REPORT REFERENCE:

IMP5927-1

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

PRoPG Planning and Noise

British Standard 8233: 2014

British Standard 4142: 2014

CLIENT:

AssetMax Design

SITE:

Land Adjacent to Cotfield House

Oxford Road

Bodicote

Banbury

OX15 4AQ

SURVEY DATES:

17th - 22nd February 2021

Impact Acoustics Ltd

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1 EXECUTIVE SUMMARY

1.1 Instruction

Impact Acoustics Ltd have been instructed by AssetMax Design to undertake a background noise survey to British Standard 8233: 2014 and BS 4142: 2014 to determine the impact of existing noise sources on the proposed accommodation scheme at Land Adjacent to Cotfield House, Oxford Road, Bodicote, Banbury, OX15 4AQ.

1.2 Scope of Report

The measurements will be undertaken in accordance with ISO 1996 – Part 2: 2017 to determine the existing background noise levels and British Standard 8233: 2014 will be used to determine the impact of existing traffic on the internal noise environment within the proposed residential dwellings. This report aims to establish the following:

- Existing background noise levels within the area;
- Assess the potential internal noise levels on the proposed rooms;
- Provide specifications for the ventilation and window glazing with the proposed rooms.
- Assess any noise from the nearby commercial premises.

1.3 Summary of Results

A background noise survey was undertaken from the 17th to the 22nd February 2021 at two positions, on the site to establish the underlying background noise levels. Measurements are as follows.

Assessment Position	Date Start	Date Finish	Daytime LAeq	Night Time LAeq
Position 1	17/02/2021	22/02/2021	59.6	54.1
Position 2	17/02/2021	22/02/2021	57.7	52.4

Assessment Position	Date Start	Date Finish	Daytime LA90	Night Time LA90
Position 2	17/02/2021	22/02/2021	50	44

It should be noted that the nearby commercial premises do not operate during night time hours and therefore only daytime assessments have been made within the report.

1.4 Commercial Noise

1.4.1 Daytime (07:00 – 23:00)

Rating Level	32 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\ hour}$	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-18 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	**-18 dB**		
Conclusion	**The assessment level is 'Low Impact'**		

1.4.2 Assessment Conclusion

It can be seen from the above assessments that with the existing commercial premises as it stands, they are unlikely to cause a significant impact to the proposed residential units. Therefore, no further remedial works are required and the proposed residential properties will be suitable safeguarded from commercial noise.

1.5 Potential Façade Noise Levels

1.5.1 Daytime (07:00-23:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Daytime (07:00-23:00)	$L_{Aeq,\ 16\ HOUR}$ 59.6 dB	50 - 63 dB

1.5.2 Night Time (23:00-07:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Night Time (23:00-07:00)	$L_{Aeq,\ 16\ HOUR}$ 54.1 dB	40 - 55 dB
	Maximum (10 Times) – L_{Amax} 66.5 dB	>80 dB (10 Times in 8 Hours)

1.6 Risk Assessment

1.6.1 Daytime (07:00-23:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

1.6.2 Night Time (23:00-07:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

The above table demonstrates this site is located within Noise Risk Category 1 for daytime which suggests a medium level of risk and Category 1 night time which also suggests a low level of risk.

1.7 Conclusion Summary

1.7.1 Plant Noise BS 4142: 2014

The operation of the existing commercial premises 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 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest proposed residential façade on the site and the assessment of the impact these 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.

1.7.2 Ambient Noise BS 8233: 2014

The dominant noise source on the overall site is road traffic. Levels have been recorded and assessments made in accordance with the relevant standards. Internal criteria's have been set and calculations made in order to determine the minimum construction details required in order to meet the desired level within the proposed residential dwellings and satisfy the local council's requirements.

1.7.3 Planning Recommendation

National Planning Policy Framework 2019 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.

Based on the calculations and assessments made within this report it is the professional opinion of Impact Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2019, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

2 INTRODUCTION

Impact Acoustics Ltd have been instructed by AssetMax Design to undertake a background noise survey to British Standard 8233: 2014 and BS 4142: 2014 to determine the impact of existing noise sources on the proposed accommodation scheme at Land Adjacent to Cotfield House, Oxford Road, Bodicote, Banbury, OX15 4AQ.

Ambient noise levels were measured between the 17th and 22nd February 2021. This report by Impact Acoustics Ltd gives the results of these measurements and an assessment in accordance with government planning guidelines and relevant standards together with mitigation measures as required.

With regards to external ambient noise, environmental noise levels are 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 PRoPG: Planning and Noise.

2.1 Planning Practice Guidance and Noise

March 2014 saw the publication of the Planning Practice Guidance for Noise (PPG-Noise) and this was subsequently updated in December 2014. The Planning Practice Guidance and Noise sets out details of how potential noise impacts should be evaluated.

'Local planning authorities' plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- *whether or not a significant adverse effect is occurring or likely to occur;*
- *whether or not an adverse effect is occurring or likely to occur; and*
- *whether or not a good standard of amenity can be achieved.*

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy.'

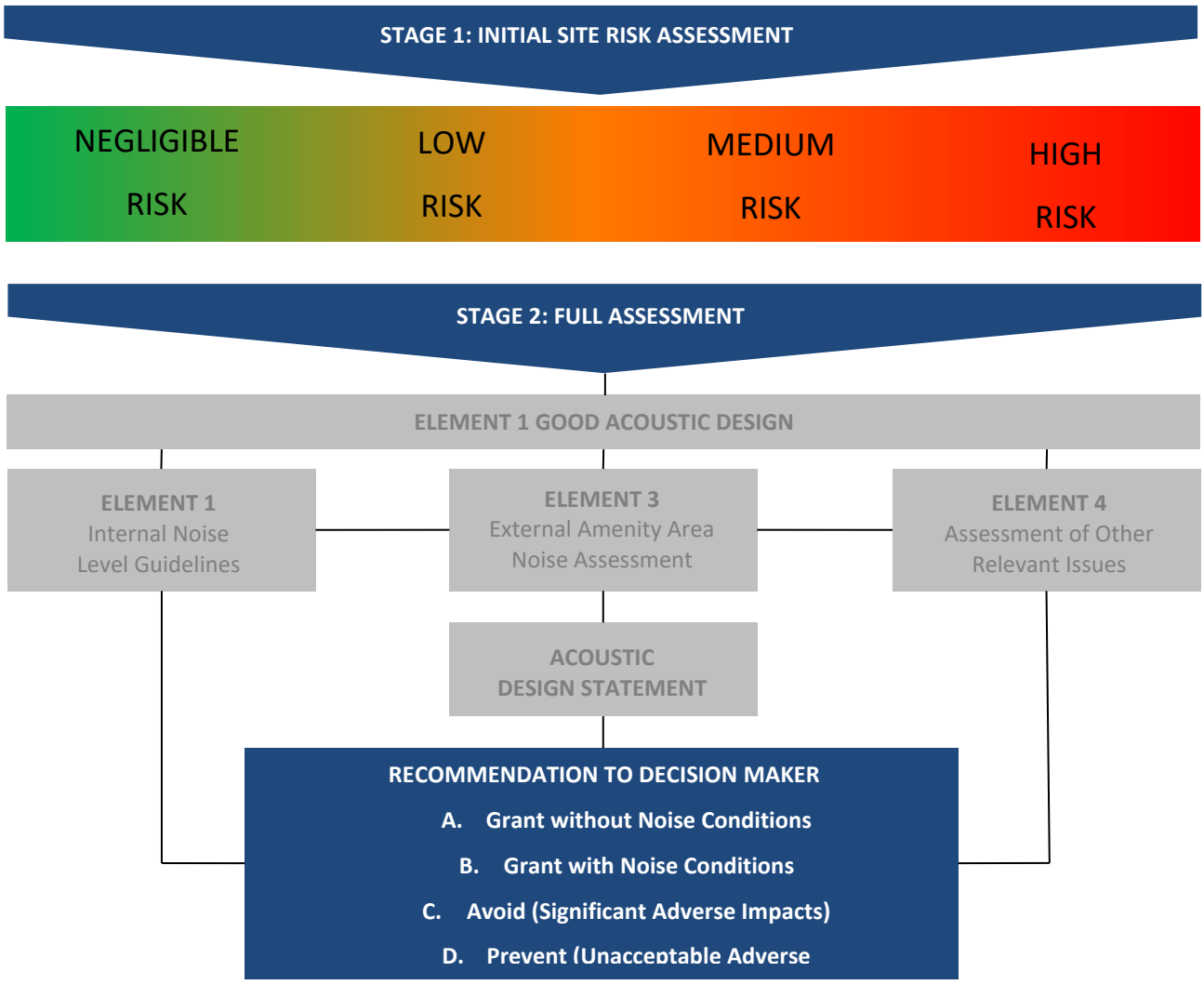
In accordance with Stage 2: Full Assessment, Other Noise Sources, detailed calculations and assessments should be carried out pertaining to these as PPG Noise does not provide advice and guidance when taking these elements into consideration.

2.1.1 Professional Practice Guidance on Planning & Noise.

The Professional Practice Guidance (PRoPG) on Planning and Noise for New Residential Development was published in May 2017 by the Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH). This document was developed in order to offer professional guidance on recommended strategies to the management of noise for use in the associated planning applications for specific sites. This furthermore, provides a numerical acoustic standard in accordance with the Government's planning and noise policies.

This document has been developed to ensure the developers adopts a good acoustic design process to ensure protection for future residents from the potential harmful effects from noise. The PRoPG denotes that it *'does not constitute an official government code of practice and neither replaces nor provides an authoritative interpretation of the law or government policy on which users should take their own advice as appropriate'.*

The PRoPG adopts a twin-stage approach, firstly providing an 'Initial Noise Risk Assessment' of the proposed development site before undertaking a detailed approach of a noise impact assessment. The results from the initial noise risk assessment are an indication of the general acoustic environment of the proposed development and demonstrate how detailed the noise impact assessment will need to be in order to mitigate any acoustic issues.



2.2 British Standard 8233: 2014

Calculations are to be made in accordance with BS 8233: 2014 Sound Insulation and Noise Reduction for Buildings Code of Practice.

BS 8233: 2014 set the following parameters as target levels that should be designed to within rooms such as Living Rooms and Bedrooms.

Indoor ambient noise levels in spaces when they are unoccupied and privacy is also important		
Objective	**Typical situations**	**Design Range $L_{Aeq,t}$ dB**
Typical noise levels for acoustic privacy in shared spaces	Living room	35 – 40
NOTE: See Noise control in building services [28] and BS EN ISO 3382.		

Indoor ambient noise levels for dwellings			
Activity	**Location**	**07:00 – 23:00**	**23:00 – 07:00**
Resting	Living Room	35 dB $L_{Aeq\ 16\ HOUR}$	--
Dining	Dining Room / Area	40 dB $L_{Aeq\ 16\ HOUR}$	--
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ 16\ HOUR}$	30 dB $L_{Aeq\ 8\ HOUR}$

Calculations and assessments are therefore to be carried out in order to satisfy the above requirements of BS8233: 2014.

2.3 BS 4142: 2014 Plant Noise from Proposed Ground Floor Commercial

British Standard 4142: 2014 is to be adopted for the basis of this background noise level assessment. A BS 4142: 2014 noise assessment will be carried out in order to demonstrate the predicted acoustic impact the existing commercial premises, within the immediate vicinity of the site, could have on the nearest affected proposed residential and if necessary, make suitable recommendations in order to demonstrate that these units will not have a significant and demonstrable adverse impact on the nearest noise sensitive premises in accordance with the National Planning Policy Framework, once remedial works are completed (if required). BS 4142: 2014 supersedes the 1997 version and has been developed to move more in-line with the National Planning Policy Framework 2019 (NPPF) and the Noise Policy Statement for England 2010 (NPSE).

2.4 National Planning Policy Framework 2019 (NPPF) and Noise Policy Statement for England 2010 (NPSE).

References and evaluations are to be made to the National Planning Policy Framework 2019 (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.

2.4.1 "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:

2.4.2 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.

2.4.3 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.

2.4.4 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.

Finally, assessments and references are to be made to the World Health Organisation Night Time Noise Guidance 2009.

3 SITE LOCATION

3.1 Position of Site in Wider Area

The site is located in Bodicote, Banbury. The dominant noise source is road traffic noise.

3.2 Proposed Development

The proposed development is shown below.

4 PROCEDURE

External noise levels were recorded over a typical period and analysis date extrapolated between 07:00 hrs 17th February 2021 and 07:00 hrs on 22nd February 2021 at 2 positions as detailed within this report.

Position 1 was located at the front facade on the site in order to capture the noise levels associated with the local roads and position 2 was located at the rear side façade in order to capture the noise levels associated with the ambient noise and existing commercial units. Sample measurements were recorded over continuous 15 minute samples and from this data the hourly LAeq daytime values have been evaluated. Sound Pressure Levels were recorded on the following setting along with a full octave band frequency analysis measured simultaneously and between 31.5 Hz and 16.0 kHz.

Daytime 07:00 – 23:00		Night Time 23:00 – 07:00	
$L_{Aeq\ 1\ HOUR}$ dB	$L_{A10\ 1\ HOUR}$ dB	$L_{Aeq\ 15\ MINUTES}$ dB	$L_{A10\ 15\ MINUTES}$ dB
$L_{AMAX\ 1\ HOUR}$ dB	$L_{A50\ 1\ HOUR}$ dB	$L_{AMAX\ 15\ MINUTES}$ dB	$L_{A50\ 15\ MINUTES}$ dB
$L_{AMIN\ 1\ HOUR}$ dB	$L_{A90\ 1\ HOUR}$ dB	$L_{AMIN\ 15\ MINUTES}$ dB	$L_{A90\ 15\ MINUTES}$ dB

Calculations have been made in accordance with BS 8233: 2014 'Sound Insulation and Reduction of Buildings - Code of Practice'. Recommendations were made for any additional acoustics measures to conform to these standards.

From the downloaded recorded results, the daytime and night time periods were assessed and used within the above calculations as $L_{Aeq\ 16\ HOUR}$ dB levels for daytime and $L_{Aeq\ 8\ HOUR}$ dB levels for night time. These are detailed within this report. All data averaged throughout the day has been done so on a logarithmic basis to give accurate $L_{Aeq\ 16\ Hour}$ dB daytime and $L_{Aeq\ 8\ Hour}$ dB night time noise levels.

Finally, it should be noted that calculations are carried out with façade levels corrected from the recorded noise levels to the calculated façade levels.

5 APPARATUS

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 x 10^{-5} Nm^{-2} before and after the tests and the equipment set to have no inaccuracy greater than 0.2dB.

All the following equipment was calibrated in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates.

5.1 RION noise meter s/n 00242696 environmental testing – Position 1

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Rion	NL-52	00242696	2 YEARS	10.06.2019	10.06.2021
12.5mm Microphone (with windshield)	Rion	UC-59	06178	2 YEARS	10.06.2019	10.06.2021
Microphone Pre – Amplifier	Rion	NH-25	32724	2 YEARS	10.06.2019	10.06.2021

5.2 140 noise meter s/n 1402941 environmental testing – Position 2

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1402941	2 YEARS	12.06.2018	12.06.2020
12.5mm Microphone (with windshield)	Norsonic	GRAS 40AF	179711	2 YEARS	12.06.2018	12.06.2020
Microphone Pre – Amplifier	Norsonic	1209	30479	2 YEARS	12.06.2018	12.06.2020

Full calibration certificates are available upon request.

6 RESULTS

$L_{Aeq,t}$ -	The equivalent A weighted sound pressure level recorded over a time interval of 5 minutes night time and 1 hourly daytime.
$L_{A90,t}$ -	The A weighted sound pressure level that is exceeded for 90% of the time period 5 minutes night time and 1 hourly daytime.
$L_{A50,t}$	The A weighted sound pressure level that is exceeded for 50% of the time period 5 minutes night time and 1 hourly daytime
$L_{A10,t}$ -	The A weighted sound pressure level that is exceeded for 10% of the time period 5 minutes night time and 1 hourly daytime
L_{Amax} -	The maximum A weighted sound pressure level recorded over a time interval of 5 minutes night time and 1 hourly daytime.
L_{Amin} -	The minimum A weighted sound pressure level recorded over a time interval of 5 minutes night time and 1 hourly daytime.

6.1 Downloaded results, and averages.

6.1.1 17th - 18th February 2021 - Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	54.5	79.5	52.4	55.7	50.2	45.8	48.2	51.8	45.8	43.3	42.2	11.6
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	52.4	70.7	51.0	52.8	47.8	47.4	49.2	49.5	42.5	37.6	35.8	10.4

6.1.2 18th - 19th February 2021 - Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	54.3	81.7	56.0	57.3	52.5	50.5	49.7	51.3	44.6	41.3	41.2	11.7
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	49.2	68.0	48.1	50.3	43.9	40.2	45.7	47.2	38.3	27.9	22.6	8.1

6.1.3 19th - 20th February 2021 - Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	57.7	77.9	53.9	57.2	51.8	48.7	52.4	55.5	48.7	43.4	42.3	11.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	49.0	68.4	47.5	49.4	42.8	40.1	44.8	47.0	38.8	31.6	27.7	8.8

6.1.4 20th - 21st February 2021 - Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	56.1	76.8	51.6	55.4	50.9	47.7	50.4	53.9	46.7	42.4	43.4	10.8
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	44.8	69.0	42.3	45.9	41.8	37.7	39.4	42.9	35.3	28.2	25.0	8.5

6.1.5 21st - 22nd February 2021 - Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	53.7	73.9	48.4	52.6	48.0	42.3	46.3	51.4	43.6	42.8	43.4	10.4
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	48.9	66.9	46.1	48.5	42.1	38.9	44.9	47.2	37.3	27.4	22.9	8.1

The following noise levels have been corrected for the highest recorded façade levels and used within the BS 8233: 2014 calculations

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	57.7	77.9	53.9	57.2	51.8	48.7	52.4	55.5	48.7	43.4	42.3	11.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	52.4	70.7	51.0	52.8	47.8	47.4	49.2	49.5	42.5	37.6	35.8	10.4

6.1.6 17th - 18th February 2021 - Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	56.0	67.7	56.5	56.4	49.7	45.4	48.4	53.5	49.3	41.2	37.6	22.4
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	54.1	72.5	58.5	54.7	48.4	47.1	49.4	51.7	46.2	34.9	28.3	13.4

6.1.7 18th - 19th February 2021 - Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	55.4	80.8	62.2	58.4	52.4	50.8	49.2	52.7	48.1	40.4	37.7	22.5
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	52.4	68.2	55.1	52.3	44.8	42.4	47.0	50.5	43.8	29.7	23.6	10.4

6.1.8 19th - 20th February 2021 - Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	59.6	80.9	59.3	58.5	51.4	48.8	52.8	57.4	52.7	42.3	37.9	20.5
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	51.1	68.9	52.2	50.6	43.0	41.0	45.1	49.0	43.3	34.5	27.6	14.0

6.1.9 20th - 21st February 2021 - Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	57.8	76.1	58.6	57.0	50.8	47.5	50.8	55.7	50.6	39.8	38.3	18.7
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	46.9	70.6	47.0	46.6	40.4	35.9	39.1	45.0	38.9	31.2	26.6	11.2

6.1.10 21st - 22nd February 2021 - Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	55.2	76.4	51.9	53.8	47.5	42.7	46.8	53.4	47.3	39.5	36.9	17.2
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	51.3	69.7	50.6	50.6	43.1	40.8	45.4	49.6	42.5	32.2	26.2	11.1

The following noise levels have been corrected for the highest recorded façade levels and used within the BS 8233: 2014 calculations

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	**LAeq**	**LAmax**	**31.5**	**63**	**125**	**250**	**500**	**1.0k**	**2.0k**	**4.0k**	**8.0k**	**16.0k**
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	59.6	80.9	59.3	58.5	51.4	48.8	52.8	57.4	52.7	42.3	37.9	20.5
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	54.1	72.5	58.5	54.7	48.4	47.1	49.4	51.7	46.2	34.9	28.3	13.4

7 COVID-19 FACTORING

7.1 Recorded & Calculated Road Noise Data

Noise monitoring has been conducted during periods of the COVID-19 lockdown and therefore traffic levels have the potential to be acoustically affected. Therefore as well as the noise levels recorded from positions 1 and 2, further data is also to be taken from the department of transport in relation to captured traffic flow data captured along these roads. This information is to be fed into the CADNA A 3D models and the resultant noise levels calculated at each of the monitoring positions to verify if the recorded data is a true representative during this lockdown period. The higher of the two levels will be used as a worst case scenario and a robust approach to this assessment during this period.

