	41.9	40.8	40.1	39.6	33.3	28.4	26.2	0.0
05:00 - 05:15	43.5	72.0	38.0	50.2	41.6	40.8	40.3	40.1	34.9	30.7	27.3	0.0
05:15 - 05:30	44.2	67.6	38.7	51.9	44.2	43.1	40.9	40.8	35.3	30.4	26.9	0.0
05:30 - 05:45	44.2	66.6	38.4	51.0	45.2	42.6	40.8	40.6	35.2	32.0	27.9	0.0
05:45 - 06:00	44.8	61.6	40.2	52.2	45.1	43.1	42.2	41.2	35.4	31.9	27.4	0.0
06:00 - 06:15	44.1	55.4	40.0	52.2	43.1	40.5	40.4	40.9	35.2	31.0	31.7	0.0
06:15 - 06:30	45.7	61.0	41.5	52.8	44.5	42.5	42.4	42.1	37.1	34.7	27.8	0.0
06:30 - 06:45	44.2	58.7	40.9	54.4	47.7	43.3	41.7	39.9	34.4	32.3	27.8	0.0
06:45 - 07:00	44.3	65.5	41.3	54.7	47.4	43.1	41.3	40.1	34.9	33.1	29.2	0.0

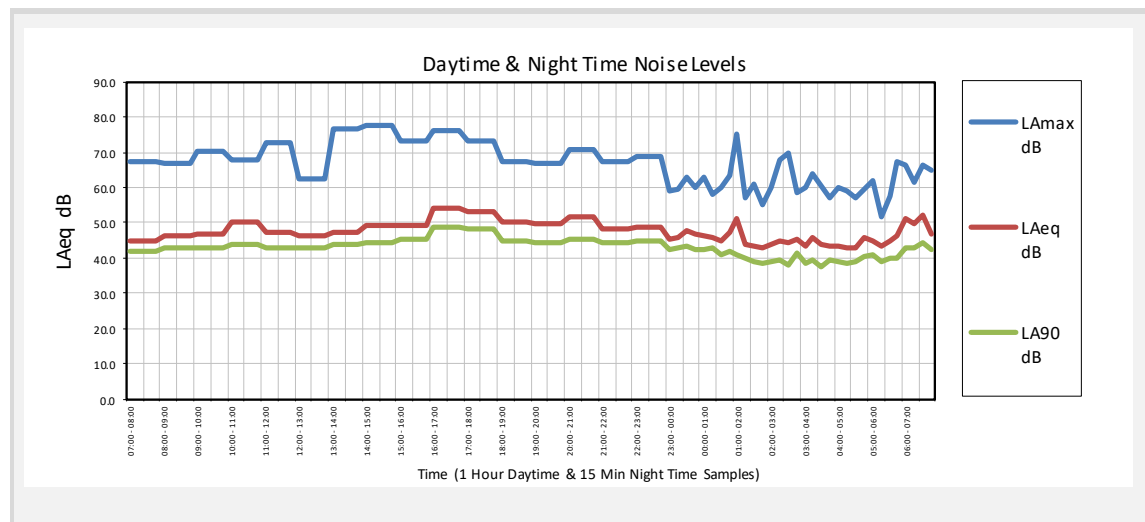


12.2 25th – 26th October 2024

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmx 16 HOUR	49.8	77.5	45.0	55.8	50.4	47.5	46.7	44.5	41.1	41.0	36.3	0.0
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmx 8 HOUR	46.5	75.0	43.0	52.0	47.0	44.8	44.2	42.8	37.1	32.6	27.9	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	45.1	67.1	41.7	55.0	47.3	44.0	41.7	40.4	36.0	35.1	31.2	0.0
08:00 - 09:00	46.5	66.8	42.8	54.4	46.2	43.4	42.7	41.5	37.9	38.9	31.3	0.0
09:00 - 10:00	46.7	70.3	43.1	55.5	49.8	45.5	43.5	41.5	36.9	38.2	30.6	0.0
10:00 - 11:00	50.1	67.7	44.0	55.7	49.3	47.6	44.8	42.6	40.9	45.0	37.2	0.0
11:00 - 12:00	47.4	72.8	42.9	54.8	49.6	47.9	45.5	42.8	37.3	33.7	29.4	0.0
12:00 - 13:00	46.1	62.3	43.0	54.1	47.9	45.8	44.2	41.9	36.2	32.8	29.3	0.0
13:00 - 14:00	47.5	76.6	43.6	55.4	48.3	45.5	44.2	42.5	40.1	37.4	30.6	0.0
