



REPORT REFERENCE:

IMP5674-1

INDUSTRIAL NOISE IMPACT ASSESSMENT CONSTRUCTION OF NEW INDUSTRIAL UNITS

British Standard 4142:2014

CLIENT:

Roundstone Van Centre

SITE:

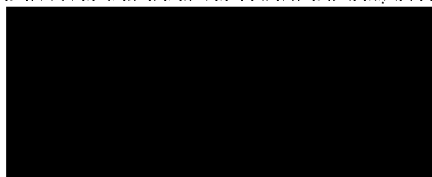
Land at Rear of Roundstone Van Centre
Roundstone Lane
Angmering
BN16 4AT

SURVEY DATE:

23rd June – 1st July 2020

Impact Acoustics Ltd

1 King John Avenue, Bournemouth, Dorset, BH11 9RS



Report By: B. Scrivener MIOA

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1 EXECUTIVE SUMMARY

1.1 Instruction

Impact Acoustics Ltd have been instructed by Roundstone Van Centre to undertake a background noise survey at the existing premises at the rear of Land at Rear of Roundstone Van Centre, Roundstone Lane, Angmering, BN16 4AT to understand the level of impact at the existing site in relation to the proposed new workshop where it is proposed to operate a car body shop and calculate the resultant noise level at the nearest affected windows at the surrounding the development and carry out assessments to BS 4142: 2014.

1.2 Scope of Report

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

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

1.3 Summary of Report

1.3.1 Measured Background Noise Levels

Continuous background noise measurements were undertaken between 23rd June and 1st July 2020 at Assessment Position 1. The representative day time background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 50 dB and this been evaluated from the recorded data. The unit does not intend to operate at night and therefore no night time assessments have been made.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90} = 50 \text{ dB}$
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1.4 Proposed Plant

As the proposed car wash is not operational at present, the following data has been used from a similar car wash where typical plant could be selected.

Unit Description	Recorded Sound Pressure Level @ 1m
Large Orbital Sander	L_p 96.1 dB(A)
Small Orbital Sander	L_p 84.1 dB(A)
Grinder	L_p 92.6 dB(A)
Panel Beating by Hand	L_p 93.2 dB(A)
Polisher	L_p 84.8 dB(A)
Typical Compressor	L_p 81.0 dB(A)

1.5 Assessment

1.5.1 Daytime Assessment (Existing Proposal)

Rating Level	43 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level LA90,1 hour	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-7 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	-7 dB		
Conclusion	The assessment level is 'Low Impact'		
Planning Condition 5	-3 dB Below Background (Achieved)		

1.6 Conclusions

The operation of the proposed plant and workshop 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 residential façade to the site and the assessment of the impact of the site operation on nearby residential properties. The resulting emissions from the site running on a worst case scenario show no conflict with 'low impact' criteria and give a strong indication that complaint and impact on the local amenity is unlikely.

1.7 Planning Condition 5

Planning permission has been granted under application number BN16 4AT and planning condition 5 relating to noise has been considered within this assessment. A planning criteria of -3 dB below background has been stipulated within the planning condition and therefore the following criteria has been designed to: -

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Calculated Levels at Nearest Noise Sensitive Premises	LAeq,t 47 dB
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1.8 Planning Approval Recommendation

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 condition 5 can be discharged accordingly.

2 INTRODUCTION

2.1 Instruction

Impact Acoustics Ltd have been instructed by Roundstone Van Centre to undertake a background noise survey at the existing premises at the rear of Land at Rear of Roundstone Van Centre, Roundstone Lane, Angmering, BN16 4AT to understand the level of impact at the existing site in relation to the proposed new workshop where it is proposed to operate a car body shop and calculate the resultant noise level at the nearest affected windows at the surrounding the development and carry out assessments to BS 4142: 2014.

The purpose of this assessment is to ensure the acoustic protection of noise sensitive premises closest to the proposed workshop. Noise sensitive premises are not restricted to residential dwellings as offices can be affected by unwanted external noise. These have been established as the existing residential premises to the north, south and east of the site as well as estimated residential dwellings to the west / rear of the proposed workshop. These are yet to be constructed and work has not yet started on site for the construction of these houses. Therefore, a worst case scenario has been allowed for and included within our 3D Model.