Department for Transport — Road traffic statistics

Home Summary About Data Contact

Traffic statistics > Manual count points > 16427

Manual count points

Site number: 16427

Site details

Region	South East
Local authority	Oxfordshire
Road name	A4260
Road classification	'A' road
Managed by	Local authority
Road type	Major
Start junction	B4100 Adderbury
End junction	Weeping Cross, Banbury
Link length	2.20km (1.37 miles)
Easting, northing	447000, 237350
Latitude, longitude	52.03257400, -1.31630380

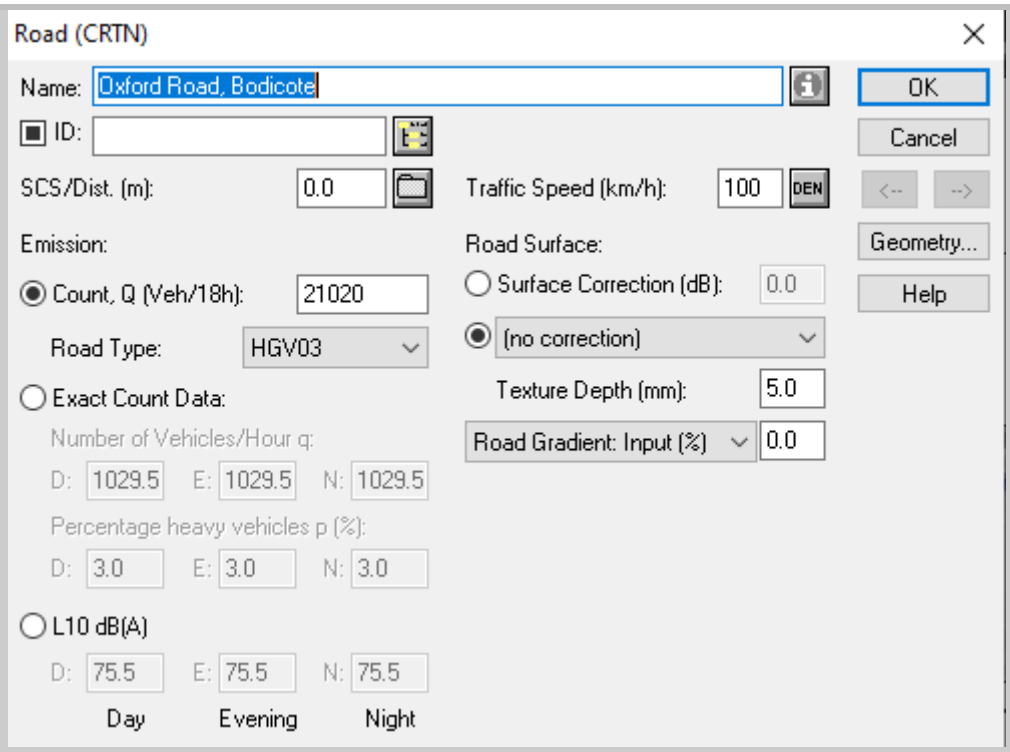
Location

Annual Average daily flow

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2019	Estimated using previous year's AADF on this link	97	137	17934	93	2266	590	21020
2018	Estimated using previous year's AADF on this link	80	128	17895	94	2274	585	20976

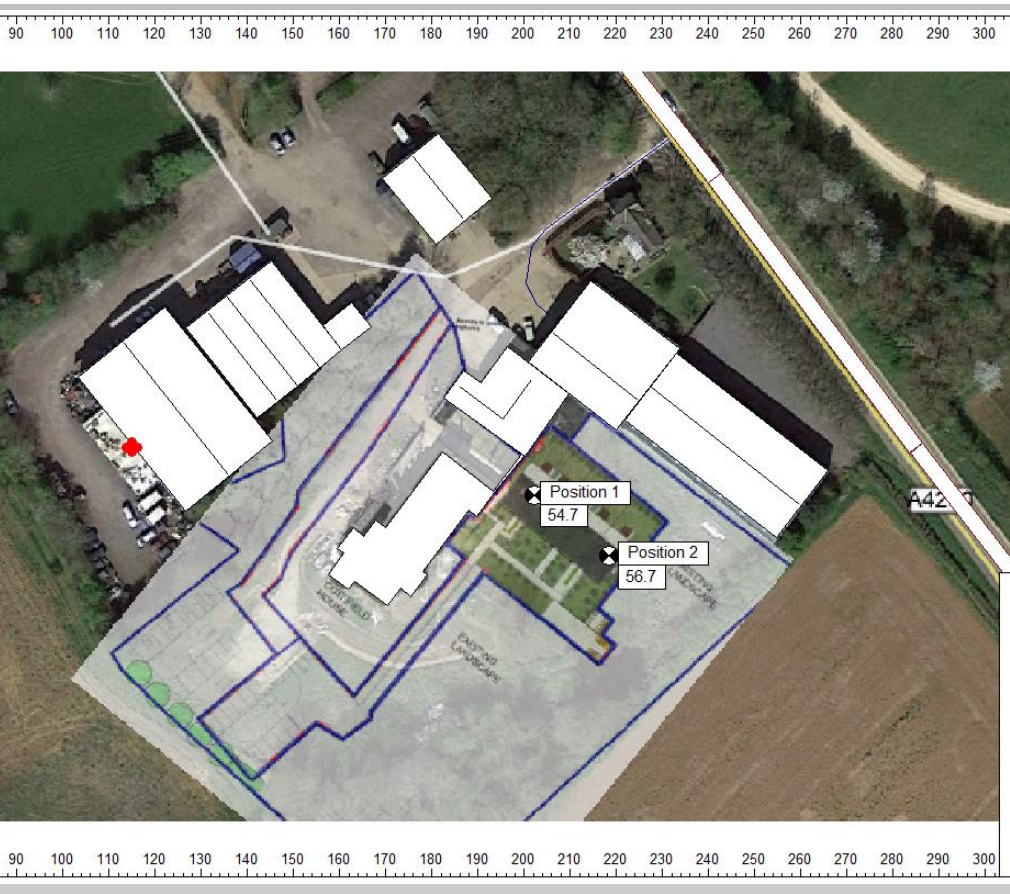
Data has been taken from Road traffic statistics - Manual count point: 16427 (dft.gov.uk)

7.2 Inputted Noise Levels



INPUTTED NOISE LEVELS

7.3 Calculated Daytime Noise Levels



CALCULATED DAYTIME NOISE LEVELS

8 RECORDED & CALCULATED NOISE LEVELS

8.1 Recorded & Calculated Data

The following table demonstrates the effects of the recorded and calculated data from the daytime traffic flow monitoring station on the Oxford Road. From this comparison, any uplift can be evaluated and applied to the recorded data to create an accurate uplifted calculated noise levels for both daytime and night time periods and for both position 1 and 2, if applicable.

Recorded Daytime Noise Level	Calculated Daytime Noise Level from Traffic Flow Levels	Uplift
59.6	56.7	-2.9 dB

Position 1 was located at the far end of the premises to capture noise levels associated with the main Oxford Road. Whilst the above calculations demonstrates the decrease from the recorded and calculated at this position to be an downward shift of -2.9 dB, the recorded noise levels will remain as is and used within the BS 8233: 2014 calculations. This exercise demonstrates traffic levels are returning to normal at this location, despite the pandemic.

8.2 Joint Guidance on the Impact of COVID-19

This method of assessment has been carried out generally in accordance with the *'Joint Guidance on the Impact of COVID-19 on the Practicality and Reliability of Baseline Sound Level Surveying and the Provision of Sound & Noise Impact Assessments By the Association of Noise Consultants [ANC] and the Institute of Acoustics [IOA] Version 6 2021 update 12th January 2021'.*

9 PROPG PLANNING & NOISE STAGE 1

9.1 Stage 1: Initial Site Noise Risk Assessment

The Stage 1, Initial Noise Risk Assessment, compares the recorded ambient noise levels obtained from the acoustic survey and correlates these against the risk scale within the Pro PG Document in order to evaluate any potential adverse effects the site is currently exposed to with regards to noise.

The outcome of the Stage 1 assessment will determine the level of detail required within Stage 2 in order to demonstrate suitable mitigations can be introduced to ensure continuing compliance with the relevant standards, local planning policies and Pro PG. The following table demonstrates the Initial Risk Assessment Noise Levels as detailed within PRoPG Figure.1:-

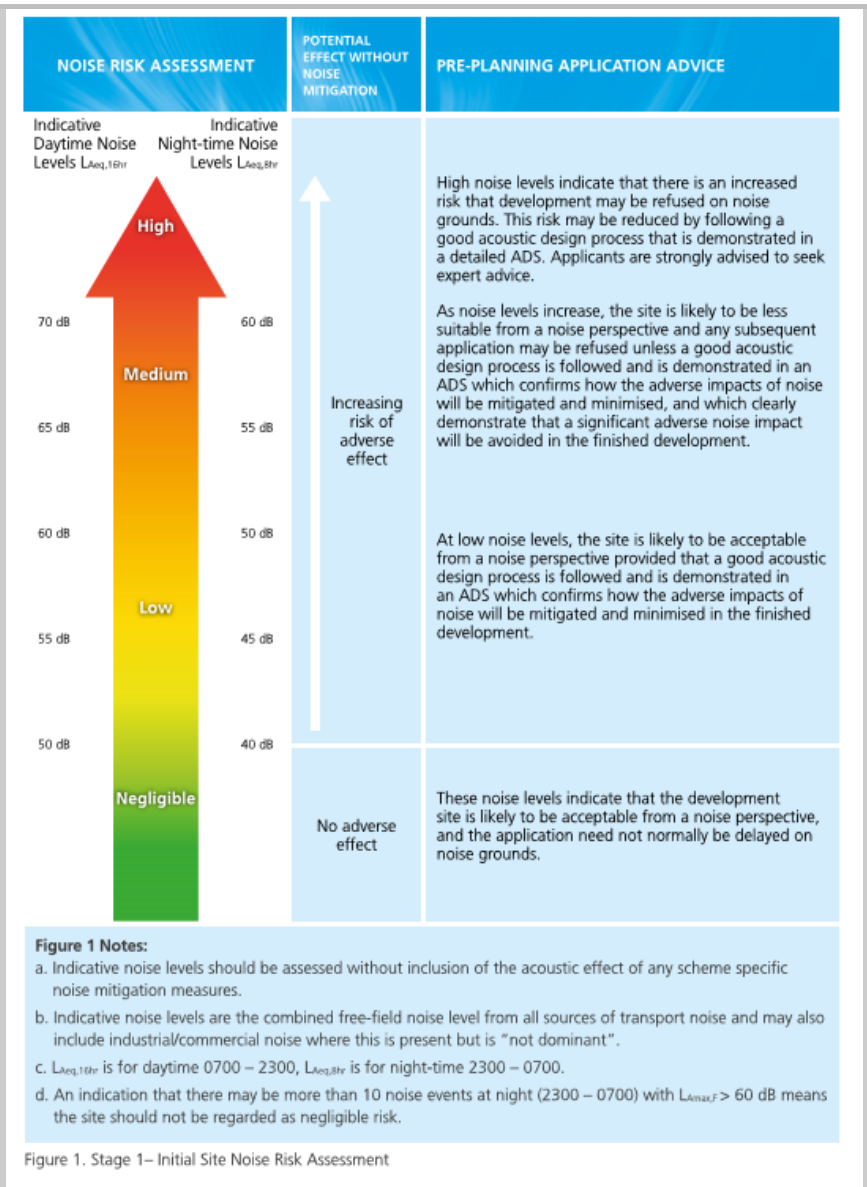


Figure 1. Stage 1– Initial Site Noise Risk Assessment

Noise Risk Category	0 – Negligible	1 – Low	2 – Medium	3 - High
Average Daytime	<50 dB	50 – 63 dB	63 – 70 dB	>70 dB
Average Night Time	<40 dB	40 – 55 dB	55 – 60 dB	>60 dB
Maximum Night Time			>80 dB (10 Times in 8 Hours)	

Based on the data collected from the aforementioned noise survey, the following PRoPG Stage 1 assessments can be made:-

9.2 Potential Façade Noise Levels

9.2.1 Daytime (07:00-23:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Daytime (07:00-23:00)	$L_{Aeq,\ 16\ HOUR}$ 59.6 dB	50 - 63 dB

9.2.2 Night Time (23:00-07:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Night Time (23:00-07:00)	$L_{Aeq,\ 16\ HOUR}$ 54.1 dB	40 - 55 dB
	Maximum (10 Times) – L_{Amax} 66.5 dB	>80 dB (10 Times in 8 Hours)

9.3 Risk Assessment

9.3.1 Daytime (07:00-23:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

9.3.2 Night Time (23:00-07:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

The above table demonstrates this site is located within Noise Risk Category 1 for daytime which suggests a medium level of risk and Category 1 night time which also suggests a low level of risk.

10 PRoPG PLANNING & NOISE STAGE 2 - ELEMENT 1 – GOOD ACOUSTIC DESIGN

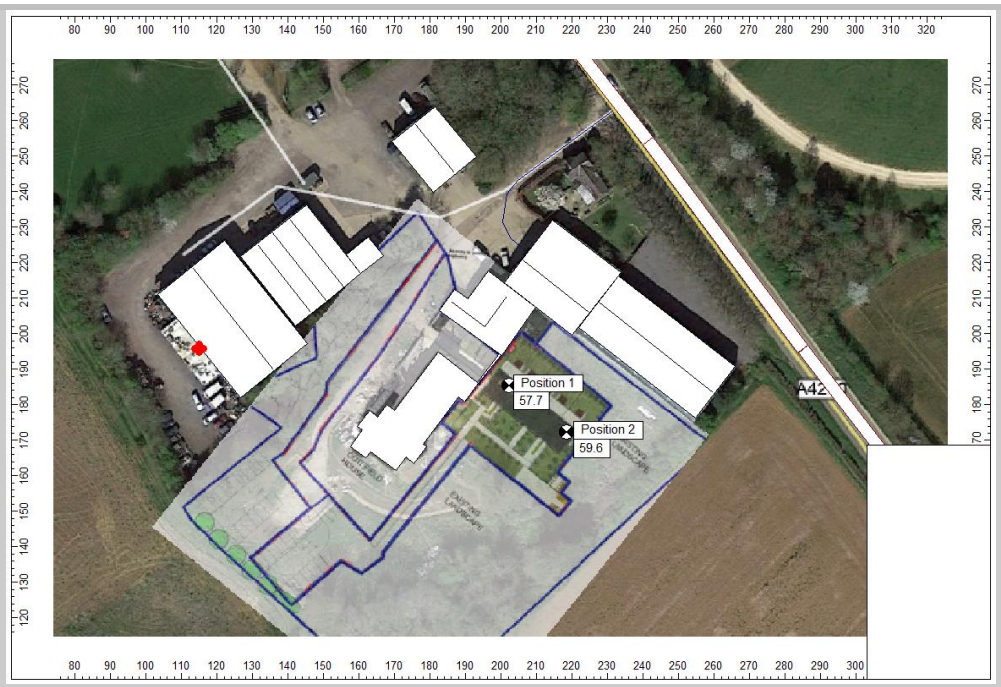
Given the size and orientation of the proposed site, it is recommended that the developer adopt, where practically possible, a good acoustic design which should include careful consideration of the positioning of the proposed properties together with thoughts being taken as to internal layouts to minimise noise sensitive rooms facing onto dominant noise sources within the local areas.

11 ELEMENT 2 – INTERNAL NOISE LEVEL GUIDELINES

11.1 Discussion of Results

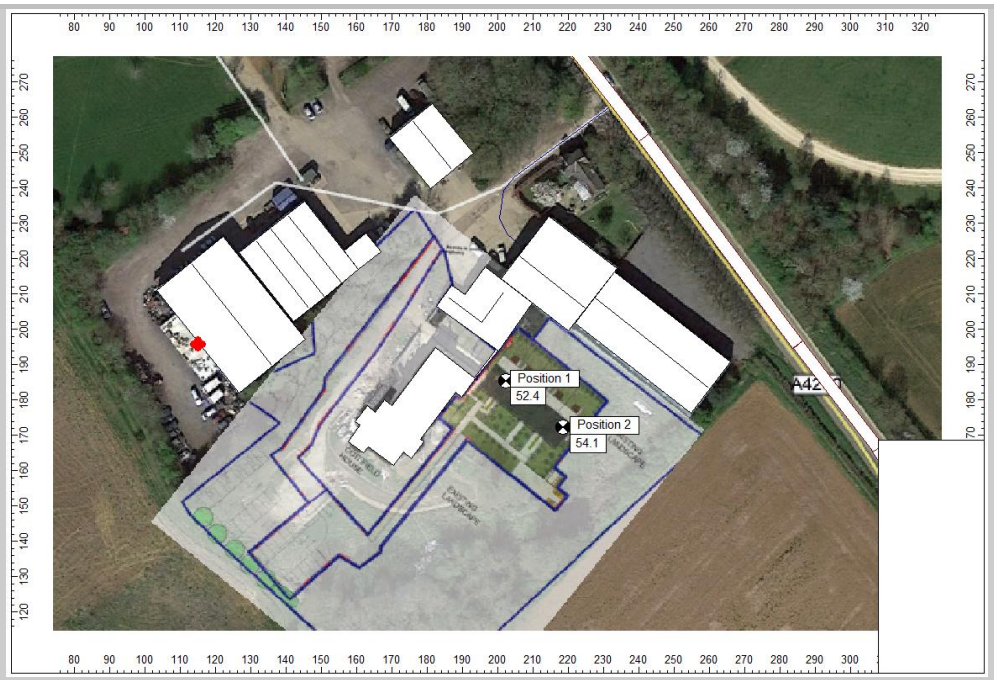
It can be seen from the attached graph and downloaded results that the external noise levels have followed the expected path and remained fairly constant throughout the day. The levels then gradually dropped off as the evening progressed and began to rise when morning traffic levels increased.

11.2 Existing Noise Levels – Daytime (07:00 – 23:00)



Daytime prior to development

11.3 Existing Noise Levels – Night Time (23:00 – 07:00)



Night time prior to development

11.4 Proposed Noise levels – Daytime (07:00 – 23:00)

Daytime post development

11.5 Proposed Noise levels – Night Time (23:00 – 07:00)

Night time post development

11.6 Recommendations

For the purpose of this assessment, the corresponding façade levels will be used within the BS 8233: 2014 calculations in order evaluate the worst case scenario and select the correct window specification.

Therefore, in order to achieve the required noise levels of $L_{Aeq\ 16\ HOUR}$ 35 dB for habitable rooms daytime and $L_{Aeq\ 8\ HOUR}$ 30 dB for Bedroom at night within the proposed, the following additional acoustic measures have been calculated.

It should be noted that the calculations have been made with the proposed windows closed. Additional calculations were made for the top floor due to the influence of sound transmission into the various rooms via the roof / ceiling i.e. an increased impeding façade. Inputted levels into the calculation sheets have been corrected for distance attenuation and free field in accordance with the aforementioned British Standard.

11.7 Calculation Procedure to BS 8233: 2014

The following calculations have been carried out in order to determine the required window and ventilation specification in order to meet the requirements of BS 8233: 2014.

11.8 First Floor Living

Proposed Window Configuration	4mm / 16mm / 4mm with MVHR
Leqff	*The equivalent continuous sound pressure level outside the room elements under consideration*
A0	*The reference absorption area of 10m2 and is independent of frequency*
Sf	*The total façade area of the room in question*
Swi	*The area of the windows in the room*
Sew	*The area of the external wall of the room*
Srr	*The area of the ceiling of the room (if applicable)*
S	*The total area of the elements through which sound enters the room*
Dne	*The insulation value of the trickle ventilator (if applicable)*
Rwi	*The sound reduction index of the window*
Rew	*The sound reduction index of the external wall*
Rrr	*The sound reduction index of the ceiling/roof (if applicable)*
A	*The equivalent absorption area of the receiving room where A=0.163V/T*
Formula	Leq2=Leqff+10log[A0/S*10^(-Dne/10)+Swi/S*10^(-Rwi/10)+Sew/10*10^(-Rew/10)+Srr/S*10^(-Rrr/10)] +10log(S/A) +3
Note	The expected Precision of the Calculation is +/- 2dB.

	Octave Band Centre Frequency (Hz)					
	125	**250**	**500**	**1000**	**2000**	**4000**
Sf	11	11	11	11	11	11
Sr	0	0	0	0	0	0
Swi	3	3	3	3	3	3
Sew	8	8	8	8	8	8
Srr	0	0	0	0	0	0
S	11	11	11	11	11	11
A0	10	10	10	10	10	10
V	48	48	48	48	48	48
T (BS8233)	0.50	0.50	0.50	0.50	0.50	0.50
A	11.0	14.0	16.0	16.0	15.0	14.0
Daytime Leqff	51.8	48.7	52.4	55.5	48.7	43.4
Night time Leqff	47.8	48.4	49.2	49.5	42.5	37.6
Dne	40.0	44.0	45.0	51.0	56.0	56.0
Rwi	21.0	17.0	25.0	35.0	37.0	31.0
Rew	40.0	44.0	45.0	51.0	56.0	56.0
Rrr	28.0	34.0	40.0	45.0	49.0	49.0

Predicted dB(A) Level Within The Above Room During Daytime Hours (07:00-23:00)	$L_{Aeq\ 16\ HOUR}$	**24.4**	**dB(A)**
Predicted dB(A) Level Within The Above Room During Night Time Hours (23:00-07:00)	$L_{Aeq\ 8\ HOUR}$	**21.8**	**dB(A)**

11.9 Top Floor Bedroom

Proposed Window Configuration	4mm / 16mm / 4mm with MVHR
Leqff	*The equivalent continuous sound pressure level outside the room elements under consideration*
A0	*The reference absorption area of 10m2 and is independent of frequency*
Sf	*The total façade area of the room in question*
Swi	*The area of the windows in the room*
Sew	*The area of the external wall of the room*
Srr	*The area of the ceiling of the room (if applicable)*
S	*The total area of the elements through which sound enters the room*
Dne	*The insulation value of the trickle ventilator (if applicable)*
Rwi	*The sound reduction index of the window*
Rew	*The sound reduction index of the external wall*
Rrr	*The sound reduction index of the ceiling/roof (if applicable)*
A	*The equivalent absorption area of the receiving room where A=0.163V/T*
Formula	Leq2=Leqff+10log[A0/S*10^(-Dne/10)+Swi/S*10^(-Rwi/10)+Sew/10*10^(-Rew/10)+Srr/S*10^(-Rrr/10)] +10log(S/A) +3
Note	The expected Precision of the Calculation is +/- 2dB.