14:00 - 15:00	49.3	77.5	44.2	55.5	50.3	47.1	48.0	44.3	39.8	37.3	34.1	0.0
15:00 - 16:00	49.5	73.4	45.2	55.9	50.0	47.4	46.2	44.4	41.3	40.2	35.4	0.0
16:00 - 17:00	54.1	76.1	48.8	56.1	49.6	46.1	47.2	47.4	47.0	48.1	44.8	0.0
17:00 - 18:00	53.3	73.2	48.1	56.4	51.6	48.2	48.6	47.6	46.3	45.7	41.2	0.0
18:00 - 19:00	50.2	67.4	44.9	55.8	51.8	49.5	48.5	45.7	39.4	38.1	33.4	0.0
19:00 - 20:00	49.5	66.9	44.5	55.6	52.5	48.8	48.3	45.3	38.3	34.7	29.3	0.0
20:00 - 21:00	51.7	70.9	45.3	58.9	54.9	51.4	50.4	46.7	41.2	38.1	31.9	0.0
21:00 - 22:00	48.4	67.1	44.5	54.0	48.9	46.9	46.5	44.3	39.0	35.8	30.2	0.0
22:00 - 23:00	49.0	68.6	44.7	56.3	50.1	47.4	46.5	44.7	39.9	36.7	31.7	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	45.6	59.3	42.5	54.1	45.8	42.8	42.1	42.3	36.9	31.8	27.6	0.0
23:15 - 23:30	45.6	59.5	42.8	54.3	45.5	42.0	41.6	42.6	37.2	31.9	28.2	0.0
23:30 - 23:45	47.7	62.7	43.3	53.5	44.4	41.7	42.1	44.2	40.7	37.3	29.6	0.0
23:45 - 00:00	46.6	59.9	42.5	53.6	46.4	43.7	43.2	43.1	38.4	33.6	28.0	0.0
00:00 - 00:15	46.1	62.8	42.5	52.2	45.4	43.9	42.7	42.7	37.7	32.9	27.9	0.0
00:15 - 00:30	46.0	58.0	43.1	52.4	46.1	43.9	43.5	42.4	37.0	32.0	27.7	0.0
00:30 - 00:45	44.7	60.1	41.0	51.6	45.2	43.1	41.3	41.5	35.8	30.1	26.3	0.0
00:45 - 01:00	47.5	63.6	42.0	52.8	46.1	44.0	44.6	43.8	38.9	36.0	28.5	0.0
01:00 - 01:15	51.3	75.0	41.0	53.0	47.9	46.5	47.9	47.6	44.2	38.2	31.1	0.0
01:15 - 01:30	44.0	57.3	40.0	49.3	40.9	39.6	40.0	41.3	35.5	29.7	26.2	0.0
01:30 - 01:45	43.4	61.1	38.8	49.0	41.1	40.1	39.7	40.5	34.9	29.5	26.5	0.0