2.2 Planning Permission

Planning permission for the workshop has been granted under application number A/73/19/PL ND Planning condition 5 states that: -

Construction work shall not commence unless and until an impact assessment of the noise from the development on nearby residential properties has been completed and submitted in writing to the Local Planning Authority. The impact assessment shall include noise from deliveries and operation of the development and shall include a noise mitigation scheme. The assessment shall have regard to the principles of BS 4142:2014 and achieve a difference between the measured 'rating' level and the measured 'background' level of at least 3dB. A test to demonstrate compliance with the noise mitigation scheme shall then be undertaken by a competent acoustician / consultant before the use commences. The measures so approved shall be implemented, prior to the occupation of the building hereby approved and permanently retained thereafter. Reason: To protect the amenity of local residents in accordance with Policy QE DM1 of Arun Local Plan.

Therefore this noise assessment has been undertaken in order to ensure the internal activities associated with the proposed body shop can demonstrate compliance with the aforementioned planning condition 5.

2.3 Ambient and Background Measurements

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

2.4 BS 4142: 2014

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 acoustic impact the proposed plant could have on the nearest affected premises and make suitable recommendations in order to demonstrate this unit 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. 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).

2.5 National Planning Policy Framework 2019 & Noise Policy Statement for England 2010

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.

2.6 “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:

2.7 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.

2.8 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.

2.9 SOAEL – Significant Observed Adverse Effect Level

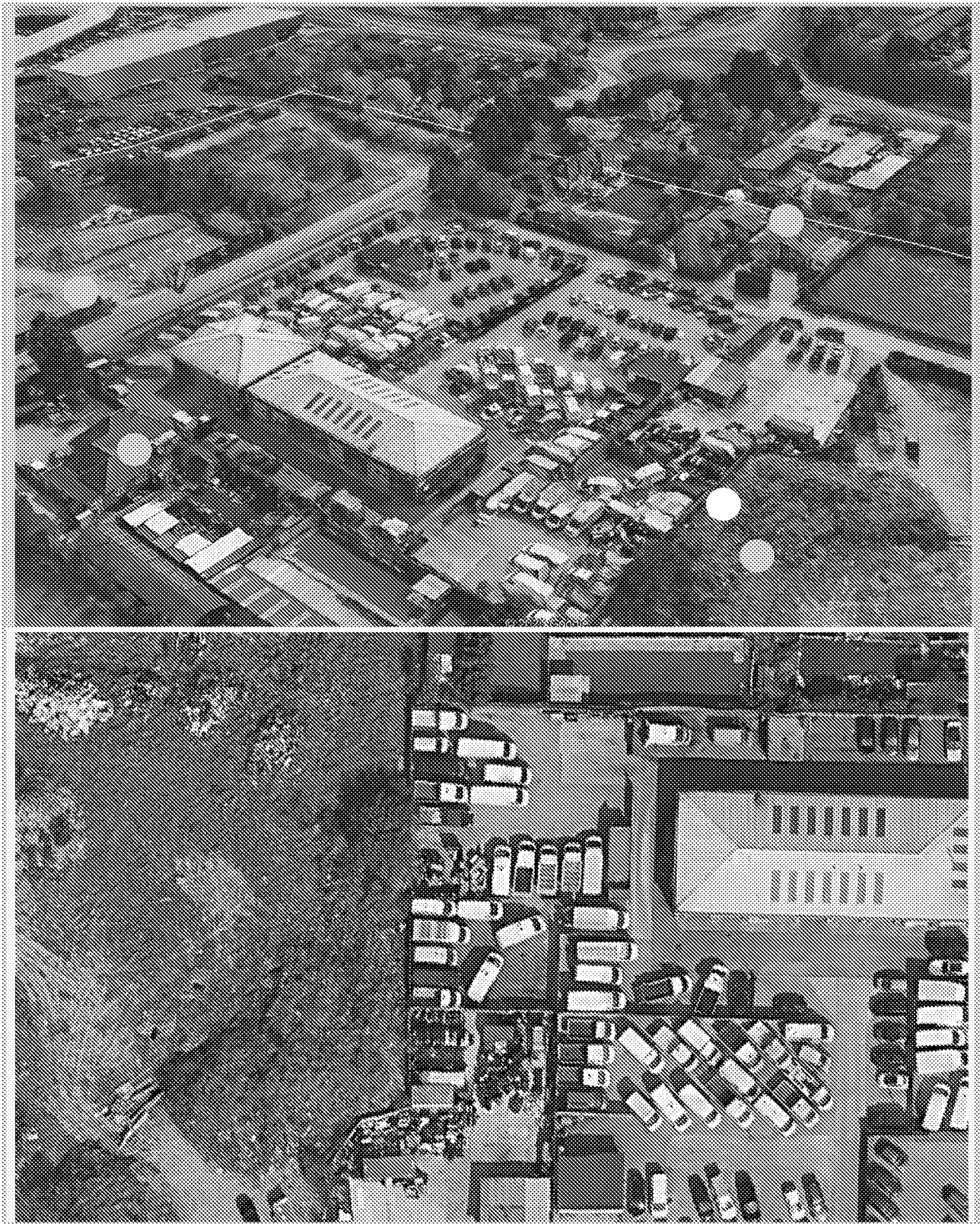
This is the level above which significant adverse effects on health and quality of life occur.