	Octave Band Centre Frequency (Hz)					
	125	**250**	**500**	**1000**	**2000**	**4000**
Sf	7	7	7	7	7	7
Sr	12	12	12	12	12	12
Swi	1.6	1.6	1.6	1.6	1.6	1.6
Sew	5.4	5.4	5.4	5.4	5.4	5.4
Srr	12	12	12	12	12	12
S	19	19	19	19	19	19
A0	10	10	10	10	10	10
V	29	29	29	29	29	29
T (BS8233)	0.50	0.50	0.50	0.50	0.50	0.50
A	11.0	14.0	16.0	16.0	15.0	14.0
Daytime Leqff	51.8	48.7	52.4	55.5	48.7	43.4
Night time Leqff	47.8	48.4	49.2	49.5	42.5	37.6
Dne	40.0	44.0	45.0	51.0	56.0	56.0
Rwi	21.0	17.0	25.0	35.0	37.0	31.0
Rew	40.0	44.0	45.0	51.0	56.0	56.0
Rrr	28.0	34.0	40.0	45.0	49.0	49.0

Predicted dB(A) Level Within The Above Room During Daytime Hours (07:00-23:00)	$L_{Aeq\ 16\ HOUR}$	**23.1**	**dB(A)**
Predicted dB(A) Level Within The Above Room During Night Time Hours (23:00-07:00)	$L_{Aeq\ 8\ HOUR}$	**20.2**	**dB(A)**

11.10 Glazing (R_{wi})

Octave Band Frequency	125	250	500	1000	2000	4000	Rw dB (C: Ctr)
4mm glass / 16mm air gap / 4mm glass	21.0	17.0	25.0	35.0	37.0	31.0	29.0 (-1: -4)

11.11 Walls (R_{ew})

Octave Band Frequency	125	250	500	1000	2000	4000	Rw dB
Brick and Concrete Block	40.0	44.0	45.0	51.0	56.0	56.0	50.0

11.12 Roof (R_{rr})

Octave Band Frequency	125	250	500	1000	2000	4000	Rw dB
Standard Roof	28.0	34.0	40.0	45.0	49.0	49.0	44.0

The above are minimum construction attenuation values and should alternative methods be selected; these should be equal to or greater than the above corresponding values. Calculations carried out have indicated the following specifications should be installed for this site.

11.13 Glazing & Ventilation Assessment

The development should be designed with a 4mm glass / 16mm air gap / 4mm glass double glazed windows and an MVHR unit to all rooms ensure the internal noise levels are acceptable in terms of the assessment to British Standard 8233: 2014. The proposed MVHR system also aids with attenuation from the existing commercial premises.

11.14 Night Noise Guidelines Europe 2009

The Night Noise Guidelines 2009 make direct reference to the World Health Organisations Guidelines for Community Noise 1999 with recommended guideline criteria of L_{Aeq} 30 dB indoors for continuous noise. The document goes on to explain that sleep disturbance correlates best with L_{Amax} and effects have been observed at 45 dB or less. This is particularly true if the background noise level is low. Noise events exceeding 45 dB(A) should therefore be limited.

Pro PG: Planning and Noise Appendix A 'Dealing with Noise Events' A.17 states that:-

Various studies have linked the L_{Amax} from individual noise events to behavioural awakenings. For example one study found that the "Probability of sleep stage changes to wake/S1 from railway noise increased significantly from 6.5% at 35 dB(A) to 20.5% at 80 dB(A) $L_{Amax,F}$ whilst another study concluded that "noise disturbance of sleep may be expected to become significant once the outdoor L_{Aeq} exceeds 55 dB provided peak noise levels do not exceed 75 to 80 dB. Higher L_{Aeq} values up to 60 dB may be allowed providing the peak levels do not exceed 85 dB, and the number of such events is less than about 20 per night". Based on these studies it can be concluded that at night (2300 - 0700 hrs) a significant effect on sleep disturbance e.g. behavioural awakening, is likely to occur where the maximum sound level at the façade of a building with partially open windows is above:

85 dB $L_{Amax,F}$ (where the number of events exceeding this value is ≤ 20);
or
80 dB $L_{Amax,F}$ (where the number of events exceeding this value is > 20).

Pro PG: Planning and Noise Appendix A 'Dealing with Noise Events' A.18 goes on to explain that:-

A.18 The main body of sleep research is consistent with a careful interpretation of the viewpoint set out in the World Health Organisation Guidelines which for the ordinary population is that:

- *Impacts on sleep can be detected from relatively low level maximum noise events, however the degree of resulting harm may not be significant.*
- *'Effects' on sleep (such as EEG awakenings and sleep stage changes) occur spontaneously in the general population many times per night regardless of any impacts due to noise.*
- *The smaller the number of noise events, the louder the maximum noise level that can be tolerated without adverse effects upon sleep; subject to an upper limit.*
- *At relatively low levels e.g. around 45 dB $L_{Amax,F}$ when sufficient number of such events take place during the night the adverse effects of individual noise events are likely to be limited to sleep disturbance in the form of changes in sleep state or perhaps some EEG awakenings.*
- *It normally requires noise levels higher than 45 dB $L_{Amax,F}$ before significant adverse effects such as behavioural awakenings, difficulty getting to sleep, premature awakening or difficulty getting back to sleep generally occur and the latest field research on and aircraft noise suggest that it requires internal L_{Amax} noise levels of around 65 dB before noise induced awakenings become distinguishable from spontaneous awakenings).*

Therefore the following tabulated results from the worst night have been calculated and demonstrate compliance with the requirements of Pro PG.

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES – POSITION 2				
Date / Time	**LAeq**	**LAmax**	**$L_{Amax,F}$ 80 - 85 dB**	**$L_{Amax,F}$ > 85 dB**
23:00 - 23:15	52.9	65.3		
23:15 - 23:30	54.2	66.2		
23:30 - 23:45	53.5	67.7		
23:45 - 00:00	51.9	65.4		
00:00 - 00:15	52.0	66.5		
00:15 - 00:30	51.9	68.3		
00:30 - 00:45	50.6	61.3		
00:45 - 01:00	50.1	65.5		
01:00 - 01:15	48.8	62.0		
01:15 - 01:30	50.4	68.6		
01:30 - 01:45	50.1	62.3		
01:45 - 02:00	47.5	60.6		
02:00 - 02:15	50.1	64.6		
02:15 - 02:30	49.9	62.6		
02:30 - 02:45	47.2	59.9		
02:45 - 03:00	47.2	56.3		
03:00 - 03:15	49.0	64.1		
03:15 - 03:30	50.7	65.6		
03:30 - 03:45	50.2	66.5		
03:45 - 04:00	51.2	63.9		
04:00 - 04:15	51.0	65.3		
04:15 - 04:30	52.1	66.3		
04:30 - 04:45	53.5	65.6		
04:45 - 05:00	55.0	67.5		
05:00 - 05:15	56.2	66.0		
05:15 - 05:30	55.7	66.3		
05:30 - 05:45	57.4	72.5		
05:45 - 06:00	57.1	72.5		
06:00 - 06:15	58.1	69.3		
06:15 - 06:30	58.8	68.1		
06:30 - 06:45	59.4	67.3		
06:45 - 07:00	59.1	65.9		
Total Event Count			0	0
Pro PG Annex Event Quantity Criteria			>20	<20
Pro PG Criteria Assessment			Achieved	Achieved

With the proposed glazing and ventilation strategies implemented on this site, the following calculated internal levels have been evaluated accordingly:-

Item		Night Time (23:00-07:00)	Description
1	Recorded External Noise Level	54.1	Recorded Noise Level at the Monitoring Position
2	Calculated Highest Façade Level	54.1	Highest recorded façade level of the proposed development closest to the above associated monitoring position.
3	Façade Correction	0	Difference between Recorded and Calculated (Item 1 and 2)
4	Calculated Façade Attenuation	-33.9	Calculated façade attenuation taken from the highest recorded LAeq 8 HOUR dB night time noise level, minus the highest calculated internal noise level taken from the BS 8233 calculations.
5	LAmax 45 dB Criteria	45.0	LAmax 45 dB Criteria taken from WHO Guidelines. BS 8233 does not reference LAmax dB noise level criteria.
6	Calculated Façade Level Outside	78.9	Addition of Items 4 and 5 to give a resultant target level for the 11th Percentile
7	11th Percentile Recorded LAmax	66.5	11th Percentile Recorded LAmax
8	LAmax Criteria Achieved	YES	If Item 7 is less than 6, then the site is likely to be compliant. If not, further calculations are required

The above table demonstrates that the upgraded glazing and ventilation will result in the internal LAmax 45 dB criteria being achieved.

12 ELEMENT 3 – EXTERNAL AMENITY AREA NOISE ASSESSMENT

The World Health Organisation 'Guidelines for Community Noise gives guidance as to desirable noise levels that should be achieved within outdoor living areas such as gardens, patios and verandas etc.

Table 1: Guideline values for community noise in specific environments, details the desirable target noise levels within various areas.

Outdoor Living Area	
Serious Annoyance, daytime and evening	$L_{Aeq\ 16\ HOUR}$ 55 dB
Moderate Annoyance, daytime and evening	$L_{Aeq\ 16\ HOUR}$ 50 dB

In order to evaluate the external noise levels within the proposed development, and to correctly and accurately select the precise required minimum screen heights, the 3D modelling software CADNA A is to be used. Initially, the site plan is to be overlaid onto Google Earth and then imported directly into CADNA A using the geometric co-ordinates.

From this, the monitoring positions and noise sources such as roads are added. The output noise levels from the roads are then increased until the monitored noise levels are achieved at the monitoring position. This model is then saved and used as a working 3D acoustic model of the site.

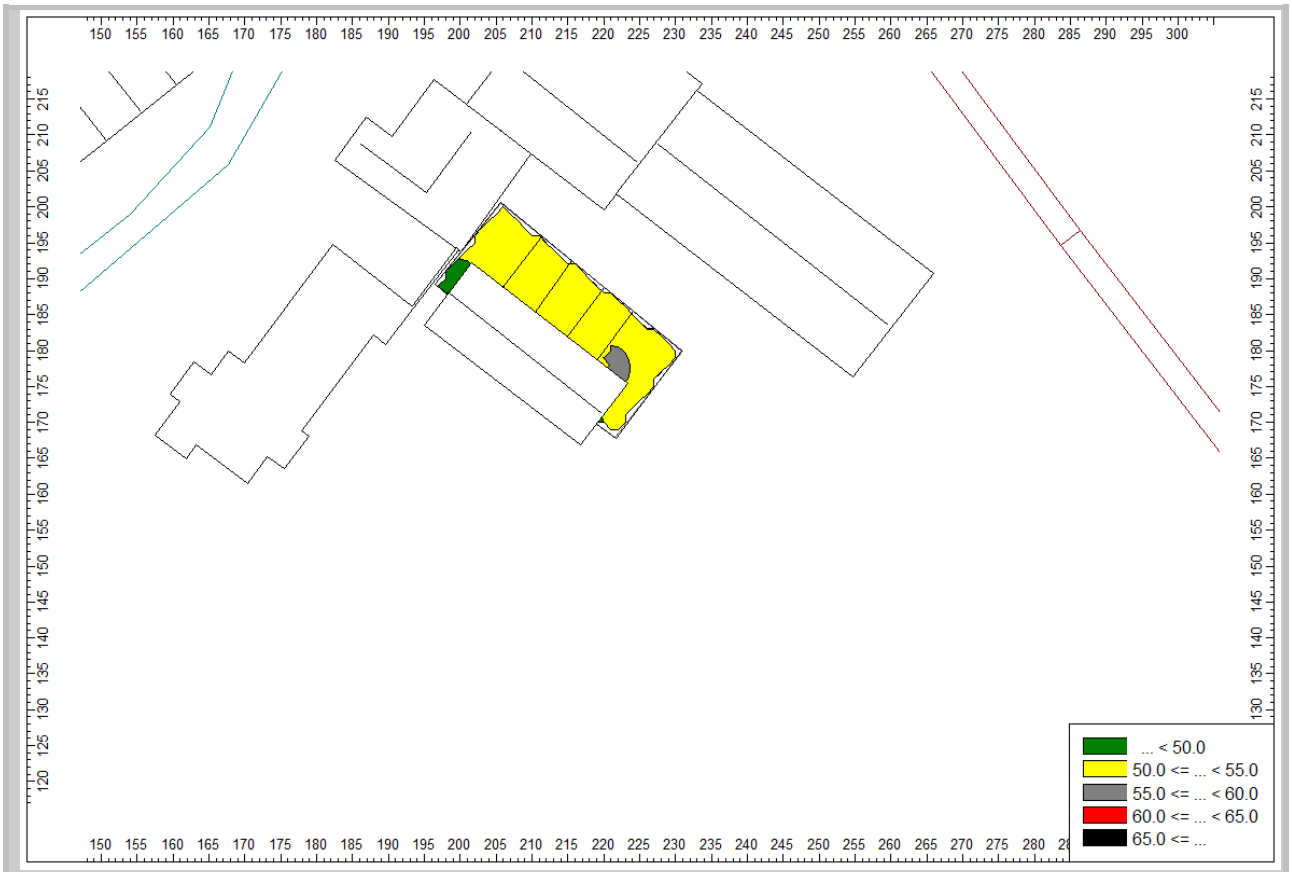
The proposed buildings are then constructed on a 3D bases and receptors placed within the garden areas.

The calculation software is then run to evaluate the garden levels within sample plots across the development.

The following CADNA A screen shots demonstrate the existing sites working 3D model. The levels at the measurement position correlate with the measured daytime average levels detailed on pages 10- 13 of this report.

3D View

The development has external living areas on the development and therefore this criteria / guideline would be appropriately considered within the proposed rear residential garden areas.



With proposed acoustic 3.0m screen

The guideline has been considered acceptable criteria for this assessment given the sites geographical location and proximity to a major trunk road. The layout has been designed in order to allow for acoustics and minimise the noise levels within the outdoor living spaces. The above calculation demonstrates the external living spaces surrounding the houses are likely to see noise levels in below the upper guideline.

However, BS8233: 2014 states the following:

'For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB LAeq,T, with an upper guideline value of 55 dB LAeq,T which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited'.

PRoPG: Planning and Noise goes on to state the following with regards to external amenity space:-

Paragraph 2.47

PPG- Noise states: "If amenity spaces are an intrinsic part of the overall design, the acoustic environment of these spaces should be considered so that they can be enjoyed as intended".

Paragraph 2.48

It is noted that both documents require a decision to be made regarding whether or not an external amenity area (or amenity space) is intrinsic to the required design for acoustic, or for other reasons. However, the advice in BS 8233: 2014 states that the resulting noise levels outside are never a reason for refusal as long as levels are designed to be as low as practicable. Whereas, to comply with policy guidance any amenity space must have an acoustic environment so that it can be enjoyed as intended.

Element 3 – External Amenity Space

Paragraph 3 (iii)

These guideline values may not be achievable in all circumstance where development might be desirable. In such situations, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces.

The Noise Policy Statement for England (NPSE) also states that:-

Paragraph 2.3

Furthermore, the broad aim of noise management has been to separate noise sources from sensitive noise receptors and to minimise noise. Of course, taken in isolation and to a literal extreme, noise minimisation would mean no noise at all. In reality, although it has not always been stated, the aim has tended to be to minimise noise 'as far as reasonably practical'. The concept can be found in the Environmental Protection Act 1990, where, in some circumstances, there is a defence of 'best practicable means' in summary statutory nuisance proceedings.

Paragraph 2.7

In addition, the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation. In the past, the wider benefits of a practical policy, development or other activity may not have been given adequate weight when assessing the noise implications.

Paragraph 2.22

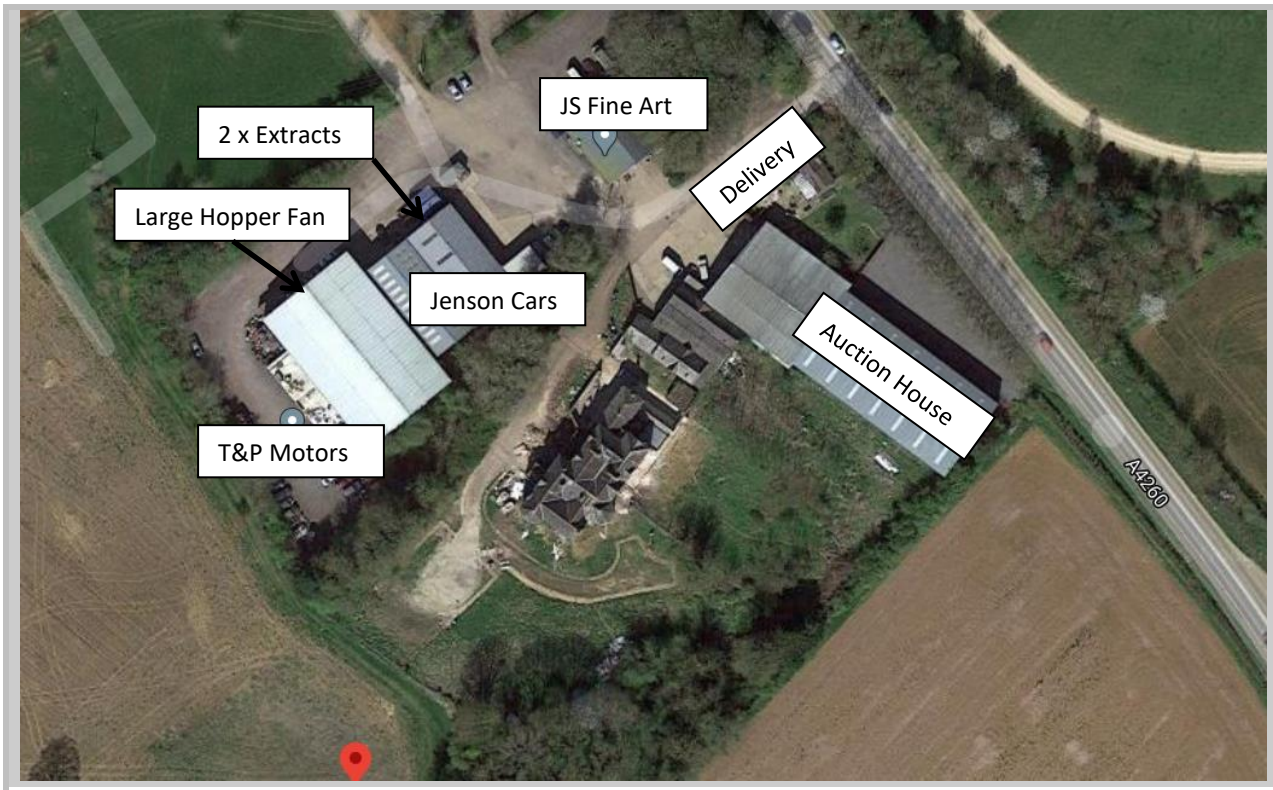
It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further 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 a specific SOAEL value in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

In summary, the external living spaces have been reduced by the location of the proposed bund with screen on top to as low as is reasonably practicable and therefore in accordance with the guidance set out above, planning permission should not be refused and external noise should not be considered in isolation.

13 COMMERCIAL NOISE ASSESSMENT

13.1 Existing Plant

The following commercial noise sources have been identified within the vicinity of the proposed residential premises. In addition, the neighbouring auction house also has 3-4 deliveries per day and this is to be accounted for within our assessments.



COMMERCIAL NOISE SOURCE LOCATIONS

13.1.1 Extract Fans 1 & 2

Sound pressure levels were recorded at 1.0m above the extracts and outside of the Jetstream with the extraction units operating under normal load.

13.1.2 T&P Motors

T&P Motors offer servicing of vehicles which involves the use of mainly battery powered tools. The have a compressed air and associated compressor with a pneumatic air gun. Therefore noise levels were recorded at the open roller shutter door with the compressor unit being operated.

13.1.3 JS Fine Art

JS Fine Art renovates and restores antique articles and furniture and then feed these to the Auction House opposite for sale. There is generally little to no noise emanating from this unit and the background music radio is the loudest thing in the unit. This radio is no audible outside the unit.

13.1.4 Delivery

The Auction House has, on average, 3 – 4 deliveries per day and involves the lorry arriving and departing that takes no more than a minute for each movement as the Auction House is directly adjacent to the main road.

The following CADNA A® 3D predictions have been developed using the recorded data from a typical articulated lorry. The following data was captured during a typical early morning delivery of goods which occurred at approximately 5:30am on 22nd March 2019 and was considered to be the most noise generating delivery as it included role cages being offloaded as well as pallets.

Typical Articulated Lorry	Octave Band Centre Frequency (Hz)									dB(A)
	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k	
Lorry Movement	77.8	76.7	75.7	75.8	75.6	71.4	66.0	60.1	52.5	79.2

With regards to the lorry movements the arrival and departing time was 1minute each. Therefore in order to ascertain the correct assessment noise level in relation to the corresponding background noise level time, the following calculations have been carried out on 4 deliveries per day.

Lorry Arriving	1 min	60 seconds
Lorry Departing	1 min	60 seconds
Total Movement Time	2 min	120 seconds

Lorry Movement = 120 seconds x 4 deliveries = 480 seconds out of a typical working 10 hour day 08:00 - 18:00 (60,000 seconds).

10 x Log10 (480/60,000) = -20.9 dB = 79.2 – 20.9 = 58.3 dB

Alternative Calculation

$$LAeq,T = 10 \times \text{Log10}\left[\frac{480 \times 10^{(79.1/10)}}{60{,}000}\right] = 58.3 \text{ dB}$$

The CADNA A calculation demonstrates a resultant noise level at 1.0m from the moving lorry of 63.5 dB(A).