01:45 - 02:00	43.1	55.2	38.5	49.2	42.7	39.2	39.3	40.2	34.6	29.3	26.4	0.0
02:00 - 02:15	43.7	60.0	38.8	48.5	44.0	41.4	41.7	40.1	34.5	29.5	26.6	0.0
02:15 - 02:30	44.7	67.7	39.5	50.4	42.3	41.8	41.7	41.1	35.8	32.4	28.6	0.0
02:30 - 02:45	44.4	69.7	38.1	51.0	42.8	39.8	40.4	41.3	36.6	32.0	27.4	0.0
02:45 - 03:00	45.2	58.5	41.3	52.2	44.5	42.6	43.1	41.6	35.8	31.4	27.8	0.0
03:00 - 03:15	43.6	60.2	38.5	53.4	43.4	41.4	40.2	40.4	34.8	28.9	26.2	0.0
03:15 - 03:30	45.8	63.7	39.5	48.6	41.7	40.0	40.3	42.4	40.0	30.9	27.1	0.0
03:30 - 03:45	44.0	60.4	37.6	46.9	42.5	42.5	39.3	40.9	36.4	29.0	26.4	0.0
03:45 - 04:00	43.5	57.1	39.6	49.5	41.5	41.2	40.4	40.3	34.5	29.3	26.5	0.0
04:00 - 04:15	43.6	60.0	38.9	51.0	41.9	41.1	40.5	40.4	34.7	28.8	26.3	0.0
04:15 - 04:30	43.1	59.3	38.6	50.2	41.6	41.4	39.6	40.0	34.4	28.8	26.1	0.0
04:30 - 04:45	43.0	56.9	38.9	50.5	41.3	39.9	39.1	40.2	34.5	28.6	25.8	0.0
04:45 - 05:00	45.7	59.4	40.5	54.4	46.4	44.5	43.1	42.4	36.0	30.2	26.5	0.0
05:00 - 05:15	45.0	62.2	40.8	52.7	48.7	45.5	42.3	41.0	34.8	30.5	26.8	0.0
05:15 - 05:30	43.2	51.7	38.9	49.3	42.1	41.1	39.5	40.4	34.3	28.3	26.2	0.0
05:30 - 05:45	44.6	57.4	40.1	52.1	45.4	44.6	41.7	40.8	35.2	31.1	26.5	0.0
05:45 - 06:00	46.3	67.4	39.9	50.6	45.5	44.4	43.7	42.0	35.5	37.3	32.1	0.0
06:00 - 06:15	51.3	66.2	43.0	52.7	52.9	51.9	51.2	46.8	35.8	29.4	26.4	0.0
06:15 - 06:30	49.7	61.7	42.8	53.3	51.6	49.4	49.1	44.9	36.0	36.7	31.5	0.0
06:30 - 06:45	52.1	66.6	44.2	54.5	56.1	51.9	51.6	48.2	36.7	31.4	27.0	0.0
06:45 - 07:00	47.0	65.1	42.4	53.2	47.7	45.9	45.6	43.1	35.9	31.7	28.6	0.0