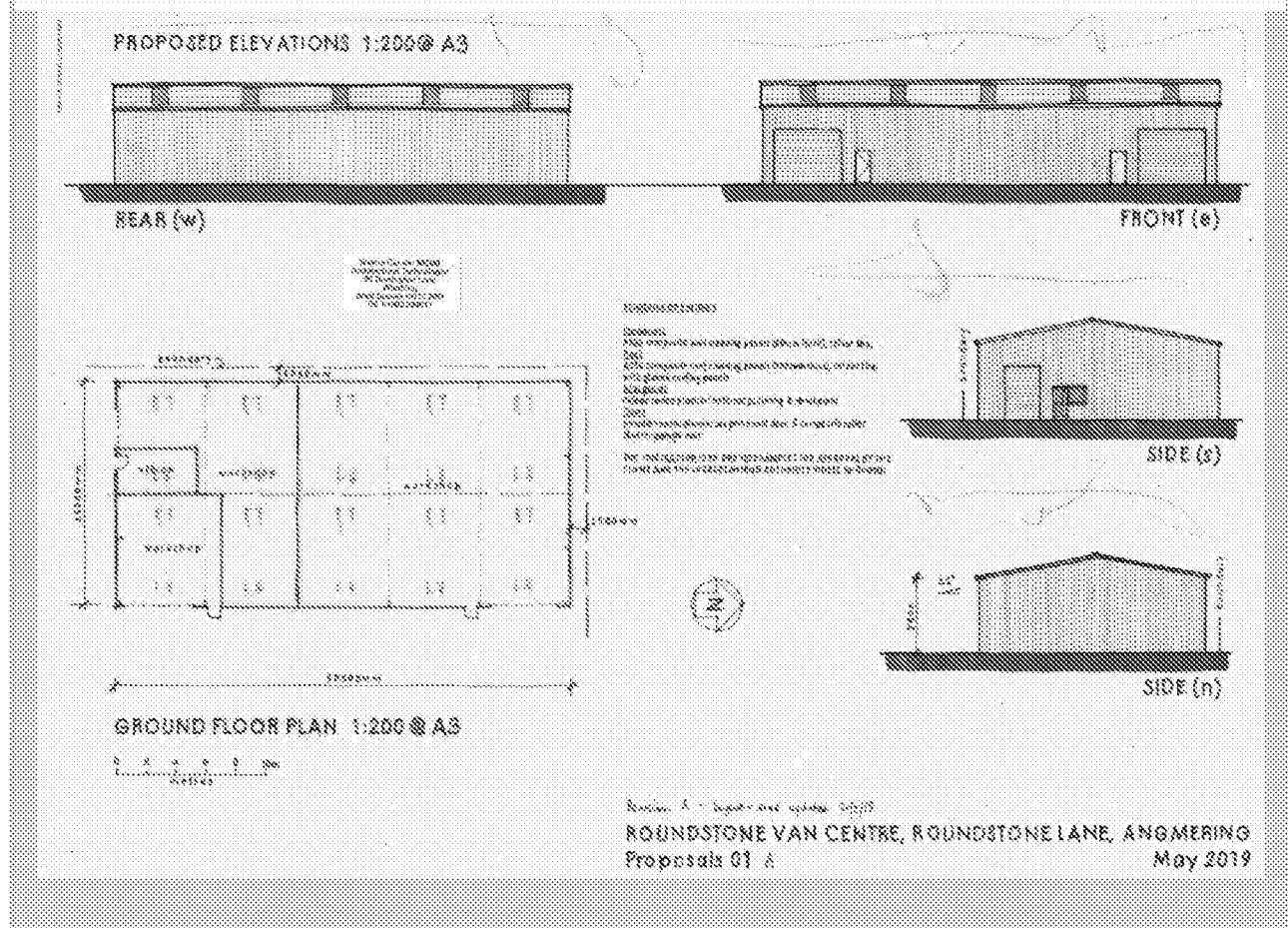
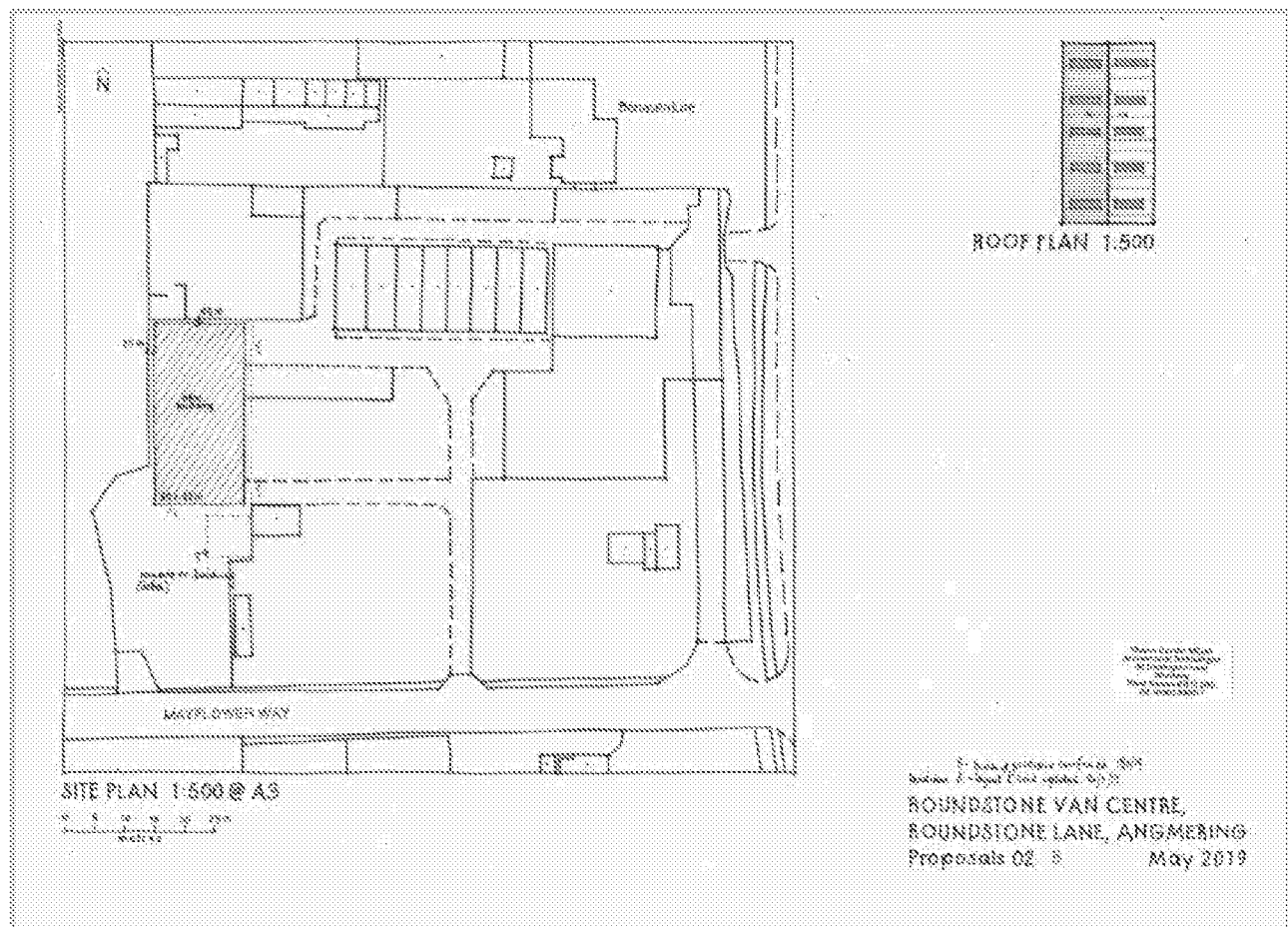
It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further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