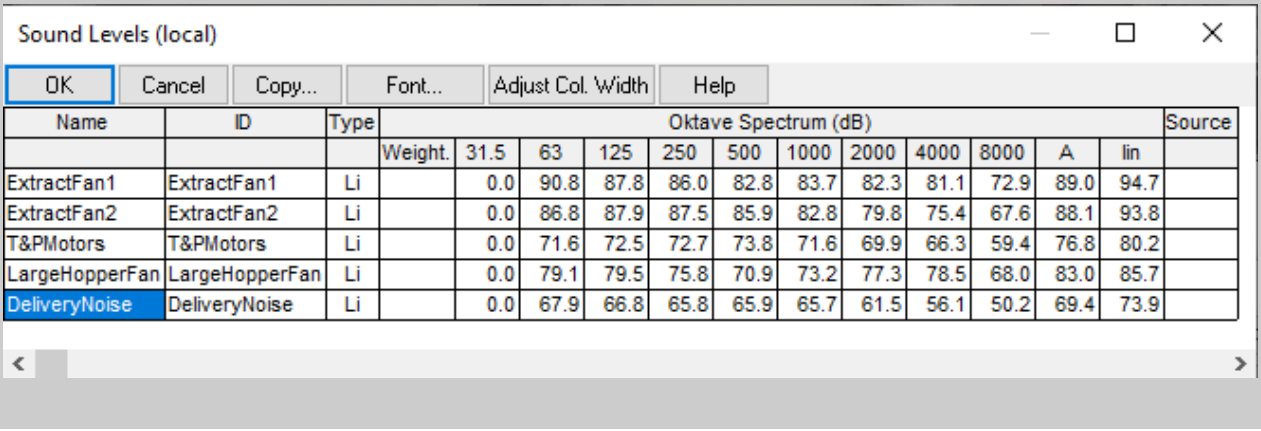
13.2 Existing Commercial Noise Data

Plant Items	Octave Band Centre Frequency (Hz)									dB(A)
	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k	
Extract Fan 1	79.8	76.8	75.0	71.8	72.7	71.3	70.1	61.9	46.9	78.0
Extract Fan 1	75.8	76.9	76.5	74.9	71.8	68.8	64.4	56.6	40.7	77.0
T&P Motors	60.6	61.5	61.7	62.8	60.6	58.9	55.3	48.4	38.5	65.9
Large Hopper Fan	68.1	68.5	64.8	59.9	62.2	66.3	67.5	57.0	46.9	71.9
Delivery Noise (Time Corrected)	56.9	55.8	54.8	54.9	54.7	50.5	45.1	39.2	31.6	58.3
Sound Pressure Levels @ 1m										

The above levels have been converted into sound power levels and inputted into the CADNA A software.

Plant Items	Octave Band Centre Frequency (Hz)									dB(A)
	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k	
Extract Fan 1	90.8	87.8	86.0	82.8	83.7	82.3	81.1	72.9	57.9	89.0
Extract Fan 1	86.8	87.9	87.5	85.9	82.8	79.8	75.4	67.6	51.7	88.0
T&P Motors	71.6	72.5	72.7	73.8	71.6	69.9	66.3	59.4	49.5	76.9
Large Hopper Fan	79.1	79.5	75.8	70.9	73.2	77.3	78.5	68.0	57.9	82.9
Delivery Noise (Time Corrected)	67.9	66.8	65.8	65.9	65.7	61.5	56.1	50.2	42.6	69.3
Sound Pressure Levels @ 1m										

13.3 Inputted Noise Levels

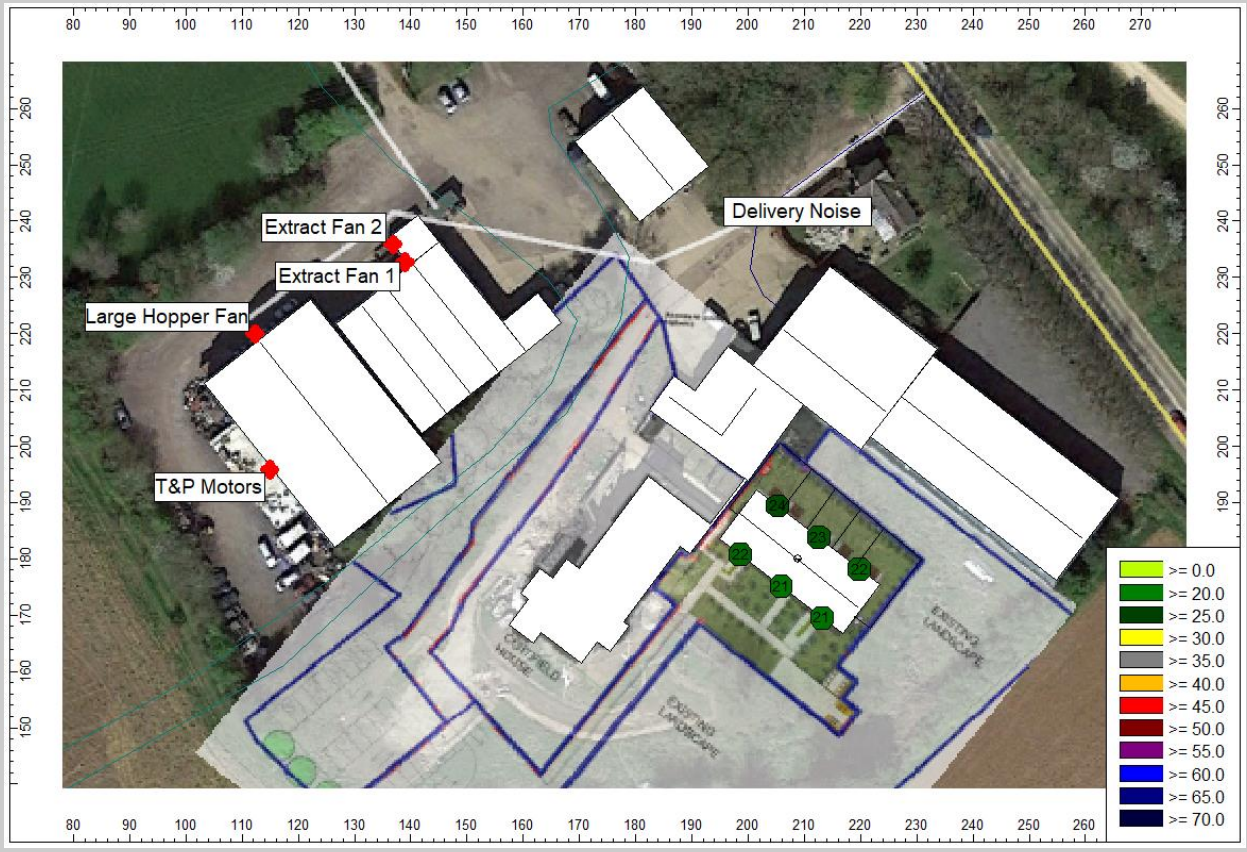


Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
ExtractFan1	ExtractFan1	Li		0.0	90.8	87.8	86.0	82.8	83.7	82.3	81.1	72.9	89.0	94.7	
ExtractFan2	ExtractFan2	Li		0.0	86.8	87.9	87.5	85.9	82.8	79.8	75.4	67.6	88.1	93.8	
T&PMotors	T&PMotors	Li		0.0	71.6	72.5	72.7	73.8	71.6	69.9	66.3	59.4	76.8	80.2	
LargeHopperFan	LargeHopperFan	Li		0.0	79.1	79.5	75.8	70.9	73.2	77.3	78.5	68.0	83.0	85.7	
DeliveryNoise	DeliveryNoise	Li		0.0	67.9	66.8	65.8	65.9	65.7	61.5	56.1	50.2	69.4	73.9	

INPUTTED NOISE LEVELS

13.4 Calculated Façade Levels

Based on the above inputted noise levels, the following CADNA A model has been generated and the calculated noise levels at the proposed residential units evaluated.



CALCULATED FAÇADE LEVELS

Based on the above calculations, the following assessments can be made:-

14 BS4142: 2014 NOISE ASSESSMENT

14.1 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, 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 by using outdoor sound levels to assess the effect of sound on local residents.

14.2 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 1st 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.

14.3 Assessment Position

The assessment position was established as the proposed residential dwellings.

14.4 Calculations

The specific noise levels are calculated at the assessment position located at the residential property above the site 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.

14.5 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 BS4142:2014. There are 3 methods for approaching this.

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

14.6 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.

BS4142:2014 – 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.

BS4142:2014 – 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.

BS4142:2014 – 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

14.7 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 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

14.8 Noise Meter Floor

BS 4142: 2014 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.

14.9 BS 4142: 2014 Penalties

Whilst BS 4142: 2014 allows receptor assessments to 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.

14.10 Assessments

14.10.1 Daytime (07:00 – 23:00)

Rating Industrial Noise affecting Mixed Industrial and Residential Areas			British Standard 4142:2014 Daytime (07:00 to 23:00)
Source	Operating Times		Source Position
	07:00 to 23:00 7 days per week Worst case scenario		See Plans
Assessment Position	LAND @ COTFIELD HOUSE, OXFORD ROAD, BODICOTE, BANBURY		
Background Position	At the assessment position		
Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1\ hour}$	24 dB	7	Calculated using ISO 9613:1996[3].
Tonality	+2 dB	8.1	Tonality Characteristic
Impulsivity	+3 dB	8.1	Impulsivity Characteristic
Intermittency	+3 dB	8.1	Intermittency Characteristic
Rating Level	32 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\ hour}$	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-18 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	**-18 dB**		
Conclusion	**The assessment level is 'Low Impact'**		

14.11 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 existing fans. To safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

14.12 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 T & P Motors. The impulsive nature of T & P Motors 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.

14.13 Intermittency Penalty

A +3 dB penalty has been applied to the specific noise level to allow for any intermittent elements that may be present from the delivery noise. This has been applied to safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

14.14 Assessment Conclusion

It can be seen from the above assessments that with the existing commercial premises as it stands, they are unlikely to cause a significant impact to the proposed residential units. Therefore, no further remedial works are required and the proposed residential properties will be suitable safeguarded from commercial noise.

15 ELEMENT 4 – ASSESSMENT OF OTHER RELEVANT ISSUES

The National Planning Policy Framework 2019 (NPPF) and assessments to the Noise Policy Statement for England 2010 (NPSE) should be made in conjunction with each other. Paragraphs 180 - 183 of the National Planning Policy Framework 2019 (NPPF) states the following:

Paragraph 180 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 181 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 182 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 183 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 glazing / ventilation 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.

16 ACOUSTIC DESIGN STATEMENT

Good Acoustic Design	Given the size and orientation of the proposed site, it is recommended that the developer adopted, where practically possible, a good acoustic design which should include careful consideration of the positioning of the proposed properties together with thoughts being taken as to internal layouts to minimise noise sensitive rooms facing onto dominant noise sources within the local areas.
Internal Noise Levels	Calculations have been carried out and assessments made to BS 8233: 2014 together with design specifications supplied for the required glazing and ventilation specifications required across the development to ensure compliance.
LAmax dB Noise Levels	Assessments and calculations demonstrate that the LAmax dB Levels are within the criteria set out within PRoPG
External Living Areas	The guideline has been considered acceptable criteria for this assessment given the sites geographical location and proximity to a major trunk road. The layout has been designed in order to allow for acoustics and minimise the noise levels within the outdoor living spaces. The above calculation demonstrates the external living spaces surrounding the houses are likely to see noise levels in below the upper guideline.
NPPF & NPSE	With the glazing / ventilation 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.
OVERALL OUTCOME	**NOEL – No Observed Effect Level**

17 RECOMMENDATION TO DECISION MAKER

Levels have been recorded and assessments made in accordance with the relevant standards. Internal criteria's have been set and calculations made in order to determine the minimum construction details required in order to meet the desired level within the proposed residential dwellings and satisfy the local council's requirements.

National Planning Policy Framework 2019 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.

Based on the calculations and assessments made within this report it is the professional opinion of Impact Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2019, NPPF & NPSE and that, with regards to sound, planning permission can be granted using the following parameters.

As indicated in Section 2 of PRoPG, following the PRoPG approach will lead to the choice of one of four possible recommendations from the noise practitioner to the decision maker:

A. Planning consent may be granted without any need for noise conditions;
B. Planning consent may be granted subject to the inclusion of suitable noise conditions;
C. Planning consent should be refused on noise grounds in order to avoid significant adverse effects ("avoid"); or
D. Planning consent should be refused on noise grounds in order to prevent unacceptable adverse effects ("prevent").

RECOMMENDATION TO DECISION MAKER

B: Grant with Noise Conditions

18 CONCLUSION

18.1 Summary of Results

A background noise survey was undertaken from the 17th to the 22nd February 2021 at two positions, on the site to establish the underlying background noise levels. Measurements are as follows.

Assessment Position	Date Start	Date Finish	Daytime LAeq	Night Time LAeq
Position 1	17/02/2021	22/02/2021	59.6	54.1
Position 2	17/02/2021	22/02/2021	57.7	52.4

Assessment Position	Date Start	Date Finish	Daytime LA90	Night Time LA90
Position 2	17/02/2021	22/02/2021	50	44

It should be noted that the nearby commercial premises do not operate during night time hours and therefore only daytime assessments have been made within the report.

18.2 Commercial Noise

18.2.1 Daytime (07:00 – 23:00)

Rating Level	32 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\ hour}$	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-18 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	**-18 dB**		
Conclusion	**The assessment level is 'Low Impact'**		

18.2.2 Assessment Conclusion

It can be seen from the above assessments that with the existing commercial premises as it stands, they are unlikely to cause a significant impact to the proposed residential units. Therefore, no further remedial works are required and the proposed residential properties will be suitable safeguarded from commercial noise.

18.3 Potential Façade Noise Levels

18.3.1 Daytime (07:00-23:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Daytime (07:00-23:00)	$L_{Aeq,\ 16\ HOUR}$ 59.6 dB	50 - 63 dB

18.3.2 Night Time (23:00-07:00)

Time Period	Highest Potential Façade Noise Level	Noise Risk Category 1 - Low
Average Night Time (23:00-07:00)	$L_{Aeq,\ 16\ HOUR}$ 54.1 dB	40 - 55 dB
	Maximum (10 Times) – L_{Amax} 66.5 dB	>80 dB (10 Times in 8 Hours)

18.4 Risk Assessment

18.4.1 Daytime (07:00-23:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

18.4.2 Night Time (23:00-07:00)

Risk Assessment Category	Risk Assessment
1 – Low	At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

The above table demonstrates this site is located within Noise Risk Category 1 for daytime which suggests a medium level of risk and Category 1 night time which also suggests a low level of risk.

18.5 Conclusion Summary

18.5.1 Plant Noise BS 4142: 2014

The operation of the existing commercial premises 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 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest proposed residential façade on the site and the assessment of the impact these 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.

18.5.2 Ambient Noise BS 8233: 2014

The dominant noise source on the overall site is road traffic. Levels have been recorded and assessments made in accordance with the relevant standards. Internal criteria's have been set and calculations made in order to determine the minimum construction details required in order to meet the desired level within the proposed residential dwellings and satisfy the local council's requirements.

18.5.3 Planning Recommendation

National Planning Policy Framework 2019 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.

Based on the calculations and assessments made within this report it is the professional opinion of Impact Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2019, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

19 UNCERTAINTY

In line with the requirements of section 10 of British Standard 4142: 2014 it is expected that the reported expanded uncertainty with a confidence limit of 95% and assuming a convergence of k=2 is likely to be +/- 2.1dB. Uncertainty, in this instance has been minimised by undertaking longer background noise measurements over a 96-hour period.

19.1 Uncertainty Budget

Sources of Uncertainty	Uncertainty Notes	Commentary	Value (half Width)	Convert to Same Units (dB)	Distribution Divisor			Standard Uncertainty (u) dB
					Normal	Rectangular	Other	
Measurement Position	Choice of position, ,	1m in 20m		0.2		rect(√3)		0.13
	microphone orientation	Type 1 0 - 30deg	0.4		Normal			0.50
Instrumentation	Calibration	Calibration Drift	0.1		Normal			0.10
	Accuracy and precision (type 1)	Type 1 practical	1.9			rect(√3)		0.50
Background Noise Level	Timing of Measurement							
Background Noise Level	Modal Analysis Day	Calculated Standard Deviation	3.7				s/√n	0.39
Background Noise Level	Modal Analysis Night	Calculated Standard Deviation	2.2				s/√n	0.16
Combined Uncertainty (root sum of squares)								1.05
Expanded Uncertainty U = Kuc (95% Confidence K =2)								2.1
Final Answer Expressed ads Value +/- U dB with a confidence Level of 95%								
REFERENCE: Uncertainty Budget Calculated in line with M3003: The Expression of Uncertainty and Confidence in Measurement Edition 3, November 2012 and A Good Practice Guide on the Sources and Magnitude of Uncertainty Arising in the Practical Measurement of Environmental Noise N J Craven, G Kerry Edition 1a – May 2007.								

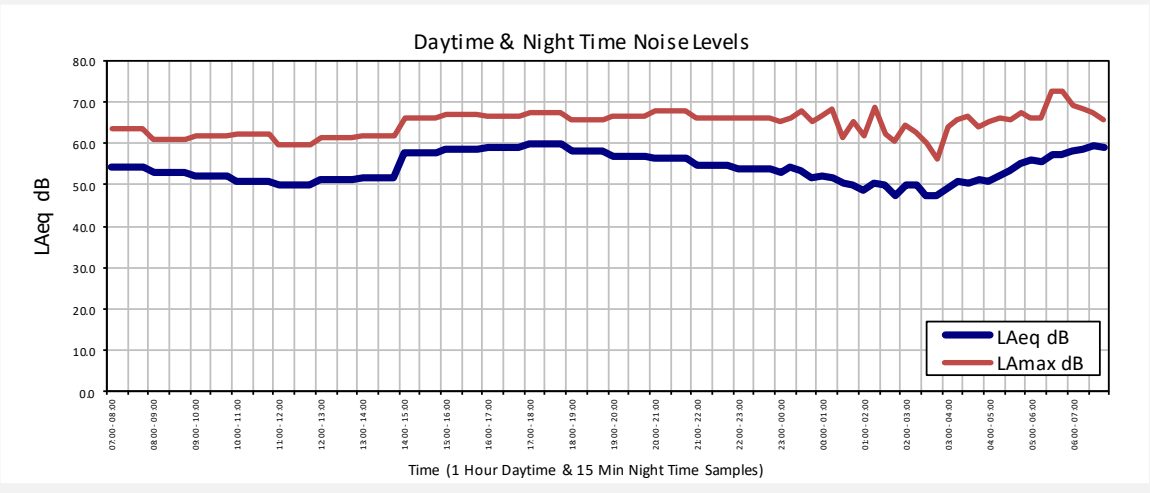
20 RESULTS

20.1 17th - 18th February 2021 – Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	56.0	67.7	56.5	56.4	49.7	45.4	48.4	53.5	49.3	41.2	37.6	22.4
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	54.1	72.5	58.5	54.7	48.4	47.1	49.4	51.7	46.2	34.9	28.3	13.4

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	54.4	63.4	55.6	57.4	50.8	42.9	45.6	52.0	47.6	40.0	38.2	19.9
08:00 - 09:00	53.1	61.1	54.6	56.6	50.0	43.0	43.6	49.7	47.5	40.9	38.1	21.8
09:00 - 10:00	52.3	61.7	55.3	54.9	49.5	43.2	43.5	47.8	46.5	43.1	40.6	26.8
10:00 - 11:00	50.6	62.2	55.0	53.9	46.8	42.2	42.4	47.0	44.3	39.7	38.4	22.0
11:00 - 12:00	49.8	59.7	55.6	54.7	47.0	41.9	41.3	46.9	43.4	36.5	33.8	13.6
12:00 - 13:00	51.1	61.5	56.3	55.1	51.2	45.8	41.8	47.8	45.0	38.1	36.7	15.0
13:00 - 14:00	51.7	61.6	57.3	56.2	47.8	42.3	42.9	49.0	45.3	37.6	34.0	13.4
14:00 - 15:00	57.6	65.9	56.4	57.5	49.5	45.8	49.9	55.5	50.3	39.3	34.0	15.0
15:00 - 16:00	58.7	66.8	56.6	58.9	52.5	48.7	50.6	56.1	51.9	44.4	42.8	27.5
16:00 - 17:00	59.1	66.4	57.2	58.4	50.8	45.9	50.7	56.6	52.5	45.8	41.9	28.4
17:00 - 18:00	60.0	67.3	57.7	58.8	51.2	47.8	52.3	57.7	53.1	44.7	40.0	25.5
18:00 - 19:00	58.3	65.9	56.1	56.6	48.4	45.1	50.3	56.1	51.6	40.7	29.2	15.9
19:00 - 20:00	56.9	66.5	55.5	55.1	47.9	45.3	49.7	54.6	50.1	39.7	29.8	16.6
20:00 - 21:00	56.4	67.7	57.5	54.7	49.2	46.6	49.8	54.0	49.6	39.4	30.1	16.6
21:00 - 22:00	54.9	66.1	57.2	54.4	48.2	46.0	49.1	52.4	47.8	37.0	26.9	12.7
22:00 - 23:00	53.9	66.1	57.8	54.1	49.0	47.0	49.2	51.3	46.3	35.6	27.5	13.1