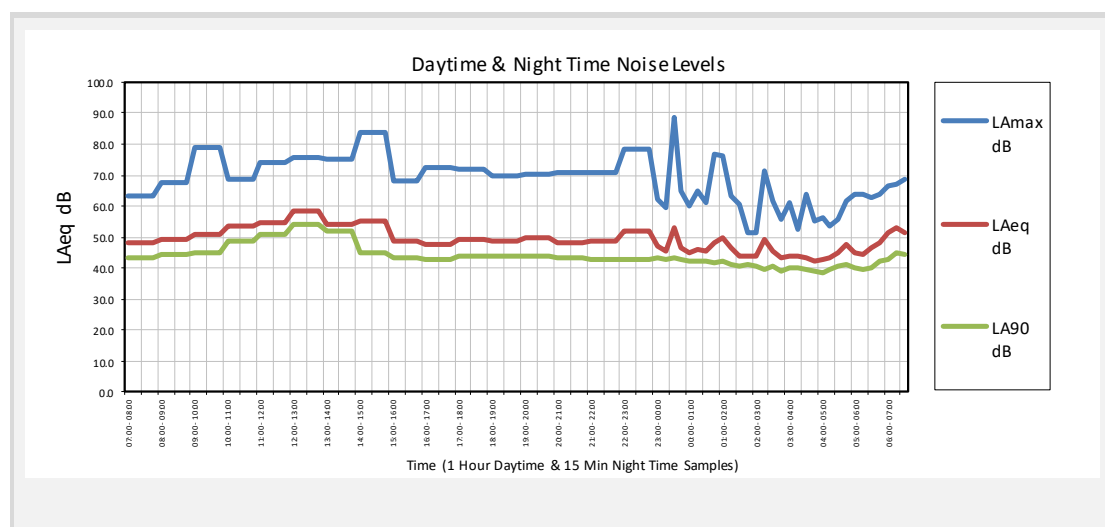


12.3 26th – 27th October 2024

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmaz 16 HOUR	52.4	83.6	44.0	55.8	51.9	50.0	50.0	47.0	42.7	43.5	40.5	0.0
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	47.5	88.9	42.0	51.7	47.7	46.1	46.1	43.6	36.8	32.7	28.2	0.0