3 SITE LOCATION

3.1 Position of Site in Wider Area

- Yellow – measurement position
- Orange NSP (1st Floor Residential)





4 APPARATUS

4.1 Equipment Calibration

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

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

4.2 Position 1 – Rear of Site

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	118	31471	2 YEARS	08.08.2018	08.08.2020
12.5mm Microphone (with windshield)	Norsonic	1220	41075	2 YEARS	08.08.2018	08.08.2020
Microphone Pre – Amplifier	Norsonic	1201	30327	2 YEARS	08.08.2018	08.08.2020

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

5 BACKGROUND NOISE LEVELS

Continuous background noise measurements were undertaken between 23rd June and 1st July 2020 at Assessment Position 1. The representative day time background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}} 50$ dB and this been evaluated from the recorded data. The unit does not intend to operate at night and therefore no night time assessments have been made.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90} \pm 50 \text{ dB}$
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Planning permission has been granted under application number BN16 4AT and planning condition 5 relating to noise has been considered within this assessment. A planning criteria of -3 dB below background has been stipulated within the planning condition and therefore the following criteria has been designed to: -

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Calculated Levels at Nearest Noise Sensitive Premises	$L_{Aeq} \pm 47 \text{ dB}$
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6 CALCULATIONS

6.1 Proposed Plant

As the proposed car wash is not operational at present, the following data has been used from a similar car wash where typical plant could be selected.

Unit Description	Recorded Sound Pressure Level @ 1m
Large Orbital Sander	Lp 96.1 dB(A)
Small Orbital Sander	Lp 84.1 dB(A)
Grinder	Lp 92.6 dB(A)
Panel Beating by Hand	Lp 93.2 dB(A)
Polisher	Lp 84.8 dB(A)
Typical Compressor	Lp 81.0 dB(A)

6.2 Proposed Constructions

6.2.1 Wall and Roof

The walls and roof of the proposed workshop are to be constructed from a standard thermally insulated panel. This is likely to give the following minimum attenuation values: -

	Octave Band Centre Frequency (Hz)							Rw dB
	63	125	250	500	1.0k	2.0k	4.0k	
Insulated Panel	14	17	21	23	20	31	43	25

6.2.2 Roof Lights

The roof lights are likely to be a lightweight single skin of polycarbonate insulated light panel. This is likely to give the following minimum attenuation values: -

	Octave Band Centre Frequency (Hz)							Rw dB
	63	125	250	500	1.0k	2.0k	4.0k	
Roof Lights	10	13	18	22	28	32	36	27

6.2.3 Doors

The doors are to be steel roller shutter doors and will have to remain closed during daytime operations. This is likely to give the following minimum attenuation values: -

	Octave Band Centre Frequency (Hz)							Rw dB
	63	125	250	500	1.0k	2.0k	4.0k	
Doors	16	20	24	29	34	39	40	34

6.3 Combined Transmission Calculation

The following combined transmission calculations have been carried out for each façade and the roof.

Elevation	Octave Band Centre Frequency (Hz)							Rw dB
	63	125	250	500	1.0k	2.0k	4.0k	
Rear	14	17	21	23	20	31	43	25
Front	14	18	22	24	21	32	42	25
South	14	17	21	23	21	32	42	25
North	14	17	21	23	20	31	43	25
Roof	12	15	20	23	22	31	39	26

6.4 Calculated Internal Noise Levels

The following plant has been selected to be operational within the unit. However, not all the plant will operate all the time and therefore based on information received from the proposed operators, the following time corrections have been applied: -

Unit Description	Recorded Sound Pressure Level @ 1m	Time On / Time Off Correction $=10 \cdot \log(T/T_o)$	Calculated Sound Pressure Level @ 1m
Large Orbital Sander	Lp 96.1 dB(A)	-10.0 dB	Lp 86.1 dB(A)
Small Orbital Sander	Lp 84.1 dB(A)	-10.0 dB	Lp 74.1 dB(A)
Grinder	Lp 92.6 dB(A)	-8.2 dB	Lp 84.4 dB(A)
Panel Beating by Hand	Lp 93.2 dB(A)	-8.2 dB	Lp 85.0 dB(A)
Polisher	Lp 84.8 dB(A)	-7.0 dB	Lp 77.8 dB(A)
Typical Compressor	Lp 81.0 dB(A)	-3.0 dB	Lp 78.0 dB(A)

However, it should be noted that not all equipment will be used at the same time and therefore a typical operational noise level of 85 dB(A) has been evaluated.