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	52.9	65.3	56.7	52.4	47.8	46.7	48.5	50.0	45.4	35.2	27.7	13.3
23:15 - 23:30	54.2	66.2	57.0	53.8	48.8	47.6	50.2	51.3	46.8	36.5	28.6	13.5
23:30 - 23:45	53.5	67.7	59.0	53.6	48.7	47.4	49.4	50.6	46.0	36.0	28.7	14.0
23:45 - 00:00	51.9	65.4	60.2	53.6	48.5	47.2	48.6	48.5	44.3	35.7	29.1	14.5
00:00 - 00:15	52.0	66.5	56.5	52.1	47.4	46.2	48.0	49.0	44.2	35.0	27.0	12.9
00:15 - 00:30	51.9	68.3	56.7	52.7	47.4	45.6	48.1	49.2	43.7	33.8	26.6	12.9
00:30 - 00:45	50.6	61.3	55.4	51.6	46.8	45.6	47.4	47.5	42.5	33.4	26.7	12.9
00:45 - 01:00	50.1	65.5	55.3	51.5	45.3	44.1	45.9	47.6	41.7	30.7	24.1	11.9
01:00 - 01:15	48.8	62.0	54.3	51.4	45.1	43.2	45.5	45.9	40.2	29.2	22.3	11.3
01:15 - 01:30	50.4	68.6	55.2	50.8	45.1	43.3	45.6	48.0	42.6	30.7	23.1	11.7
01:30 - 01:45	50.1	62.3	59.0	52.3	46.5	44.8	46.1	47.3	42.0	31.5	25.1	12.7
01:45 - 02:00	47.5	60.6	54.9	50.2	43.9	42.8	44.2	44.7	38.4	28.6	21.9	11.4
02:00 - 02:15	50.1	64.6	57.2	53.5	46.0	44.0	46.5	47.8	40.8	29.7	23.6	12.2
02:15 - 02:30	49.9	62.6	55.6	54.1	46.1	43.8	46.3	47.3	40.9	28.8	21.4	11.2
02:30 - 02:45	47.2	59.9	56.1	50.6	44.7	43.6	44.2	44.5	37.1	28.1	22.7	11.8
02:45 - 03:00	47.2	56.3	54.6	50.7	44.5	42.9	44.7	44.7	35.8	26.5	21.2	11.4
03:00 - 03:15	49.0	64.1	54.4	50.8	45.3	43.6	45.1	46.6	40.1	28.3	22.0	11.5
03:15 - 03:30	50.7	65.6	56.3	56.6	46.2	44.5	47.3	48.4	40.7	29.7	23.6	12.2
03:30 - 03:45	50.2	66.5	56.9	52.2	45.9	44.6	46.5	47.8	41.0	30.1	24.2	12.3
03:45 - 04:00	51.2	63.9	56.9	55.8	46.7	45.1	47.3	48.9	42.2	30.3	23.7	12.1
04:00 - 04:15	51.0	65.3	58.9	55.4	47.1	45.7	47.4	48.7	41.1	30.3	24.4	12.5
04:15 - 04:30	52.1	66.3	57.6	53.1	46.7	46.2	48.0	49.8	43.2	31.4	25.1	12.6
04:30 - 04:45	53.5	65.6	58.1	55.3	48.7	47.3	49.1	51.2	45.1	32.5	25.3	12.7
04:45 - 05:00	55.0	67.5	61.5	55.6	50.4	49.6	51.0	52.3	46.8	36.4	29.9	15.1
05:00 - 05:15	56.2	66.0	59.9	56.2	51.0	50.4	51.8	53.6	48.3	37.7	30.8	15.2
05:15 - 05:30	55.7	66.3	61.4	56.2	50.1	49.0	50.7	53.3	47.9	36.0	28.7	14.7
05:30 - 05:45	57.4	72.5	62.7	58.4	51.1	49.5	52.7	55.0	49.7	37.0	29.3	15.0
05:45 - 06:00	57.1	72.5	61.1	56.1	50.3	49.3	51.8	54.9	49.2	37.0	29.6	14.9
06:00 - 06:15	58.1	69.3	62.0	57.2	51.3	50.3	52.8	55.7	50.5	37.9	30.0	15.0
06:15 - 06:30	58.8	68.1	60.8	58.9	52.0	50.1	53.0	56.7	51.0	37.3	29.0	14.1
06:30 - 06:45	59.4	67.3	60.5	57.7	51.5	50.5	53.6	57.2	51.9	39.8	33.8	15.5
06:45 - 07:00	59.1	65.9	58.1	57.4	50.2	49.2	52.6	56.8	51.8	41.2	36.8	15.4

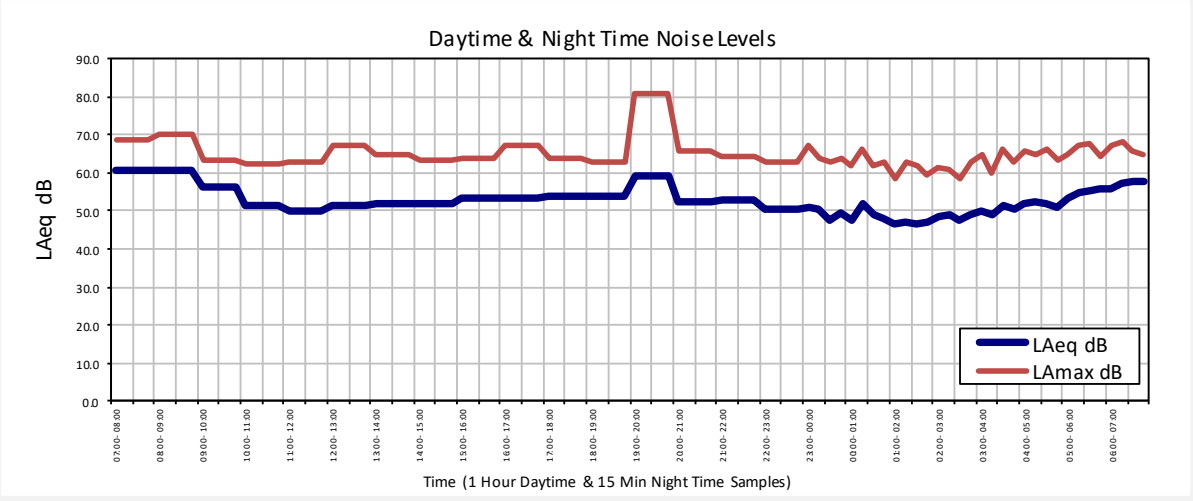


20.2 18th - 19th February 2021 – Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	55.4	80.8	62.2	58.4	52.4	50.8	49.2	52.7	48.1	40.4	37.7	22.5
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	52.4	68.2	55.1	52.3	44.8	42.4	47.0	50.5	43.8	29.7	23.6	10.4

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	60.6	68.5	59.6	59.7	53.6	50.0	53.8	58.5	53.4	41.3	36.4	18.7
08:00 - 09:00	60.8	70.0	58.8	59.3	52.0	49.0	53.2	57.9	54.4	47.9	44.1	31.2
09:00 - 10:00	56.0	63.3	55.6	57.6	49.7	44.5	47.6	53.0	49.7	44.2	41.0	26.3
10:00 - 11:00	51.1	62.2	57.7	56.2	48.5	43.0	42.5	48.1	44.9	38.2	35.9	15.4
11:00 - 12:00	49.7	62.6	56.1	55.0	49.1	45.5	43.0	46.0	42.8	37.8	36.1	16.5
12:00 - 13:00	51.5	66.9	57.4	56.1	50.8	48.6	45.0	47.2	44.6	41.8	38.0	17.7
13:00 - 14:00	52.1	64.9	57.3	55.9	49.9	46.5	45.8	48.7	44.7	40.2	38.6	25.9
14:00 - 15:00	51.8	63.2	58.7	57.2	51.0	46.2	45.2	48.3	44.8	39.9	37.7	23.9
15:00 - 16:00	53.2	63.7	60.4	57.3	52.2	47.8	47.0	50.1	45.2	39.9	42.8	21.0
16:00 - 17:00	53.1	67.4	61.6	58.2	52.5	46.9	46.2	50.6	45.8	36.4	34.5	18.5
17:00 - 18:00	53.6	63.5	55.9	56.1	49.7	42.5	44.7	51.6	46.3	35.2	31.1	14.2
18:00 - 19:00	53.7	62.8	56.8	54.5	47.1	41.4	44.3	52.1	46.1	28.6	19.4	11.6
19:00 - 20:00	59.2	80.8	72.5	66.4	60.8	61.3	56.5	54.9	48.6	36.4	25.6	11.8
20:00 - 21:00	52.3	65.5	52.3	52.5	45.4	41.5	44.0	50.7	44.4	30.5	15.5	10.4
21:00 - 22:00	52.6	64.4	50.3	51.5	47.0	39.3	45.5	50.7	45.0	27.4	12.7	10.0
22:00 - 23:00	50.6	62.7	50.4	51.2	46.0	39.3	43.9	48.7	42.8	25.3	12.3	10.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	51.0	67.2	50.5	49.0	41.5	39.3	44.4	49.2	42.8	25.7	12.6	9.9
23:15 - 23:30	50.6	63.8	49.2	49.5	39.4	38.6	43.9	48.8	42.9	25.5	12.9	10.0
23:30 - 23:45	47.3	62.8	53.3	47.1	38.9	36.6	41.6	45.4	39.2	22.2	12.3	10.0
23:45 - 00:00	49.4	63.6	50.1	51.2	42.5	41.4	45.2	47.5	39.6	22.6	12.0	9.9
00:00 - 00:15	47.7	61.6	49.9	47.2	40.4	38.1	43.3	45.8	38.7	21.7	12.0	9.9
00:15 - 00:30	51.8	66.1	53.6	52.1	44.1	41.7	47.8	49.8	42.0	24.6	12.6	10.0
00:30 - 00:45	48.8	61.8	51.8	50.8	43.2	40.0	45.0	46.7	39.4	22.6	12.1	9.9
00:45 - 01:00	48.2	62.9	51.7	49.4	39.2	39.4	44.1	46.6	37.5	20.1	11.7	9.9
01:00 - 01:15	46.4	58.3	50.0	46.4	37.1	39.2	43.3	44.5	35.4	17.5	11.7	9.9
01:15 - 01:30	47.2	62.9	48.5	46.6	41.0	38.7	43.1	45.2	37.6	20.3	11.9	9.9
01:30 - 01:45	46.6	62.0	48.8	47.8	38.3	39.0	43.5	44.3	36.7	19.7	11.9	9.9
01:45 - 02:00	47.0	59.3	49.5	48.1	39.2	39.9	44.2	44.9	35.7	19.9	11.8	9.9
02:00 - 02:15	48.5	61.5	51.5	51.3	42.0	40.7	45.6	46.4	37.5	20.5	12.1	10.0
02:15 - 02:30	48.8	60.6	50.5	49.4	44.1	40.7	44.6	46.9	39.3	22.6	12.7	10.0
02:30 - 02:45	47.7	58.3	50.4	50.0	42.6	39.8	44.5	45.6	37.3	20.5	12.5	10.0
02:45 - 03:00	49.1	62.7	55.2	49.4	42.7	40.3	45.3	47.3	38.3	20.9	13.0	10.0
03:00 - 03:15	50.0	64.7	56.8	54.3	41.6	41.0	46.1	48.1	40.1	22.7	13.7	10.1
03:15 - 03:30	48.7	59.9	56.6	49.6	39.9	40.3	44.9	46.8	38.8	21.7	13.1	10.0
03:30 - 03:45	51.2	66.4	57.0	53.4	42.5	41.5	47.1	49.3	41.9	24.8	13.7	10.1
03:45 - 04:00	50.3	62.8	56.1	54.2	43.7	42.6	47.0	48.3	39.9	22.8	13.5	10.0
04:00 - 04:15	51.8	65.6	56.3	53.2	43.8	43.1	47.6	50.0	41.2	26.9	17.1	10.1
04:15 - 04:30	52.5	64.6	56.7	52.3	43.6	43.7	48.1	50.5	43.0	29.4	18.8	10.2
04:30 - 04:45	51.7	66.3	56.3	50.0	41.7	42.1	46.5	49.9	42.9	30.1	19.1	10.3
04:45 - 05:00	50.9	63.4	56.0	51.2	42.0	41.5	46.0	49.3	41.1	24.5	14.7	10.1
05:00 - 05:15	53.5	64.6	57.0	54.2	45.1	42.9	47.7	51.7	45.3	31.1	19.2	10.4
05:15 - 05:30	54.8	67.0	57.1	52.7	45.7	43.8	48.3	52.9	47.0	31.1	19.8	10.7
05:30 - 05:45	55.2	67.6	57.0	55.1	47.1	45.4	49.8	53.1	47.4	32.5	22.4	11.0
05:45 - 06:00	55.5	64.4	57.0	53.2	46.2	44.6	49.0	53.5	47.9	32.2	20.3	10.7
06:00 - 06:15	55.8	66.9	57.3	54.5	48.9	44.8	49.9	53.8	47.9	32.3	20.4	10.8
06:15 - 06:30	57.2	68.2	58.6	56.0	50.5	46.9	50.9	55.3	49.3	35.5	28.1	12.0
06:30 - 06:45	57.9	65.7	58.3	57.4	51.9	46.3	50.9	56.2	49.7	37.9	34.1	13.0
06:45 - 07:00	57.6	64.6	57.5	56.3	49.5	46.1	50.6	55.8	49.5	38.0	34.7	12.8

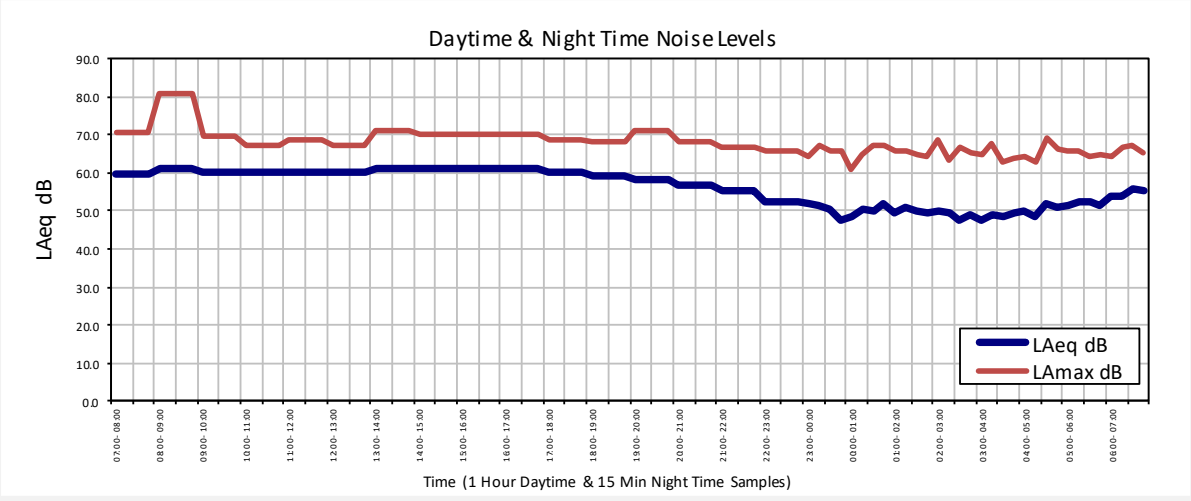


20.3 19th - 20th February 2021 – Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	59.6	80.9	59.3	58.5	51.4	48.8	52.8	57.4	52.7	42.3	37.9	20.5
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	51.1	68.9	52.2	50.6	43.0	41.0	45.1	49.0	43.3	34.5	27.6	14.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	59.8	70.6	59.3	59.3	52.5	48.3	53.3	57.8	52.2	41.4	39.4	23.0
08:00 - 09:00	61.0	80.9	58.9	59.1	52.6	49.4	53.8	58.5	54.5	43.6	39.9	18.5
09:00 - 10:00	59.9	69.7	59.1	59.1	52.1	49.7	53.1	57.6	52.6	44.6	43.8	20.4
10:00 - 11:00	60.1	67.3	59.4	59.0	50.8	49.0	53.3	57.9	52.9	41.4	37.5	16.5
11:00 - 12:00	60.1	68.4	60.6	59.4	54.2	51.0	54.0	57.8	52.9	40.5	35.8	16.2
12:00 - 13:00	59.9	67.4	60.0	59.7	51.2	49.1	53.3	57.8	52.7	40.7	36.2	19.5
13:00 - 14:00	61.0	70.8	59.1	59.2	51.1	49.3	53.8	58.3	54.5	47.1	42.0	28.3
14:00 - 15:00	61.2	70.1	59.0	59.8	52.0	49.8	54.1	58.6	54.6	46.3	39.7	24.2
15:00 - 16:00	61.3	70.2	60.9	59.4	52.3	50.3	54.1	58.9	54.6	44.3	38.4	20.5
16:00 - 17:00	61.1	70.2	61.2	59.7	52.3	49.6	53.9	58.7	54.3	43.1	37.7	17.8
17:00 - 18:00	60.1	68.6	58.5	58.6	50.8	48.4	52.6	57.9	53.4	41.0	35.0	15.8
18:00 - 19:00	59.1	67.9	57.3	57.8	51.1	47.3	51.6	57.0	52.1	36.9	23.1	11.6
19:00 - 20:00	58.1	71.1	59.0	56.5	50.3	47.8	51.5	56.0	50.7	36.3	26.0	12.9
20:00 - 21:00	56.5	68.1	58.4	55.8	49.4	47.1	50.3	54.3	49.2	35.1	26.0	12.9
21:00 - 22:00	55.4	66.7	59.8	55.7	49.2	46.5	49.1	53.2	48.1	34.0	26.1	13.4
22:00 - 23:00	52.6	65.6	53.4	51.7	44.4	42.3	46.2	50.6	44.7	28.9	19.1	11.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	51.8	64.1	51.7	51.1	43.1	40.6	45.7	49.9	43.6	27.3	16.2	10.6
23:15 - 23:30	51.4	66.9	52.6	50.1	42.7	40.0	45.0	49.8	42.9	27.1	16.5	10.6
23:30 - 23:45	50.5	65.7	50.8	48.5	41.9	39.8	44.4	48.8	42.2	25.5	16.0	10.6
23:45 - 00:00	47.6	65.6	49.4	48.0	40.2	39.5	42.4	45.8	38.4	23.3	17.0	10.6
00:00 - 00:15	48.6	61.0	51.4	50.5	41.8	40.0	43.6	46.6	39.8	24.7	17.6	10.8
00:15 - 00:30	50.2	64.7	52.1	49.8	42.6	40.5	44.8	48.3	41.7	26.1	17.9	10.8
00:30 - 00:45	50.0	67.1	52.0	49.7	41.6	39.5	43.8	48.2	41.5	31.0	28.0	16.8
00:45 - 01:00	52.0	67.1	51.2	51.2	43.2	40.8	44.4	49.7	45.0	35.4	31.9	20.1
01:00 - 01:15	49.6	65.5	52.9	49.5	42.9	41.4	43.9	47.1	42.3	33.4	29.2	17.4
01:15 - 01:30	51.1	65.7	53.8	50.5	44.5	41.3	45.6	48.6	43.8	34.5	29.8	17.9
01:30 - 01:45	49.7	64.9	52.3	49.5	44.2	41.0	44.5	47.4	42.0	29.6	21.3	11.6
01:45 - 02:00	49.3	64.0	51.9	49.0	41.0	39.6	43.1	47.3	41.6	29.0	18.4	10.8
02:00 - 02:15	49.9	68.4	50.8	49.6	42.2	39.4	44.4	47.9	41.7	29.0	19.6	11.1
02:15 - 02:30	49.6	63.1	51.6	49.4	43.2	40.0	44.4	47.5	41.4	28.2	18.7	10.7
02:30 - 02:45	47.4	66.8	49.7	47.5	40.9	40.3	43.5	45.3	38.2	25.8	20.3	11.5
02:45 - 03:00	48.7	65.4	51.4	49.7	42.5	40.3	43.4	46.8	39.9	27.3	20.4	11.6
03:00 - 03:15	47.5	64.6	51.1	49.8	41.6	39.6	44.5	45.3	37.1	24.6	16.9	10.6
03:15 - 03:30	49.1	67.5	51.2	51.1	45.1	40.7	44.9	47.4	38.5	27.2	16.8	10.5
03:30 - 03:45	48.5	62.8	51.1	48.9	42.0	39.9	43.5	46.4	40.3	26.1	18.6	11.2
03:45 - 04:00	49.6	63.7	51.9	50.3	40.7	39.5	44.7	47.6	41.0	28.7	21.9	12.4
04:00 - 04:15	50.1	64.0	52.4	50.0	41.3	40.6	44.5	47.8	41.9	34.1	30.7	18.9
04:15 - 04:30	48.6	62.9	54.0	50.5	42.6	41.1	44.3	46.3	39.8	32.3	27.8	16.1
04:30 - 04:45	51.8	68.9	52.1	50.6	43.2	42.1	46.9	49.4	44.3	32.8	24.2	13.2
04:45 - 05:00	50.9	66.2	52.9	52.2	43.2	41.6	45.2	48.7	43.0	33.7	25.5	13.7
05:00 - 05:15	51.2	65.5	55.4	51.2	44.2	42.1	45.6	49.1	43.2	31.3	21.7	11.3
05:15 - 05:30	52.4	65.7	53.4	50.2	44.0	41.6	46.2	50.1	45.2	34.9	25.5	13.0
05:30 - 05:45	52.5	64.1	51.9	53.5	44.0	41.8	46.5	50.3	45.1	32.4	21.7	11.7
05:45 - 06:00	51.3	64.9	51.0	50.4	42.2	40.8	45.7	49.3	43.1	31.4	21.2	11.0
06:00 - 06:15	53.8	64.2	53.0	51.6	44.0	42.3	46.7	51.9	46.2	34.1	23.9	12.2
06:15 - 06:30	53.7	66.8	53.3	53.2	45.1	42.1	46.2	51.7	46.5	36.4	27.9	11.7
06:30 - 06:45	55.8	66.9	51.5	51.3	43.5	42.7	47.3	53.3	47.8	46.0	38.0	17.7
06:45 - 07:00	55.4	65.2	53.4	52.9	45.3	43.8	47.8	53.2	48.3	39.2	34.5	13.5