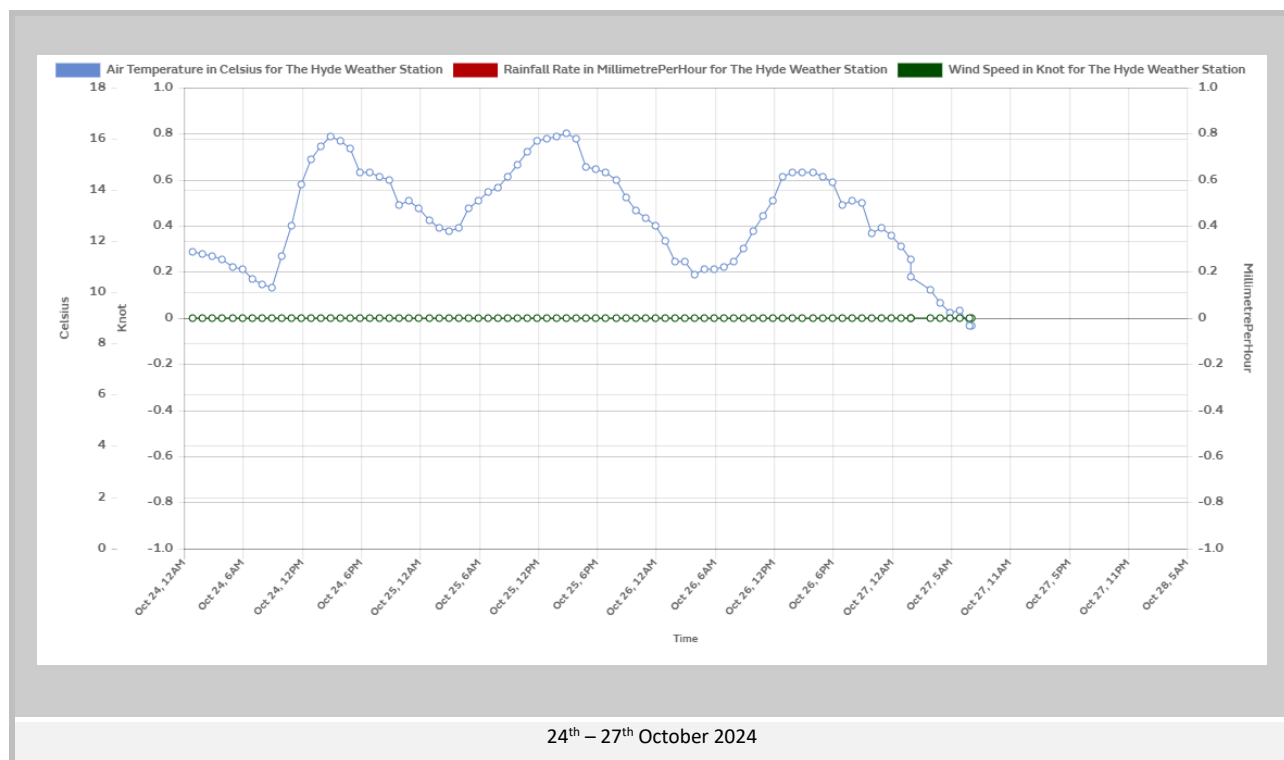
DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	48.3	63.2	43.5	54.3	49.9	47.5	46.3	43.7	36.8	37.4	36.4	0.0
08:00 - 09:00	49.3	67.7	44.2	53.7	50.7	48.7	48.0	44.9	37.9	36.9	31.0	0.0
09:00 - 10:00	50.9	78.7	44.8	55.9	52.2	49.9	49.5	46.3	40.0	38.6	34.5	0.0
10:00 - 11:00	53.7	68.4	48.5	56.1	54.5	53.9	53.5	49.1	40.2	36.0	29.4	0.0
11:00 - 12:00	54.5	74.1	50.7	55.9	53.2	50.9	50.8	47.7	45.1	48.2	44.7	0.0
12:00 - 13:00	58.3	75.5	54.3	56.3	55.5	53.2	55.3	51.4	49.0	51.6	48.4	0.0
13:00 - 14:00	54.3	75.2	51.7	55.4	52.5	49.9	50.2	47.5	45.5	47.5	45.4	0.0
14:00 - 15:00	55.3	83.6	44.8	56.3	53.3	50.9	52.0	50.4	47.0	45.9	44.7	0.0
15:00 - 16:00	48.7	67.9	43.6	54.7	52.0	47.9	46.9	44.3	38.7	35.5	30.0	0.0
16:00 - 17:00	47.6	72.5	42.6	55.0	49.1	47.1	45.9	43.3	37.5	33.2	28.5	0.0
17:00 - 18:00	49.1	71.8	43.7	59.6	49.6	47.5	45.8	44.4	41.1	38.9	30.9	0.0
18:00 - 19:00	48.7	69.5	43.6	54.4	49.7	47.6	47.3	44.1	37.4	37.0	34.5	0.0
19:00 - 20:00	49.5	70.5	43.8	55.5	51.0	49.9	48.4	45.1	38.0	33.7	27.9	0.0
20:00 - 21:00	48.1	70.9	43.5	55.6	49.2	46.8	46.1	44.5	37.7	33.4	27.9	0.0
21:00 - 22:00	48.7	70.6	43.0	54.3	49.7	47.7	47.6	44.8	37.5	32.1	27.3	0.0
22:00 - 23:00	52.1	78.1	42.8	55.8	51.9	51.4	50.6	48.0	42.4	35.2	28.5	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	47.0	62.3	43.1	54.0	48.4	44.0	44.9	43.3	37.6	32.9	28.5	0.0
23:15 - 23:30	45.6	59.7	42.9	52.9	44.5	41.8	42.9	42.4	36.5	31.1	27.8	0.0
23:30 - 23:45	53.1	88.9	43.5	53.9	47.7	47.4	53.3	48.2	41.2	37.2	30.0	0.0
23:45 - 00:00	46.7	64.7	43.0	55.5	49.0	46.6	44.1	43.0	37.1	31.3	27.6	0.0
00:00 - 00:15	44.8	59.9	42.4	54.3	45.3	41.8	41.6	41.7	35.7	30.5	28.2	0.0
00:15 - 00:30	46.3	65.1	42.5	52.7	44.3	42.8	43.3	42.9	37.6	33.6	28.4	0.0
00:30 - 00:45	45.6	60.9	42.3	51.2	45.0	41.8	41.5	42.6	37.5	32.6	27.6	0.0