6.5 Calculated Level to Outside

Based on the internal noise levels of the proposed operations and the proposed construction methods and combined transmission calculations, the following noise level have been calculated at 1.0m from the façade of each element. These have then been replicated on the CADNA A 3D model.

Rear	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1	2	4
Internal Noise Level	85	56.2	53.5	61.6	68.9	75.0	82.9	77.1
R - Reduction Value		14	17	21	23	20	31	43
S - Surface Area	152	1	1	1	1	1	1	1
r - Distance (m)	1	1	1	1	1	1	1	1
10xLog(s)	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8
20xLog r	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Reverberant Correction	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
External Calculated Level (Lp2)	44.2	29.1	23.4	27.5	32.8	41.9	38.8	21

Front	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1	2	4
Internal Noise Level	85	56.2	53.5	61.6	68.9	75.0	82.9	77.1
R - Reduction Value		14	18	22	24	21	32	42
S - Surface Area	152	1	1	1	1	1	1	1
r - Distance (m)	1	1	1	1	1	1	1	1
10xLog(s)	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8
20xLog r	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Reverberant Correction	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
External Calculated Level (Lp2)	43.2	29.1	22.4	26.5	31.8	40.9	37.8	22

South	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1	2	4
Internal Noise Level	85	56.2	53.5	61.6	68.9	75.0	82.9	77.1
R - Reduction Value		14	17	21	23	21	32	42
S - Surface Area	83	1	1	1	1	1	1	1
r - Distance (m)	1	1	1	1	1	1	1	1
10xLog(s)	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
20xLog r	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Reverberant Correction	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
External Calculated Level (Lp2)	40.6	26.5	20.8	24.9	30.2	38.3	35.2	19.4

North	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1	2	4
Internal Noise Level	85	56.2	53.5	61.6	68.9	75.0	82.9	77.1
R - Reduction Value		14	17	21	23	20	31	43
S - Surface Area	83	1	1	1	1	1	1	1
r - Distance (m)	1	1	1	1	1	1	1	1
10xLog(s)	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
20xLog r	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Reverberant Correction	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
External Calculated Level (Lp2)	41.6	26.5	20.8	24.9	30.2	39.3	36.2	18.4

Roof	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1	2	4
Internal Noise Level	85	56.2	53.5	61.6	68.9	75.0	82.9	77.1
R - Reduction Value		12	15	20	23	22	31	39
S - Surface Area	150	1	1	1	1	1	1	1
r - Distance (m)	1	1	1	1	1	1	1	1
10xLog(s)	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8
20xLog r	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Reverberant Correction	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
External Calculated Level (Lp2)	43.1	31.1	25.4	28.5	32.8	39.9	38.8	25

The internal reverberation correction allows for the calculated noise source corrected for the distance to the element and the associated reverberation time. We have assumed a nominal distance of 5m from source to wall / roof as an average and a reverberation time of 2.0 seconds.

6.6 Calculated External Façade Levels

The above noise levels have been inputted into the CADNA A software.



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

7 BS4142:2014 NOISE ASSESSMENT

7.1 Scope of British Standard 4142:2014

In the assessment of the existing surrounding commercial premises, consideration has been given to the scope of British Standard 4142:2014, 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.

7.2 Terms and Definitions

Symbol	Term	Definition
AP	Assessment Position	Position externally at the façade property under investigation at which the assessment is undertaken which is usually 1m from the 1 st floor bedroom window.
EP	Equivalent Position	Position at which the background noise levels are measured if there is no access to the assessment position or if source under investigation is audible.
$L_s = L_{Aeq, T}$	Specific Level	The average continuous equivalent sound pressure level of the source at the assessment position.
$L_{A, T}$	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.
$L_{Aeq, T}$	Background Level	The sound pressure level that is not exceeded 90% of the time at the assessment position.
$L_a = L_{Aeq, T}$	Ambient Level	The totally encompassing sound at the assessment position including the residual and specific noise.