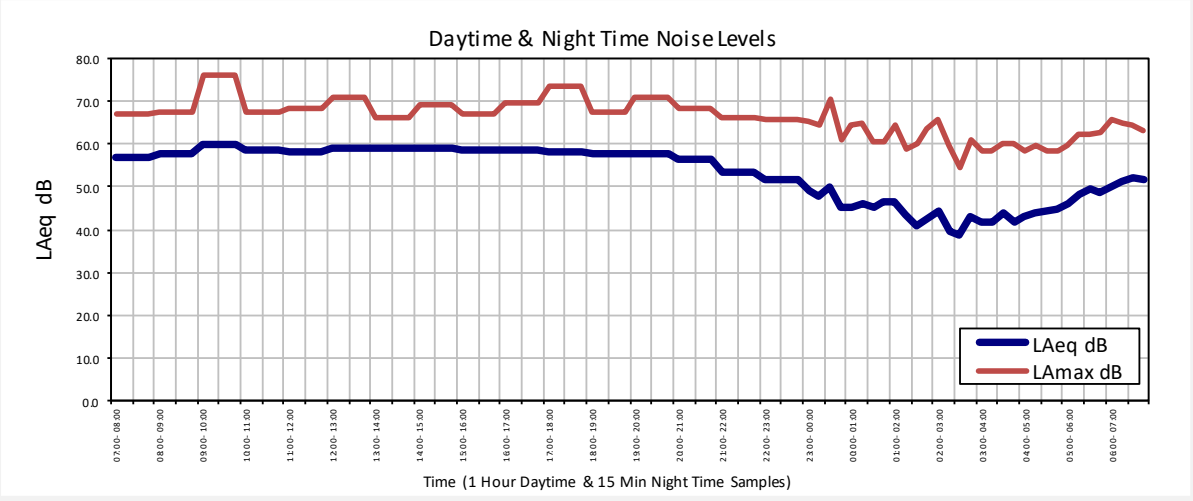


20.4 20th - 21st February 2021 – Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	57.8	76.1	58.6	57.0	50.8	47.5	50.8	55.7	50.6	39.8	38.3	18.7
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	46.9	70.6	47.0	46.6	40.4	35.9	39.1	45.0	38.9	31.2	26.6	11.2

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	56.8	66.8	54.6	55.1	47.8	44.6	49.2	54.7	49.5	39.1	36.2	15.0
08:00 - 09:00	57.8	67.3	56.2	56.4	49.1	45.6	49.7	55.7	50.6	40.4	38.5	17.0
09:00 - 10:00	59.7	76.1	56.4	56.5	50.6	47.6	51.1	57.2	52.8	46.1	46.2	25.5
10:00 - 11:00	58.4	67.4	57.5	57.1	49.9	46.5	50.3	56.3	51.0	43.5	42.7	20.3
11:00 - 12:00	58.3	68.1	57.2	57.7	51.2	46.9	50.7	56.4	50.7	37.9	34.3	14.7
12:00 - 13:00	58.9	70.8	58.8	59.0	51.8	47.9	51.4	57.0	51.3	38.4	37.8	16.5
13:00 - 14:00	59.1	66.2	57.1	58.0	51.1	47.8	51.7	57.2	51.8	39.5	38.6	17.0
14:00 - 15:00	58.8	69.0	58.4	58.4	53.6	48.8	52.4	56.7	51.5	38.1	34.4	15.7
15:00 - 16:00	58.5	66.9	59.3	57.9	52.1	48.6	51.6	56.4	51.2	38.9	38.9	20.9
16:00 - 17:00	58.7	69.7	58.9	57.6	50.9	47.8	51.4	56.6	51.5	38.6	36.8	21.0
17:00 - 18:00	58.3	73.4	57.9	57.3	50.8	47.0	51.1	56.2	51.3	38.3	33.1	15.8
18:00 - 19:00	57.6	67.2	60.0	56.7	50.0	48.1	51.1	55.4	50.4	36.4	28.8	16.0
19:00 - 20:00	57.5	70.9	61.6	57.2	52.1	50.5	52.6	54.9	50.2	38.6	31.8	17.4
20:00 - 21:00	56.3	68.5	61.5	56.6	50.4	48.6	50.8	53.8	48.8	36.8	29.9	16.5
21:00 - 22:00	53.6	66.0	58.5	54.2	49.1	46.5	48.5	51.2	46.0	33.9	27.5	15.6
22:00 - 23:00	51.6	65.9	56.5	51.8	46.9	42.9	45.4	49.4	43.9	30.2	23.7	13.5

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	49.1	65.5	50.9	51.0	44.2	38.5	41.5	47.1	41.7	26.5	19.3	11.7
23:15 - 23:30	47.9	64.3	55.5	50.2	43.0	39.2	40.5	45.9	40.6	26.2	19.6	11.8
23:30 - 23:45	50.0	70.6	47.5	47.6	41.0	37.3	41.9	48.3	42.5	26.5	16.3	10.9
23:45 - 00:00	45.4	61.0	45.1	44.1	36.5	34.4	38.8	43.7	37.4	23.0	16.4	10.7
00:00 - 00:15	45.2	64.4	48.4	46.1	44.4	35.7	38.2	43.4	37.0	22.5	17.6	11.4
00:15 - 00:30	46.2	64.9	47.8	49.7	42.7	36.6	38.3	44.2	38.8	23.5	17.8	11.4
00:30 - 00:45	45.1	60.5	47.0	46.8	46.9	38.1	37.2	43.1	37.7	22.4	16.6	10.9
00:45 - 01:00	46.5	60.5	46.4	48.0	41.6	38.1	40.3	44.7	38.0	23.6	15.7	10.6
01:00 - 01:15	46.4	64.4	46.9	46.0	38.2	34.2	37.6	44.7	38.9	23.3	15.4	10.6
01:15 - 01:30	43.7	58.8	46.3	46.9	37.8	33.0	35.6	42.1	35.7	19.7	15.0	10.7
01:30 - 01:45	41.1	59.9	44.5	43.6	38.7	41.5	35.7	38.3	32.7	18.5	14.0	10.4
01:45 - 02:00	42.7	63.7	45.6	42.6	34.5	30.4	34.0	41.1	34.8	19.3	14.2	10.5
02:00 - 02:15	44.4	65.6	42.9	43.1	36.9	31.7	35.7	42.7	36.5	20.9	13.6	10.3
02:15 - 02:30	39.5	59.7	42.0	40.2	34.2	32.7	32.6	37.5	31.7	17.7	14.0	10.4
02:30 - 02:45	38.8	54.5	42.4	40.8	34.2	32.4	33.8	36.7	29.8	20.1	14.3	10.4
02:45 - 03:00	42.9	61.0	44.5	42.2	34.6	32.4	36.4	41.2	34.2	19.3	14.2	10.4
03:00 - 03:15	41.9	58.2	43.1	41.3	32.6	31.6	36.2	40.2	33.4	18.3	14.2	10.4
03:15 - 03:30	41.9	58.5	43.7	41.4	33.0	31.0	35.5	40.2	33.3	18.3	13.8	10.4
03:30 - 03:45	43.8	60.1	42.9	42.5	33.4	31.5	36.2	42.0	36.2	20.3	13.7	10.4
03:45 - 04:00	41.6	60.2	45.6	43.6	40.0	35.2	35.6	39.7	32.5	24.0	16.3	10.4
04:00 - 04:15	43.1	58.5	45.2	43.0	33.9	32.2	37.0	40.3	34.8	32.6	26.1	11.0
04:15 - 04:30	43.9	59.8	42.4	41.8	33.9	31.8	37.3	41.8	35.6	30.1	22.1	10.6
04:30 - 04:45	44.5	58.4	44.4	44.0	37.2	34.8	38.3	42.2	36.0	31.7	25.2	10.9
04:45 - 05:00	44.7	58.5	44.8	46.4	36.8	32.6	37.4	42.8	36.1	31.8	24.1	10.8
05:00 - 05:15	46.0	59.5	44.3	49.5	45.5	37.6	37.7	44.1	37.1	32.7	25.4	10.9
05:15 - 05:30	48.1	62.4	47.3	47.5	38.9	34.9	40.6	46.5	39.8	30.1	21.7	10.6
05:30 - 05:45	49.5	62.4	47.0	47.2	39.1	36.1	41.4	47.7	42.1	28.3	18.3	10.5
05:45 - 06:00	48.7	62.8	43.7	44.4	38.3	34.4	39.6	47.1	40.4	31.9	26.6	11.3
06:00 - 06:15	49.8	65.9	46.8	48.1	40.9	36.6	41.6	48.2	41.9	29.9	20.5	10.6
06:15 - 06:30	51.2	64.7	48.2	50.3	41.5	37.9	43.2	49.5	42.7	37.2	31.7	12.4
06:30 - 06:45	52.2	64.3	46.5	47.3	40.1	37.4	43.0	50.0	44.3	40.4	37.3	14.5
06:45 - 07:00	51.7	63.0	47.2	49.3	41.9	37.8	42.9	49.6	43.4	40.3	36.7	15.3

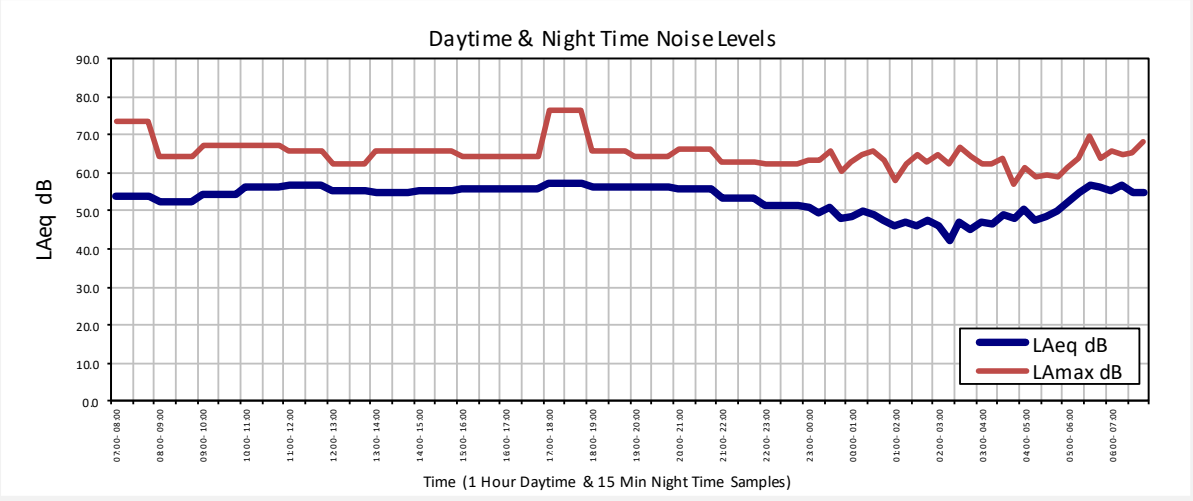


20.5 21st - 22nd February 2021 – Position 1

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	55.2	76.4	51.9	53.8	47.5	42.7	46.8	53.4	47.3	39.5	36.9	17.2
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	51.3	69.7	50.6	50.6	43.1	40.8	45.4	49.6	42.5	32.2	26.2	11.1

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	53.9	73.3	49.8	50.6	42.1	39.4	44.9	51.3	46.1	44.2	40.5	22.2
08:00 - 09:00	52.5	64.2	49.3	51.5	42.8	38.5	43.8	50.5	44.8	39.0	35.9	14.8
09:00 - 10:00	54.2	67.4	51.2	52.5	45.6	40.5	45.7	52.1	46.5	41.2	39.0	19.5
10:00 - 11:00	56.4	67.3	52.2	54.4	47.4	42.8	47.1	54.6	48.8	40.5	39.6	19.7
11:00 - 12:00	56.7	65.4	52.6	55.2	47.8	43.0	47.6	54.9	49.0	40.9	38.3	19.1
12:00 - 13:00	55.1	62.5	52.0	54.8	47.6	41.8	44.9	53.2	47.5	39.6	39.8	16.7
13:00 - 14:00	54.7	65.6	52.5	55.9	51.6	44.7	45.2	52.4	47.8	38.2	36.2	15.7
14:00 - 15:00	55.0	65.8	52.6	55.3	51.2	42.9	45.0	53.2	47.6	37.3	37.5	17.2
15:00 - 16:00	55.8	64.3	52.7	54.7	48.6	41.2	46.4	54.2	47.7	36.8	37.1	15.3
16:00 - 17:00	55.5	64.3	51.9	54.3	47.2	42.0	47.1	54.0	47.3	37.6	34.1	14.5
17:00 - 18:00	57.2	76.4	53.2	54.5	49.6	44.2	49.0	55.2	48.9	45.6	40.7	20.8
18:00 - 19:00	56.0	65.5	51.9	53.5	46.2	44.0	48.4	54.5	47.9	31.4	19.7	10.6
19:00 - 20:00	56.0	64.4	52.1	53.9	46.2	44.4	48.7	54.4	48.0	30.5	14.4	10.4
20:00 - 21:00	55.6	66.0	51.2	53.0	46.3	44.8	48.5	54.1	46.9	29.1	13.9	10.3
21:00 - 22:00	53.3	62.7	51.6	51.3	44.1	42.4	46.0	51.9	44.4	26.9	13.5	10.3
22:00 - 23:00	51.4	62.2	51.0	50.1	42.9	41.3	45.0	49.9	42.2	24.5	13.3	10.3

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	51.1	63.4	48.8	48.4	41.1	40.9	45.1	49.2	42.8	28.2	16.9	10.3
23:15 - 23:30	49.6	63.2	48.0	46.6	38.4	38.6	43.0	47.8	41.5	27.4	16.9	10.3
23:30 - 23:45	50.7	65.9	49.2	46.8	48.8	40.5	44.1	48.8	42.7	30.4	19.7	10.4
23:45 - 00:00	48.0	60.2	47.8	45.8	37.4	40.0	42.6	46.6	37.7	26.0	17.1	10.3
00:00 - 00:15	48.6	63.0	48.3	48.6	40.0	39.6	42.3	46.9	40.1	22.8	13.5	10.2
00:15 - 00:30	49.7	64.8	47.5	45.9	39.2	38.9	43.8	47.9	41.3	29.3	17.6	10.3
00:30 - 00:45	48.8	65.6	47.6	48.0	38.2	38.6	44.4	46.9	39.0	28.7	17.7	10.3
00:45 - 01:00	47.6	63.4	46.4	45.0	38.3	37.4	41.1	45.2	41.1	25.8	15.4	10.3
01:00 - 01:15	45.9	58.1	47.9	44.5	35.2	36.8	41.0	44.4	35.2	26.4	17.4	10.3
01:15 - 01:30	47.2	62.3	47.5	45.5	37.1	36.7	41.7	45.2	39.2	21.9	12.9	10.2
01:30 - 01:45	46.2	64.7	47.7	45.2	35.7	37.7	39.8	44.1	38.8	27.4	18.2	10.3
01:45 - 02:00	47.5	63.0	46.7	48.8	40.8	36.8	40.5	45.6	39.7	28.9	21.9	10.4
02:00 - 02:15	46.0	64.8	45.5	44.2	36.9	35.3	39.1	44.3	38.0	21.7	14.2	10.3
02:15 - 02:30	42.1	62.1	46.3	44.3	34.7	34.3	38.5	40.3	30.2	15.7	12.7	10.2
02:30 - 02:45	47.2	66.5	46.8	43.9	37.7	35.1	41.8	45.8	37.4	25.8	16.7	10.3
02:45 - 03:00	45.1	64.0	47.8	44.0	36.2	36.0	40.9	43.2	35.2	22.7	15.1	10.3
03:00 - 03:15	46.9	62.1	47.9	44.8	38.2	36.8	41.5	45.0	38.6	21.5	13.1	10.2
03:15 - 03:30	46.4	62.2	47.7	46.2	36.8	35.5	40.5	44.9	37.1	19.9	12.8	10.2
03:30 - 03:45	48.7	63.9	49.3	50.2	41.2	38.7	43.5	46.6	40.2	22.6	15.0	10.2
03:45 - 04:00	47.9	56.8	50.3	49.9	40.5	39.4	43.9	46.2	37.0	27.5	20.7	10.5
04:00 - 04:15	50.5	61.3	50.1	49.8	41.8	40.3	46.1	48.8	40.2	24.6	19.2	10.4
04:15 - 04:30	47.3	58.9	49.3	47.8	39.1	38.1	43.3	45.5	36.8	22.9	17.8	10.3
04:30 - 04:45	48.4	59.4	49.7	48.3	39.9	37.6	42.3	46.7	39.5	27.0	18.6	10.3
04:45 - 05:00	49.8	58.9	50.4	51.2	41.3	39.1	45.3	48.1	39.7	24.8	16.3	10.3
05:00 - 05:15	52.5	61.3	51.3	53.2	43.6	41.7	47.3	50.9	42.7	26.1	15.3	10.3
05:15 - 05:30	54.9	63.9	51.8	54.1	43.9	43.6	49.1	53.1	46.2	30.4	19.7	10.4
05:30 - 05:45	56.5	69.7	53.5	53.0	46.1	45.7	50.2	55.0	47.7	31.3	20.7	10.4
05:45 - 06:00	56.1	63.7	54.0	53.3	46.3	45.1	49.9	54.7	46.5	32.4	23.2	10.6
06:00 - 06:15	55.2	65.5	55.4	55.1	47.2	44.9	48.9	53.7	45.6	32.7	24.0	10.6
06:15 - 06:30	56.8	64.6	54.9	55.8	47.1	45.5	50.5	55.2	47.7	37.9	32.1	12.7
06:30 - 06:45	54.9	65.2	54.4	54.4	50.0	44.6	48.2	52.6	47.3	39.8	35.5	14.4
06:45 - 07:00	54.9	68.2	55.2	57.1	48.3	43.5	47.8	52.6	46.7	43.2	38.0	17.6

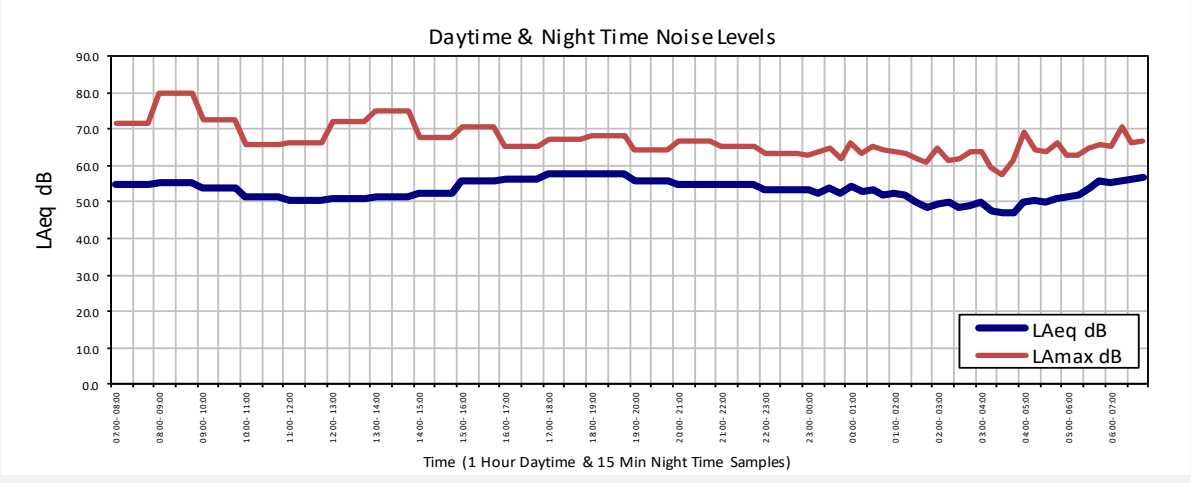


20.6 17th - 18th February 2021 – Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	54.5	79.5	52.4	55.7	50.2	45.8	48.2	51.8	45.8	43.3	42.2	11.6
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	52.4	70.7	51.0	52.8	47.8	47.4	49.2	49.5	42.5	37.6	35.8	10.4

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	55.0	71.6	51.2	54.6	49.9	44.7	48.4	51.9	45.2	44.0	44.3	9.6
08:00 - 09:00	55.3	79.5	52.3	56.8	51.5	44.4	45.1	50.1	44.6	47.3	47.9	11.5
09:00 - 10:00	54.0	72.7	51.6	55.8	50.5	44.2	44.5	48.6	44.6	45.8	46.3	11.1
10:00 - 11:00	51.1	65.7	50.5	54.4	49.9	44.6	44.1	46.0	42.6	42.3	41.4	14.6
11:00 - 12:00	50.3	66.2	50.7	53.7	48.4	44.1	43.4	46.3	41.7	40.3	39.7	9.1
12:00 - 13:00	50.7	72.0	51.8	54.7	48.8	44.6	43.3	46.8	41.7	39.1	41.2	8.4
13:00 - 14:00	51.5	74.7	53.6	55.5	51.7	46.6	43.3	47.1	42.2	41.7	42.5	8.7
14:00 - 15:00	52.3	67.5	54.2	55.6	49.5	45.6	45.7	49.2	43.2	40.4	39.3	8.7
15:00 - 16:00	55.9	70.7	53.4	57.4	50.3	46.6	49.7	53.6	46.5	44.0	39.2	10.8
16:00 - 17:00	56.4	65.1	53.5	58.1	52.7	48.1	49.4	53.5	48.0	44.6	42.8	15.5
17:00 - 18:00	57.5	67.2	53.4	57.3	51.0	45.0	50.3	55.0	49.3	45.6	41.8	14.7
18:00 - 19:00	57.7	68.3	54.7	57.3	51.5	46.9	51.2	55.3	49.1	44.6	40.9	12.6
19:00 - 20:00	55.9	64.4	51.3	55.0	48.3	44.8	49.7	53.9	47.4	41.1	34.3	9.4
20:00 - 21:00	54.9	66.8	50.8	53.8	48.3	45.6	49.4	52.6	46.3	40.7	35.5	10.5
21:00 - 22:00	54.7	65.1	51.2	53.2	49.7	47.6	50.0	52.1	45.9	40.6	36.9	10.6
22:00 - 23:00	53.4	63.4	50.8	53.3	48.2	47.2	49.5	50.6	44.2	39.0	36.1	10.4