00:45 - 01:00	48.0	76.8	41.7	52.5	50.3	47.6	47.2	43.6	36.5	30.9	27.4	0.0
01:00 - 01:15	49.8	76.1	42.2	50.9	47.1	50.0	50.1	44.6	37.5	30.7	26.2	0.0
01:15 - 01:30	46.4	63.5	41.3	49.8	43.2	40.9	41.1	43.2	39.5	34.3	27.4	0.0
01:30 - 01:45	44.0	60.8	40.5	50.7	42.9	40.4	40.5	41.3	35.1	28.2	25.6	0.0
01:45 - 02:00	43.8	51.3	41.1	48.3	41.8	40.2	39.9	41.2	35.3	28.2	25.6	0.0
02:00 - 02:15	43.8	51.2	40.4	48.8	41.7	39.6	39.6	41.4	35.2	27.5	25.4	0.0
02:15 - 02:30	49.1	71.2	39.5	50.2	44.1	39.8	40.0	47.0	42.1	33.6	27.2	0.0
02:30 - 02:45	45.2	61.9	40.9	50.5	46.6	46.0	42.0	42.0	35.5	28.2	25.4	0.0
02:45 - 03:00	43.2	55.5	39.2	48.1	39.7	38.4	39.0	40.7	34.8	28.4	25.5	0.0
03:00 - 03:15	43.9	61.1	40.2	49.0	44.3	41.9	39.9	41.1	35.2	28.0	25.7	0.0
03:15 - 03:30	43.8	52.7	40.2	49.5	43.3	41.9	40.1	41.0	34.9	27.8	25.8	0.0
03:30 - 03:45	43.2	63.7	39.4	47.8	40.2	38.9	39.2	40.7	34.5	28.0	26.5	0.0
03:45 - 04:00	42.5	55.4	38.8	47.4	40.1	38.6	38.7	39.8	33.7	28.4	26.5	0.0
04:00 - 04:15	42.8	56.2	38.5	47.6	40.9	38.8	39.0	40.0	33.8	29.9	26.2	0.0
04:15 - 04:30	43.2	53.4	39.4	50.9	45.7	40.7	39.8	40.3	33.8	27.2	25.6	0.0
04:30 - 04:45	44.8	55.5	40.9	50.0	45.5	44.5	42.7	41.2	34.6	28.0	25.8	0.0
04:45 - 05:00	47.4	61.4	41.1	51.0	48.1	46.1	45.7	42.8	35.2	38.2	32.1	0.0
05:00 - 05:15	45.1	63.9	40.3	51.6	47.1	44.6	43.5	41.4	34.3	29.2	26.1	0.0
05:15 - 05:30	44.6	63.9	39.8	50.1	45.9	44.3	43.2	40.9	33.1	27.6	25.8	0.0
05:30 - 05:45	46.8	62.5	40.3	51.7	51.7	47.9	45.8	41.9	33.9	30.6	26.7	0.0
05:45 - 06:00	48.3	63.8	42.2	52.1	49.9	48.0	47.4	44.1	36.0	31.8	31.3	0.0
06:00 - 06:15	51.3	66.6	42.7	53.5	52.9	51.6	50.4	46.9	36.1	38.7	32.6	0.0
06:15 - 06:30	52.8	67.0	45.1	54.3	54.2	52.6	52.7	48.4	37.3	33.9	32.2	0.0
06:30 - 06:45	51.2	68.9	44.4	52.4	51.5	50.9	50.7	46.9	38.0	36.2	29.4	0.0
06:45 - 07:00	49.8	70.2	44.1	53.7	49.8	49.6	49.0	45.2	38.7	36.4	31.1	0.0



13 APPENDIX C – WEATHER CONDITIONS

13.1 24th – 27th October 2024



14 APPENDIX D – BS 4142:2019+A1:2019 INFORMATION

In accordance with BS 4142:2014:A1:2019, section 12, the following information is provided.

14.1 Professional Competence

Acoustic Consultant	Mr Brian Scrivener MIOA
Qualifications	Member of the Institute of Acoustics (MIOA)
Date Certified	June 2003
Time Operating as an active Noise Consultant	Permanently Since June 2003
Professional Position	Owner of Sound Advice Acoustics Ltd & Sound Advice Engineering Managing Director & Share Holder
Professional Status	Noise Consultant
Professional Statement	
I have been active within the field of noise consultancy and noise control engineering since I joined the company in April 1997. Working my way through the company and gaining experience in this specialist field, I qualified as a noise consultant in June 2003 when I passed my Diploma in Noise Control & Engineering from Epsom College under the tutor of Dr Latha Vesudevan. Subsequently I was awarded the status of 'Member of the Institute of Acoustics (MIOA)'. Since then I have taken over the company and continued to work and develop my professional competence within the field of acoustic consultancy, engineering and noise control.	

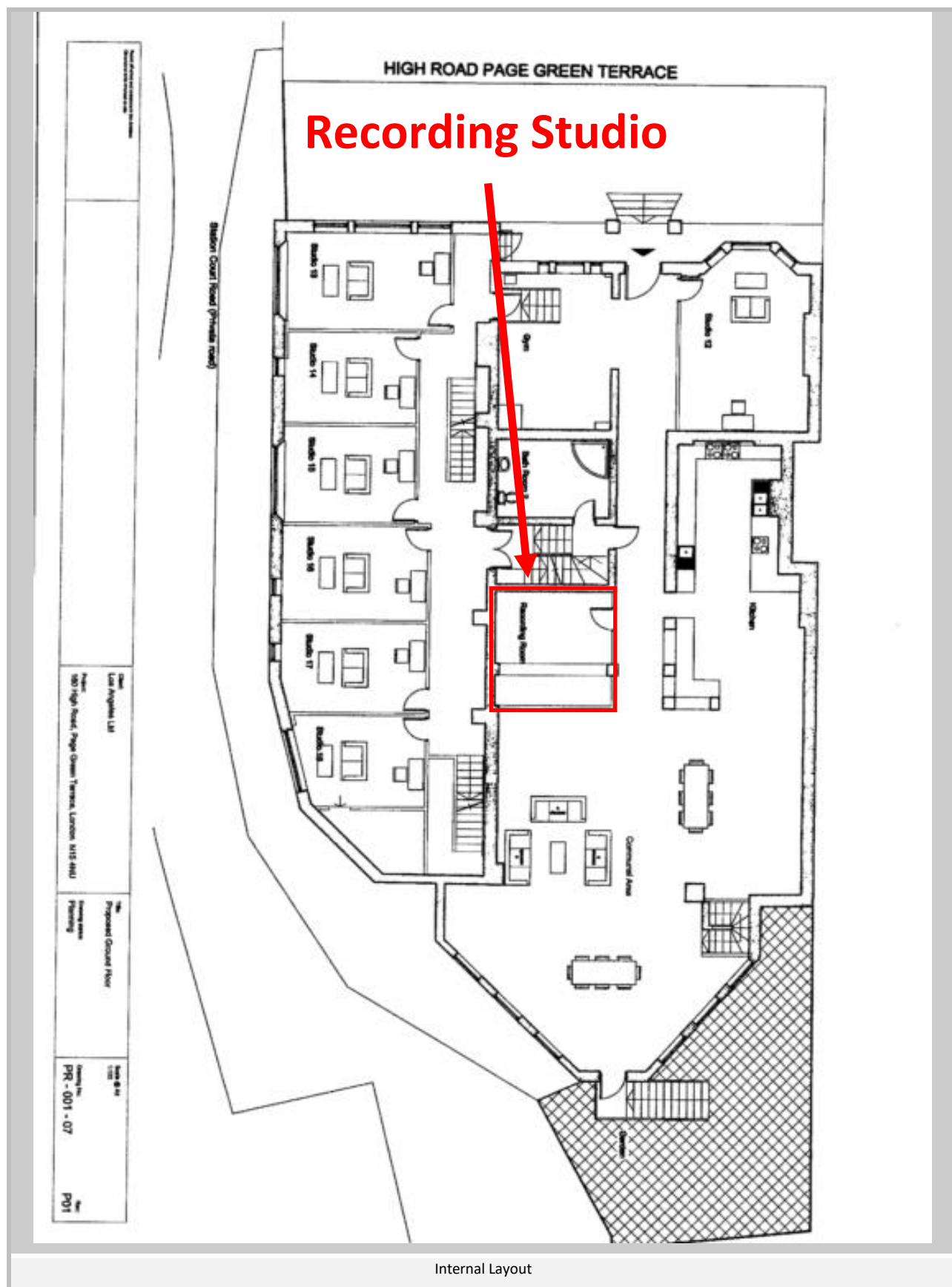
14.2 Site Status

Site Attended By	Mr Brian Scrivener MIOA
Baseline Measurements Conducted by	Mr Brian Scrivener MIOA
Site Source Measurements Conducted By	Mr Brian Scrivener MIOA

14.3 Measurement Information – Location 1

Details & Justification	Measurement position 1 was located at the rear of the existing premises, representative of the Nearest Noise Sensitive Premises
Height from Ground	1.5m
Reflective Surfaces	None (Free Field)
Distance to NSP	10m
Distance to Source	1m
Topographical Change (m)	None
Ground between Source and Receiver	100% soft surface from source to receiver
Windshield Information	Svantek integrated Microphone Protection Kit
Distance from Proposed Source to Receiver	10m
NSP* - Noise Sensitive Premises	

15 APPENDIX E – INTERNAL GROUND FLOOR LAYOUT



END OF REPORT