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	53.5	62.6	50.5	52.2	48.2	48.2	49.8	50.4	44.2	39.6	37.4	11.0
23:15 - 23:30	52.3	63.8	50.2	52.8	49.7	47.9	49.2	49.1	42.7	38.3	36.3	10.5
23:30 - 23:45	53.8	64.7	51.6	52.9	49.7	48.7	50.3	50.9	44.3	39.5	37.3	11.0
23:45 - 00:00	52.1	61.8	50.0	51.7	47.7	47.5	49.0	48.7	42.7	38.2	36.1	10.5
00:00 - 00:15	54.3	66.2	51.7	52.8	49.2	49.4	50.9	50.9	45.0	40.6	38.5	11.6
00:15 - 00:30	53.0	63.1	51.3	52.4	48.5	48.6	49.9	49.6	43.6	39.4	37.2	11.0
00:30 - 00:45	53.3	65.2	51.0	52.0	48.8	49.4	50.5	49.4	43.8	40.7	39.3	12.2
00:45 - 01:00	51.9	64.4	50.5	51.4	47.5	47.7	48.9	48.2	42.5	38.4	36.7	10.8
01:00 - 01:15	52.3	63.9	51.0	51.8	47.9	47.3	49.1	49.2	42.5	38.1	36.2	10.6
01:15 - 01:30	51.7	63.1	50.4	51.4	47.7	47.8	48.9	47.9	42.1	38.5	36.9	10.9
01:30 - 01:45	49.7	61.6	48.9	50.3	45.2	45.1	46.6	46.6	39.7	35.1	33.7	9.7
01:45 - 02:00	48.3	60.6	49.4	49.9	44.2	44.2	45.8	45.0	38.1	33.5	32.2	9.2
02:00 - 02:15	49.6	64.8	49.3	50.7	45.8	43.6	46.3	47.0	39.2	33.4	31.6	9.2
02:15 - 02:30	49.9	61.3	48.5	49.6	45.1	44.9	46.5	46.9	40.5	34.9	33.1	9.5
02:30 - 02:45	48.4	61.6	48.9	49.4	44.2	44.5	45.9	45.0	38.2	34.2	32.6	9.4
02:45 - 03:00	48.7	63.5	48.5	49.9	43.9	43.6	45.9	46.0	37.6	32.7	31.6	9.1
03:00 - 03:15	49.7	63.5	50.4	53.3	45.6	43.5	47.3	46.9	38.7	32.4	30.6	8.9
03:15 - 03:30	47.5	59.3	48.9	49.8	44.4	43.1	45.2	44.5	35.6	31.5	30.8	9.0
03:30 - 03:45	47.1	57.5	49.2	49.7	43.9	42.5	45.3	44.2	33.9	30.0	30.0	8.8
03:45 - 04:00	47.2	61.4	48.1	49.3	44.9	42.5	44.6	44.5	35.7	30.6	29.7	8.8
04:00 - 04:15	50.1	69.0	49.8	54.4	45.6	44.5	47.5	47.2	38.8	33.9	33.3	9.6
04:15 - 04:30	50.2	64.4	50.7	53.3	45.7	44.6	47.3	47.9	38.8	33.0	31.7	9.2
04:30 - 04:45	50.1	63.7	50.1	52.8	46.4	45.1	47.2	47.2	39.4	34.3	33.3	9.6
04:45 - 05:00	50.7	66.0	50.9	54.7	46.4	45.3	48.0	48.1	39.0	33.8	32.8	9.5
05:00 - 05:15	51.3	62.7	50.9	51.7	46.1	45.9	48.3	48.6	40.5	35.0	34.0	9.8
05:15 - 05:30	52.0	62.7	51.6	53.6	47.7	47.0	49.1	49.3	41.2	35.5	34.2	9.9
05:30 - 05:45	54.0	64.5	52.9	53.9	49.6	49.5	50.8	50.9	44.0	39.1	37.4	11.3
05:45 - 06:00	55.9	65.9	53.5	55.4	51.3	51.8	52.6	52.7	46.1	42.0	40.4	12.9
06:00 - 06:15	55.1	65.1	53.2	54.5	50.0	49.5	51.1	52.7	45.4	38.9	36.6	10.8
06:15 - 06:30	55.7	70.7	52.8	56.4	50.6	49.6	52.1	53.1	46.0	39.2	36.8	10.9
06:30 - 06:45	56.1	66.2	53.3	54.9	50.2	49.7	52.1	53.8	46.2	40.1	37.9	11.5
06:45 - 07:00	56.5	66.6	54.5	55.1	50.9	50.6	52.7	54.0	46.6	40.5	38.3	11.8

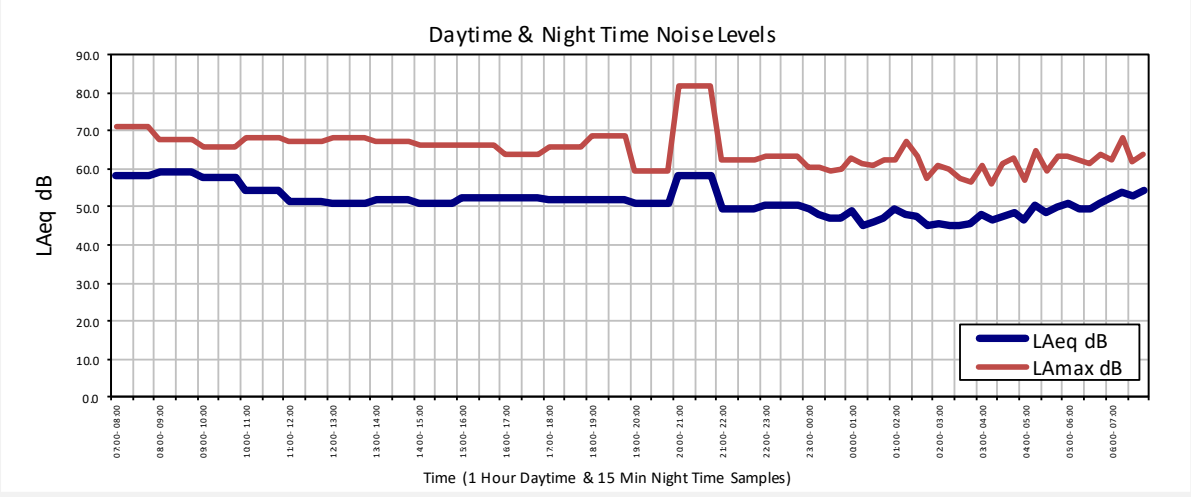


20.7 18th - 19th February 2021 – Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	54.3	81.7	56.0	57.3	52.5	50.5	49.7	51.3	44.6	41.3	41.2	11.7
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	49.2	68.0	48.1	50.3	43.9	40.2	45.7	47.2	38.3	27.9	22.6	8.1

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	58.2	71.1	54.5	56.7	51.9	49.8	52.9	55.5	47.9	43.9	47.1	11.0
08:00 - 09:00	59.0	67.8	56.0	58.4	53.6	49.1	53.5	57.0	49.6	44.1	41.1	11.4
09:00 - 10:00	57.8	65.5	55.2	58.2	52.5	47.6	51.5	54.7	49.5	46.4	43.7	18.6
10:00 - 11:00	54.3	68.0	52.8	56.9	50.7	45.2	46.6	50.1	45.2	44.5	44.8	12.2
11:00 - 12:00	51.2	67.2	52.4	55.1	48.5	44.8	45.3	46.7	41.5	41.7	41.4	8.8
12:00 - 13:00	50.7	68.1	52.2	54.9	49.7	46.3	44.8	46.0	41.5	41.7	39.4	8.7
13:00 - 14:00	51.8	67.0	52.9	55.9	51.5	48.8	48.1	47.4	40.8	41.4	40.3	9.3
14:00 - 15:00	51.0	66.3	51.3	55.4	49.6	45.8	45.6	47.2	41.0	39.5	40.3	14.0
15:00 - 16:00	52.1	66.2	52.7	57.0	51.3	46.9	47.8	47.5	41.4	41.3	42.9	13.0
16:00 - 17:00	52.2	63.7	52.7	56.7	52.9	48.1	48.3	48.9	42.2	37.2	39.2	9.8
17:00 - 18:00	51.7	65.9	51.8	56.4	50.7	45.2	45.5	48.6	42.0	39.4	40.3	10.0
18:00 - 19:00	51.6	68.6	50.8	54.9	49.0	42.9	44.3	49.2	42.4	38.3	38.9	9.2
19:00 - 20:00	50.9	59.2	49.4	53.1	47.0	42.0	43.7	49.4	41.9	29.2	19.2	8.2
20:00 - 21:00	58.2	81.7	65.6	64.4	60.3	60.6	56.6	53.1	45.1	38.0	32.7	8.3
21:00 - 22:00	49.6	62.1	45.6	50.4	44.6	37.8	42.4	48.2	40.3	28.8	16.1	8.0
22:00 - 23:00	50.5	63.4	46.6	50.3	48.1	38.0	45.0	48.9	41.0	28.7	15.8	8.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	49.2	60.4	47.6	53.5	47.1	38.3	43.7	47.5	39.8	28.0	15.2	8.0
23:15 - 23:30	48.1	60.4	45.7	52.6	49.6	37.0	42.6	46.3	38.8	26.4	14.2	8.0
23:30 - 23:45	47.1	59.3	46.1	48.9	45.1	40.5	42.7	45.3	36.4	24.6	15.0	8.0
23:45 - 00:00	46.9	59.9	45.2	47.5	39.0	36.7	42.0	45.3	36.9	25.7	16.4	8.0
00:00 - 00:15	48.7	62.7	46.2	47.8	41.6	37.6	43.8	47.0	39.1	27.1	17.5	8.0
00:15 - 00:30	45.1	61.4	46.8	46.9	39.6	35.7	41.0	43.2	35.1	23.1	17.1	8.0
00:30 - 00:45	45.9	60.9	43.8	48.5	41.7	39.5	42.7	43.9	34.7	23.9	15.5	8.0
00:45 - 01:00	46.9	62.1	47.4	47.7	40.0	37.0	43.9	45.1	34.9	23.0	16.2	8.0
01:00 - 01:15	49.3	62.4	49.6	49.7	42.9	39.3	46.1	47.6	37.3	25.4	15.2	8.0
01:15 - 01:30	48.0	67.3	46.6	49.0	44.0	38.7	46.1	45.6	34.9	23.3	16.5	8.0
01:30 - 01:45	47.5	63.3	47.8	49.9	40.1	38.0	44.8	45.6	34.3	22.9	15.9	8.0
01:45 - 02:00	45.1	57.3	45.5	46.0	36.7	36.9	42.5	43.2	32.5	20.3	13.9	8.0
02:00 - 02:15	45.7	60.6	44.3	46.0	42.3	37.0	42.7	43.9	33.5	21.4	14.5	8.0
02:15 - 02:30	45.1	60.0	44.3	46.5	38.1	36.8	42.6	43.0	33.7	22.0	15.6	8.0
02:30 - 02:45	45.2	57.4	45.2	46.9	38.4	37.5	43.5	43.0	31.0	20.9	14.5	8.0
02:45 - 03:00	45.7	56.3	44.8	46.6	38.1	37.8	43.9	43.6	31.5	20.4	14.8	8.0
03:00 - 03:15	47.8	60.7	46.2	50.2	45.0	40.2	45.1	45.7	35.5	24.2	17.6	8.0
03:15 - 03:30	46.4	56.1	45.5	49.6	44.3	38.6	44.2	44.2	33.7	23.6	18.1	8.0
03:30 - 03:45	47.4	61.2	47.2	48.4	42.7	38.8	45.1	45.4	34.0	22.6	17.8	8.0
03:45 - 04:00	48.3	63.0	48.5	52.2	41.5	39.1	45.7	46.3	35.7	24.4	19.8	8.0
04:00 - 04:15	46.5	57.0	48.4	48.7	38.8	39.0	44.9	44.1	32.7	22.4	18.9	8.0
04:15 - 04:30	50.2	64.6	50.1	51.9	42.6	40.1	47.2	48.3	38.6	27.2	20.0	8.1
04:30 - 04:45	48.3	59.2	49.0	52.9	43.6	40.7	46.4	46.1	34.8	24.1	19.2	8.0
04:45 - 05:00	50.0	63.4	49.7	51.9	44.2	41.5	47.7	48.0	36.8	26.1	20.9	8.1
05:00 - 05:15	50.9	63.4	49.8	50.9	43.0	42.1	47.9	48.9	39.2	29.4	22.9	8.1
05:15 - 05:30	49.4	62.5	48.8	48.6	41.2	40.9	46.4	47.5	37.8	29.2	24.7	8.2
05:30 - 05:45	49.6	61.5	49.2	50.3	42.4	40.0	46.0	47.9	38.0	27.1	21.0	8.1
05:45 - 06:00	51.1	63.5	49.5	53.1	44.6	40.8	46.9	49.4	40.7	30.0	22.0	8.1
06:00 - 06:15	52.1	62.2	50.4	51.0	45.1	42.8	47.6	50.3	42.1	32.3	28.4	8.5
06:15 - 06:30	53.7	68.0	50.7	52.9	47.6	45.4	49.5	51.6	44.1	34.7	30.8	8.9
06:30 - 06:45	52.9	61.8	50.3	51.5	46.0	44.1	48.4	51.0	43.3	34.0	30.3	8.7
06:45 - 07:00	54.1	63.6	51.5	53.3	49.0	44.3	49.4	52.2	44.4	34.7	29.1	8.6

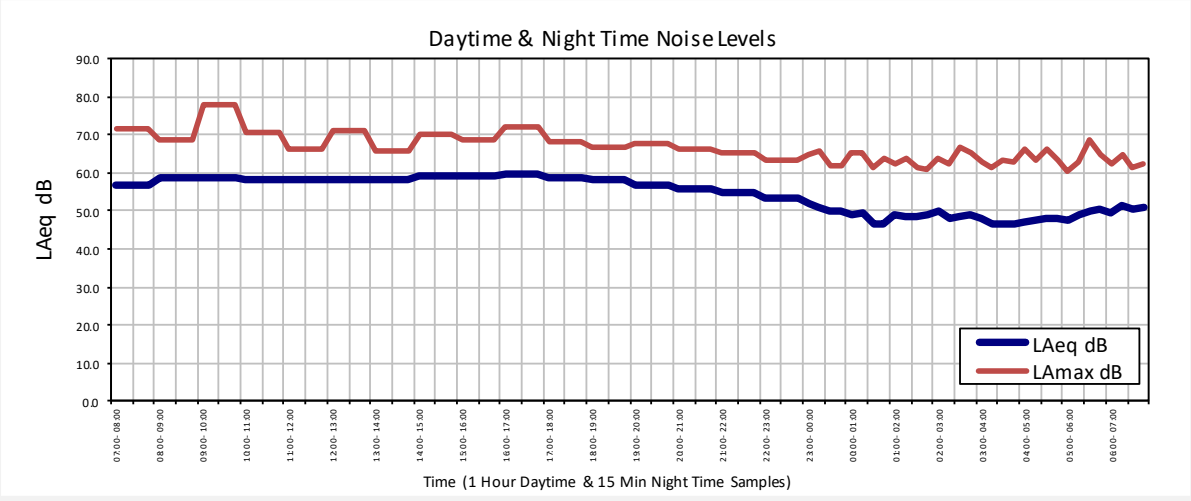


20.8 19th - 20th February 2021 – Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	57.7	77.9	53.9	57.2	51.8	48.7	52.4	55.5	48.7	43.4	42.3	11.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	49.0	68.4	47.5	49.4	42.8	40.1	44.8	47.0	38.8	31.6	27.7	8.8

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	56.9	71.3	52.7	55.3	50.6	45.1	50.4	54.1	46.0	43.5	47.3	9.3
08:00 - 09:00	58.4	68.5	54.0	58.2	54.0	47.9	53.3	56.1	48.5	44.0	43.6	9.9
09:00 - 10:00	58.8	77.9	55.3	58.3	51.8	48.7	53.0	56.3	50.0	45.3	44.4	9.9
10:00 - 11:00	58.0	70.3	54.6	57.9	52.1	49.1	52.5	55.7	48.6	43.9	43.3	10.4
11:00 - 12:00	58.1	66.3	54.6	57.7	51.9	48.8	52.9	55.9	48.8	42.3	40.0	10.3
12:00 - 13:00	58.3	70.8	55.1	58.4	54.0	51.4	53.5	56.0	48.7	42.5	40.8	11.1
13:00 - 14:00	58.1	65.5	55.0	57.9	51.1	48.8	52.7	56.0	48.8	41.9	39.7	11.9
14:00 - 15:00	59.0	70.1	54.8	58.9	52.1	48.6	53.1	56.3	50.6	46.8	44.4	15.7
15:00 - 16:00	59.1	68.4	54.8	58.3	52.6	49.6	53.3	56.5	50.5	46.3	43.5	12.1
16:00 - 17:00	59.5	71.9	54.9	57.8	52.4	50.8	53.9	57.0	50.5	45.9	44.1	11.5
17:00 - 18:00	58.8	68.2	54.2	58.1	51.7	49.3	53.2	56.6	49.8	43.4	40.9	10.7
18:00 - 19:00	58.0	66.6	52.9	56.8	52.6	48.6	52.2	55.9	49.0	43.0	41.1	10.3
19:00 - 20:00	56.7	67.7	51.8	55.9	50.4	46.4	50.8	55.0	47.5	37.6	31.1	9.0
20:00 - 21:00	55.9	66.4	51.7	54.7	49.7	48.0	50.7	53.8	46.6	38.6	35.1	10.3
21:00 - 22:00	54.6	65.3	51.5	53.9	49.0	47.5	50.1	52.4	45.1	37.8	35.4	10.6
22:00 - 23:00	53.1	63.2	50.3	52.8	47.8	45.5	48.4	51.0	43.5	35.6	32.8	9.7

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	51.7	64.8	48.8	51.6	45.7	42.6	47.3	49.9	41.3	31.6	27.6	8.6
23:15 - 23:30	50.8	65.9	48.9	50.0	43.7	41.5	45.6	49.0	41.1	31.6	27.4	8.6
23:30 - 23:45	49.7	61.7	47.3	49.9	43.6	41.0	44.9	47.8	39.9	30.4	27.2	8.6
23:45 - 00:00	49.7	61.9	47.6	50.1	43.8	40.0	45.3	47.8	39.4	28.9	23.1	8.3
00:00 - 00:15	49.1	65.4	49.0	47.6	41.6	38.8	44.4	47.6	38.2	28.2	23.9	8.3
00:15 - 00:30	49.4	65.3	47.9	48.6	42.5	39.1	44.4	47.9	39.2	28.4	23.2	8.3
00:30 - 00:45	46.3	61.2	45.5	47.0	40.1	38.4	42.3	44.6	34.9	25.9	24.0	8.3
00:45 - 01:00	46.3	63.7	46.2	49.3	40.5	39.3	42.8	44.3	34.8	27.1	26.3	8.5
01:00 - 01:15	48.8	62.4	48.9	50.2	43.2	40.0	45.4	46.9	37.6	28.7	26.3	8.5
01:15 - 01:30	48.6	63.5	47.1	49.0	41.4	38.9	43.8	47.0	38.0	27.9	24.4	8.5
01:30 - 01:45	48.5	61.2	46.3	49.2	41.9	39.6	43.5	46.3	39.1	32.9	31.6	10.9
01:45 - 02:00	48.7	60.6	47.3	48.7	43.1	41.8	44.3	46.2	39.7	33.1	31.0	9.9
02:00 - 02:15	49.8	63.6	48.7	49.5	44.3	41.4	45.6	47.3	40.2	34.7	31.7	10.1
02:15 - 02:30	48.0	62.4	46.9	47.6	41.9	40.3	43.6	45.8	38.6	31.1	27.9	8.6
02:30 - 02:45	48.6	66.6	48.2	48.8	42.6	39.5	44.8	46.2	38.7	32.2	26.7	8.4
02:45 - 03:00	49.0	65.4	46.2	49.3	42.8	38.7	44.5	46.9	39.1	32.0	26.6	8.4
03:00 - 03:15	47.9	63.0	46.1	48.4	44.4	39.8	44.0	45.7	37.5	30.7	27.3	8.6
03:15 - 03:30	46.5	61.1	45.8	47.0	41.0	40.1	43.2	44.1	35.7	29.1	27.7	8.6
03:30 - 03:45	46.3	63.1	46.3	48.7	42.0	39.2	43.0	44.2	34.7	28.5	26.4	8.6
03:45 - 04:00	46.4	63.0	46.3	48.0	41.2	38.4	44.0	44.1	34.4	28.0	24.4	8.3
04:00 - 04:15	46.9	66.3	47.3	50.3	43.4	38.2	43.9	45.0	34.6	28.0	23.3	8.2
04:15 - 04:30	47.7	63.4	46.9	49.4	44.1	40.3	44.4	45.7	36.3	28.2	22.5	8.3
04:30 - 04:45	48.2	66.2	47.4	49.6	41.1	38.2	44.8	46.3	37.3	29.6	24.1	8.4
04:45 - 05:00	48.1	63.3	48.1	49.3	41.0	38.9	44.3	46.1	37.1	30.2	28.1	9.5
05:00 - 05:15	47.3	60.2	48.8	48.8	41.0	39.4	44.1	44.8	36.4	31.5	29.4	9.6
05:15 - 05:30	48.7	63.0	48.3	49.7	42.3	41.2	45.1	46.5	38.4	32.3	28.5	8.9
05:30 - 05:45	49.9	68.4	47.6	50.1	42.8	41.0	46.3	47.4	40.0	35.1	29.9	8.8
05:45 - 06:00	50.3	64.8	47.4	50.3	43.1	41.4	46.1	48.2	40.4	33.9	29.3	8.8
06:00 - 06:15	49.5	62.2	46.6	48.8	42.9	40.6	44.4	47.5	40.1	33.2	28.7	8.6
06:15 - 06:30	51.2	64.7	47.2	51.6	45.1	41.3	46.7	49.0	41.9	35.7	29.8	8.8
06:30 - 06:45	50.6	61.3	46.9	49.7	43.0	40.4	45.8	48.7	40.9	32.7	25.4	8.3
06:45 - 07:00	50.7	62.3	47.7	49.7	43.3	40.4	45.3	48.8	41.3	34.6	28.3	8.5

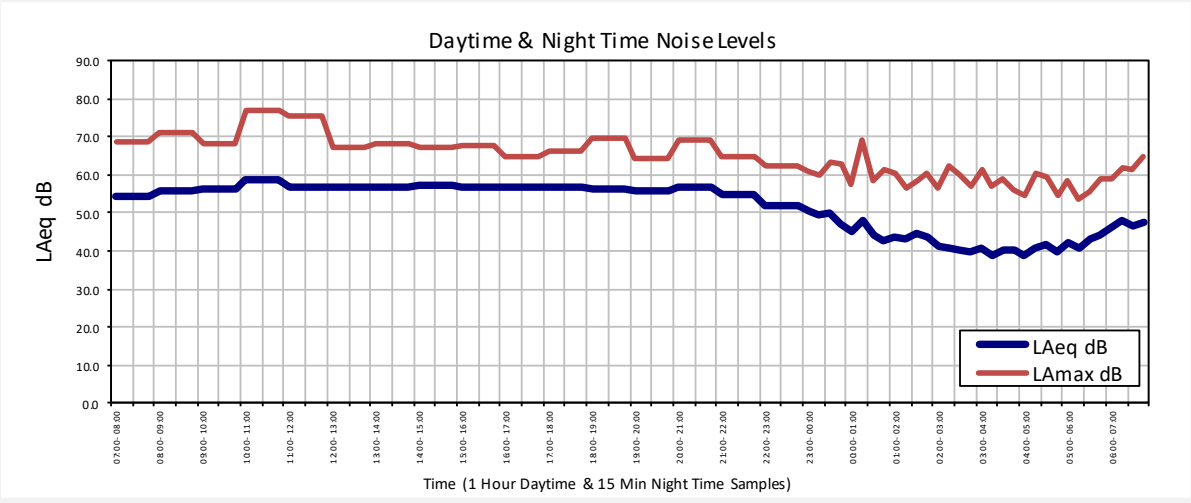


20.9 20th - 21st February 2021 – Position 2

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	56.1	76.8	51.6	55.4	50.9	47.7	50.4	53.9	46.7	42.4	43.4	10.8
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	44.8	69.0	42.3	45.9	41.8	37.7	39.4	42.9	35.3	28.2	25.0	8.5

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	54.5	68.5	49.2	51.7	44.7	41.7	46.8	51.3	44.2	44.5	44.6	9.2
08:00 - 09:00	55.8	71.1	50.0	53.9	48.5	43.4	48.5	52.8	45.5	43.7	46.4	9.7
09:00 - 10:00	56.2	68.2	50.8	55.0	49.4	44.6	48.9	53.7	46.6	43.4	44.3	9.2
10:00 - 11:00	58.4	76.8	51.6	55.3	51.1	47.2	50.2	55.1	49.3	47.7	48.5	10.5
11:00 - 12:00	56.9	75.4	51.6	55.7	50.0	45.8	49.3	54.0	46.5	44.1	48.2	11.1
12:00 - 13:00	56.7	67.0	52.8	56.4	51.7	46.8	50.1	54.5	46.8	40.0	45.1	9.7
13:00 - 14:00	56.8	68.1	52.3	57.5	52.8	48.4	50.7	54.9	47.0	40.2	40.5	9.7
14:00 - 15:00	57.3	67.1	52.6	56.7	51.8	47.9	51.4	55.4	47.7	40.9	40.7	10.2
15:00 - 16:00	56.6	67.7	52.1	57.0	54.4	48.7	51.4	54.5	47.1	40.1	38.7	10.7
16:00 - 17:00	56.9	64.7	52.6	56.4	51.4	48.2	51.1	54.8	47.3	40.9	41.0	12.0
17:00 - 18:00	56.5	66.3	51.5	56.0	51.8	47.3	50.7	54.6	47.0	39.8	37.9	10.1
18:00 - 19:00	56.2	69.4	50.8	55.1	49.1	46.2	50.1	54.3	46.9	40.1	38.2	10.5
19:00 - 20:00	56.0	64.4	51.6	54.8	50.0	49.4	51.4	53.6	46.7	40.1	37.4	11.7
20:00 - 21:00	56.6	68.9	53.3	55.5	51.8	51.8	52.9	53.6	47.3	42.5	40.0	13.2
21:00 - 22:00	54.7	64.8	51.0	53.6	49.6	49.1	50.7	52.0	45.3	39.8	37.6	12.1
22:00 - 23:00	52.0	62.2	50.2	51.9	48.5	46.8	48.4	49.1	42.5	37.0	35.1	11.1

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	50.6	60.8	46.7	49.9	44.7	43.2	45.8	48.5	41.1	33.5	30.8	9.3
23:15 - 23:30	49.5	60.0	48.0	49.9	49.0	45.0	45.7	46.6	39.8	34.6	33.5	11.7
23:30 - 23:45	49.7	63.3	46.2	49.0	46.9	43.0	44.9	47.5	40.3	32.0	29.2	9.0
23:45 - 00:00	46.9	62.6	44.2	47.8	43.7	38.3	40.8	45.0	37.6	28.6	25.9	8.7
00:00 - 00:15	45.2	57.5	43.4	51.9	43.9	39.4	40.8	42.7	35.7	28.4	27.1	9.3
00:15 - 00:30	48.2	69.0	43.1	47.0	42.1	36.8	41.2	46.7	39.2	28.4	21.8	8.8
00:30 - 00:45	43.9	58.2	41.3	42.7	37.6	35.0	38.7	42.3	33.7	25.0	22.4	8.3
00:45 - 01:00	42.7	61.2	40.8	43.4	41.7	34.3	37.1	41.0	32.6	23.1	21.1	8.4
01:00 - 01:15	43.6	60.5	41.9	45.2	42.6	36.5	38.5	41.5	34.3	25.8	24.0	8.6
01:15 - 01:30	43.3	56.7	40.5	49.4	47.2	40.5	37.3	40.8	33.8	24.3	21.9	8.3
01:30 - 01:45	44.4	58.3	42.9	46.7	42.9	39.6	39.9	42.2	34.6	25.3	22.4	8.4
01:45 - 02:00	43.8	60.2	41.3	45.1	39.1	35.1	37.1	42.1	34.6	26.4	20.7	8.3
02:00 - 02:15	41.4	56.6	40.4	44.4	37.0	33.1	35.2	39.8	31.9	21.1	17.5	8.2
02:15 - 02:30	40.8	62.1	40.4	44.2	38.9	42.3	35.5	37.8	31.0	20.8	17.1	8.2
02:30 - 02:45	40.0	60.0	38.4	40.2	33.8	30.5	33.5	38.4	30.5	20.6	17.8	8.2
02:45 - 03:00	39.6	57.1	38.3	40.0	35.0	30.7	33.3	37.8	30.3	20.8	17.8	8.2
03:00 - 03:15	40.6	61.4	40.0	40.9	35.7	33.3	34.1	38.8	31.3	21.6	18.0	8.2
03:15 - 03:30	38.9	56.9	39.3	40.8	33.7	31.9	33.9	37.1	28.5	22.5	19.0	8.2
03:30 - 03:45	40.4	58.8	39.7	40.3	34.8	31.9	35.4	38.8	30.0	20.3	17.8	8.2
03:45 - 04:00	40.4	55.9	39.6	40.6	33.4	31.2	35.6	38.6	30.4	20.9	17.8	8.2
04:00 - 04:15	38.6	54.5	39.2	39.7	31.9	29.6	34.2	36.8	28.0	18.8	16.3	8.2
04:15 - 04:30	40.8	60.3	38.9	41.5	32.7	29.8	35.5	39.1	31.5	20.6	16.2	8.1
04:30 - 04:45	41.7	59.2	41.8	43.1	40.2	35.7	35.8	40.0	31.8	20.7	16.5	8.2
04:45 - 05:00	39.7	54.6	40.4	41.7	32.5	30.2	35.6	37.0	29.3	28.4	23.8	8.2
05:00 - 05:15	42.0	58.4	38.6	41.9	35.7	31.2	36.4	40.1	32.4	27.0	22.4	8.2
05:15 - 05:30	40.6	53.5	40.0	41.2	36.2	33.5	36.8	38.0	29.6	27.8	23.7	8.1
05:30 - 05:45	43.0	55.6	40.6	45.6	35.4	32.0	36.9	41.1	32.5	30.0	25.9	8.1
05:45 - 06:00	43.9	58.9	41.9	47.5	47.1	39.6	37.1	41.7	33.5	30.4	26.9	8.1
06:00 - 06:15	45.9	58.8	43.5	46.6	38.4	33.8	39.1	44.2	36.5	30.0	25.4	8.1
06:15 - 06:30	47.8	61.8	43.1	46.3	40.0	35.3	40.8	46.2	38.8	29.6	21.8	8.1
06:30 - 06:45	46.6	61.4	41.0	44.1	39.0	34.6	39.1	45.0	37.3	29.9	24.9	8.1
06:45 - 07:00	47.3	64.5	43.4	47.0	40.3	34.8	40.0	45.5	37.6	33.9	28.7	8.3

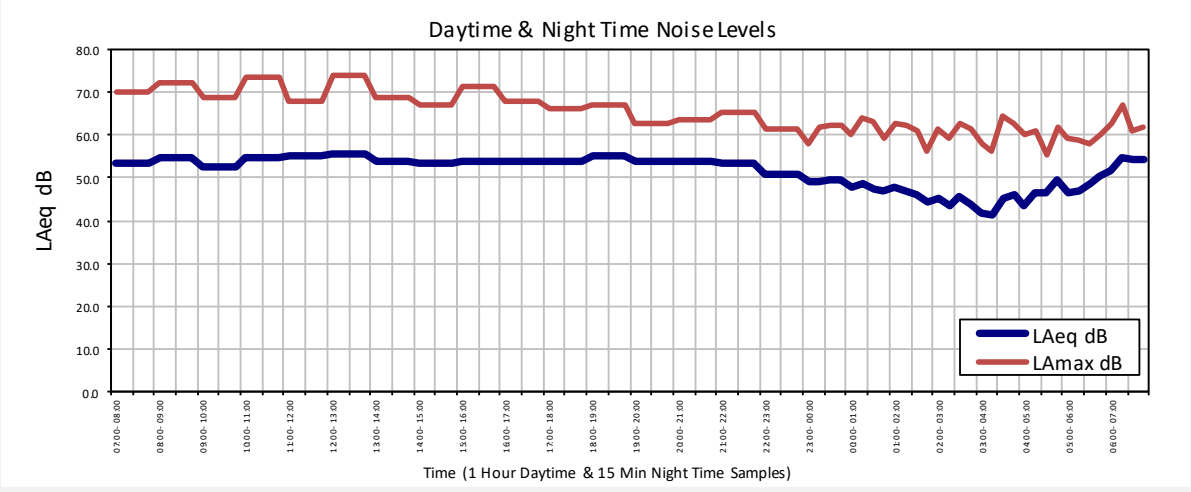


20.10 21st - 22nd February 2021 – Position 2

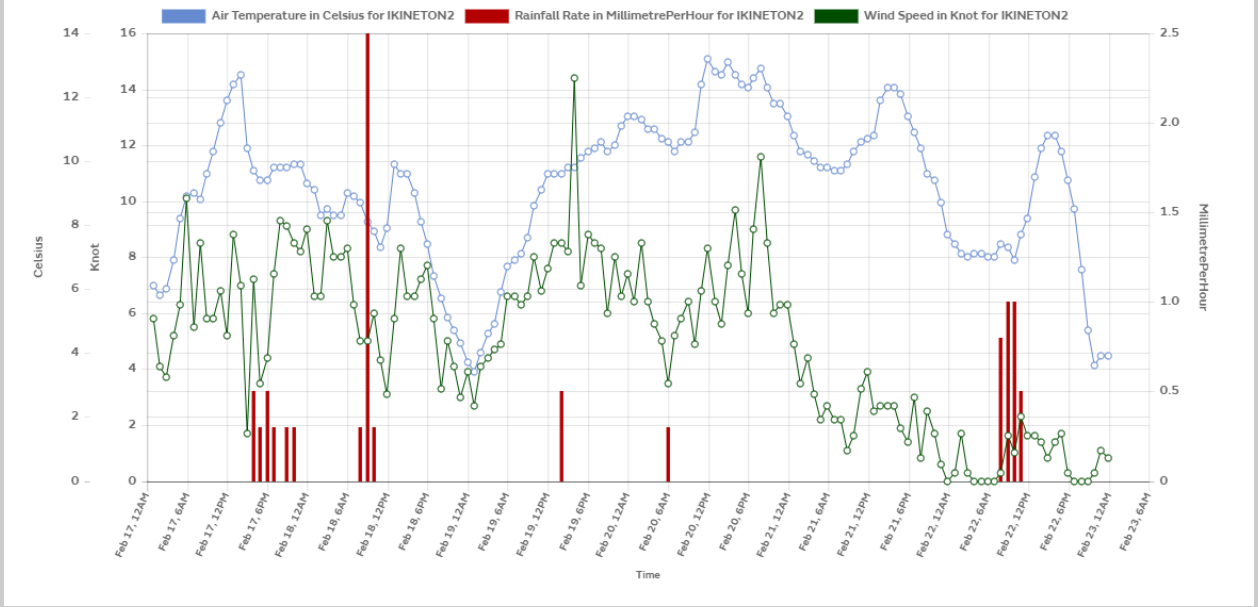
NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	53.7	73.9	48.4	52.6	48.0	42.3	46.3	51.4	43.6	42.8	43.4	10.4
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmax 8 HOUR	48.9	66.9	46.1	48.5	42.1	38.9	44.9	47.2	37.3	27.4	22.9	8.1

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	53.5	69.9	44.4	48.3	41.9	37.4	42.6	48.0	40.9	45.7	47.1	9.4
08:00 - 09:00	54.7	72.3	46.6	49.2	42.2	38.2	47.9	48.3	41.9	47.3	47.9	17.3
09:00 - 10:00	52.8	68.7	45.9	50.4	43.3	37.8	43.2	48.8	41.3	45.0	43.7	8.9
10:00 - 11:00	54.9	73.5	48.1	51.8	46.3	40.1	45.3	50.6	43.8	46.3	46.9	10.9
11:00 - 12:00	55.2	68.0	49.6	53.4	48.0	43.1	46.5	52.7	45.5	43.7	44.1	10.0
12:00 - 13:00	55.8	73.9	48.7	53.9	48.5	42.0	46.4	52.6	45.4	45.5	46.8	10.9
13:00 - 14:00	53.9	68.8	48.7	53.7	48.5	42.6	44.0	50.8	44.1	43.0	44.5	8.8
14:00 - 15:00	53.4	67.1	49.2	55.3	53.4	45.5	45.5	50.9	44.6	38.7	39.8	8.6
15:00 - 16:00	53.8	71.4	49.6	53.9	50.1	44.8	45.5	51.7	44.4	40.0	40.7	9.0
16:00 - 17:00	53.8	67.9	49.4	53.5	48.6	41.4	45.8	52.0	44.1	38.4	39.5	8.7
17:00 - 18:00	53.9	66.1	49.2	53.2	49.4	41.8	46.6	51.9	43.8	39.9	40.5	8.4
18:00 - 19:00	55.3	67.0	49.5	53.1	47.1	42.6	48.2	53.1	44.8	42.8	42.8	9.5
19:00 - 20:00	53.8	62.5	48.1	52.3	46.9	42.4	47.5	52.6	43.8	31.9	18.7	8.2
20:00 - 21:00	53.9	63.4	48.5	52.6	47.4	44.1	48.2	52.5	43.6	31.6	17.2	8.1
21:00 - 22:00	53.2	65.5	47.4	51.7	46.4	43.4	47.9	52.0	41.9	29.7	16.3	8.1
22:00 - 23:00	51.0	61.4	47.3	49.9	42.8	40.6	45.7	49.7	40.0	27.8	15.9	8.1

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmax	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	49.3	57.8	47.4	50.5	45.4	40.5	44.8	47.9	37.3	25.0	15.5	8.1
23:15 - 23:30	48.9	61.9	44.6	46.2	40.0	39.3	44.0	47.6	37.6	25.3	15.9	8.1
23:30 - 23:45	49.6	62.1	46.6	47.5	42.0	39.5	45.3	48.1	38.5	26.8	15.7	8.1
23:45 - 00:00	49.4	62.4	46.2	48.4	42.2	39.5	45.6	47.7	37.9	27.1	18.5	8.1
00:00 - 00:15	48.0	60.1	44.1	46.4	38.2	37.6	43.1	46.5	37.6	26.6	17.3	8.1
00:15 - 00:30	48.5	63.8	45.4	45.9	38.4	37.9	44.0	46.9	37.8	27.9	19.4	8.1
00:30 - 00:45	47.4	63.0	43.9	44.2	49.4	39.2	43.1	45.7	35.3	25.2	17.8	8.1
00:45 - 01:00	46.9	59.1	44.9	47.5	39.4	39.6	42.7	45.3	35.7	23.5	14.8	8.1
01:00 - 01:15	47.7	62.7	44.0	45.2	38.5	37.6	43.3	46.2	36.5	26.1	17.4	8.1
01:15 - 01:30	46.9	62.3	43.2	46.0	37.2	37.0	44.4	44.8	33.8	26.0	19.0	8.1
01:30 - 01:45	46.1	60.8	43.7	45.5	39.3	37.1	41.5	44.2	36.6	26.6	17.7	8.1
01:45 - 02:00	44.3	56.2	43.4	43.9	35.1	34.8	40.4	42.8	32.1	24.2	18.8	8.1
02:00 - 02:15	45.3	61.2	44.0	45.0	37.1	35.7	42.2	43.5	33.5	22.2	14.9	8.1
02:15 - 02:30	43.6	59.1	44.2	44.3	35.6	36.1	39.9	41.5	34.0	24.0	16.6	8.1
02:30 - 02:45	45.8	62.5	43.2	47.5	41.7	35.6	40.8	44.0	35.7	26.4	21.1	8.1
02:45 - 03:00	44.0	61.2	42.8	44.7	36.1	34.8	39.8	42.3	33.1	22.6	16.3	8.1
03:00 - 03:15	41.7	57.8	42.9	43.5	35.9	33.2	39.1	39.7	29.1	18.9	14.7	8.1
03:15 - 03:30	41.4	56.2	41.7	41.5	32.9	32.0	37.9	39.5	30.3	21.5	16.2	8.1
03:30 - 03:45	45.2	64.6	44.7	44.1	38.0	33.9	41.8	43.8	31.7	23.3	17.5	8.1
03:45 - 04:00	45.9	62.5	44.9	44.8	39.7	36.7	42.6	43.9	34.6	23.5	15.6	8.1
04:00 - 04:15	43.6	60.0	43.7	45.3	36.6	34.4	40.7	41.6	31.8	20.4	14.8	8.1
04:15 - 04:30	46.7	60.9	45.5	48.8	40.9	36.9	43.2	44.7	36.0	23.3	15.1	8.1
04:30 - 04:45	46.5	55.2	46.5	49.5	41.3	37.5	44.1	44.5	33.0	23.8	18.7	8.1
04:45 - 05:00	49.4	62.0	46.8	49.1	41.7	39.5	47.3	47.3	35.6	25.1	21.5	8.1
05:00 - 05:15	46.5	59.4	45.1	46.3	37.3	35.9	43.4	44.7	34.5	23.5	17.8	8.1
05:15 - 05:30	46.8	58.9	45.6	47.8	40.5	36.9	43.8	44.9	34.4	25.9	24.4	8.1
05:30 - 05:45	48.6	58.0	46.5	49.8	41.5	37.8	45.0	46.9	36.5	25.3	19.5	8.1
05:45 - 06:00	50.6	60.0	47.4	51.3	42.9	39.3	46.8	49.1	38.3	26.7	17.4	8.1
06:00 - 06:15	51.9	62.6	47.6	53.5	43.7	41.6	48.2	50.2	40.8	30.7	24.5	8.1
06:15 - 06:30	54.7	66.9	49.9	52.9	46.4	44.6	50.2	53.1	44.1	33.4	28.3	8.1
06:30 - 06:45	54.4	61.0	49.1	52.1	46.2	43.7	50.0	53.0	42.8	33.3	30.0	8.1
06:45 - 07:00	54.2	61.9	52.4	53.7	47.0	43.9	49.7	52.7	42.0	35.4	33.9	8.4



21 ENVIRONMENTAL CONDITIONS



17th - 22nd February 2021

#END OF REPORT#