7.3 Assessment Position

The assessments were established as the residential properties surrounding the site and the proposed residential units to the rear.

7.4 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.

7.5 Equivalent Position

The background noise levels were measured at the equivalent position, chosen as it most represented the closest noise sensitive façade, between 23rd June & 1st July 2020.

7.6 Rating Levels (Character Correction)

It is appropriate to add a character correction where there is a new source that cannot be measured in line with BS4142:2014. There are 3 methods for approaching this.

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

7.7 Subjective Method

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

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 3.3 Subjective Method	Perceptibility to noise sensitive facades	Correction
Readily Distinctive	Is not present	+0
	Is present	+3
Intermittency	Is not present	+0
	Is present	+3

7.8 Assessment Criterion

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

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

7.9 Noise Meter Floor

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

7.10 BS 4142: 2014 Penalties

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

7.11 Assessments

7.11.1 Daytime 07:00 – 23:00 (Existing Proposal)

Rating Industrial Noise affecting Mixed Industrial and Residential Areas			
British Standard 4142:2014 Day Time (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	REAR OF ROUNSTONE VAN CENTRE, BN16 4AT		
Background Position	At the assessment position		
Item	Calculation	Class	Comments
Specific Noise Level $L_{Aeq,1\text{ hour}}$	35 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	43 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\text{ hour}}$	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-7 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	-7 dB		
Conclusion	The assessment level is 'Low Impact'		
Planning Condition 5	-3 dB Below Background (Achieved)		

7.12 Tonal Penalty

A +2 dB penalty has been applied to the specific noise level to allow for any minor tonal elements that may be present from the proposed plant.

7.13 Impulsivity Penalty

A +3 dB penalty has been applied to the specific noise level to allow for any minor impulsive elements that may be present from the proposed plant.

7.14 Intermittency Penalty

A +3 dB penalty has been applied to the specific noise level to allow for any minor intermittent elements that may be present from the proposed plant.

7.15 Assessment Conclusion

It can be seen from the above assessments that with the proposed new plant and workshop, an assessment conclusion of Low Impact could be expected during daytime periods and therefore no further remedial works will be required in order to ensure compliance with BS 4142: 2014. Therefore, planning condition 5 can be discharged accordingly.

8 NPPF & NPSE

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 proposed plant and activities operational inside the proposed body shop as detailed within this report together, 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.

9 CONCLUSIONS

9.1 Summary of Report

Continuous background noise measurements were undertaken between 23rd June and 1st July 2020 at Assessment Position 1. The representative day time background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 50 dB and this been evaluated from the recorded data. The unit does not intend to operate at night and therefore no night time assessments have been made.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90,1 \text{ hour}}$ 50 dB
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9.2 Proposed Plant

As the proposed car wash is not operational at present, the following data has been used from a similar car wash where typical plant could be selected.

Unit Description	Recorded Sound Pressure Level @ 1m
Large Orbital Sander	L_p 96.1 dB(A)
Small Orbital Sander	L_p 84.1 dB(A)
Grinder	L_p 92.6 dB(A)
Panel Beating by Hand	L_p 93.2 dB(A)
Polisher	L_p 84.8 dB(A)
Typical Compressor	L_p 81.0 dB(A)

9.3 Assessment

9.3.1 Daytime Assessment (Existing Proposal)

Rating Level	43 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	50 dB	8.1	Modal Background Noise Level (0700 – 2300)
Assessment Level	-7 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	-7 dB		
Conclusion	The assessment level is 'Low Impact'		
Planning Condition 5	-3 dB Below Background (Achieved)		

9.4 Conclusions

The operation of the proposed plant and workshop 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 residential façade to the site and the assessment of the impact of the site operation on nearby residential properties. The resulting emissions from the site running on a worst case scenario show no conflict with ‘low impact’ criteria and give a strong indication that complaint and impact on the local amenity is unlikely.

9.5 Planning Condition 5

Planning permission has been granted under application number BN16 4AT and planning condition 5 relating to noise has been considered within this assessment. A planning criteria of -3 dB below background has been stipulated within the planning condition and therefore the following criteria has been designed to: -

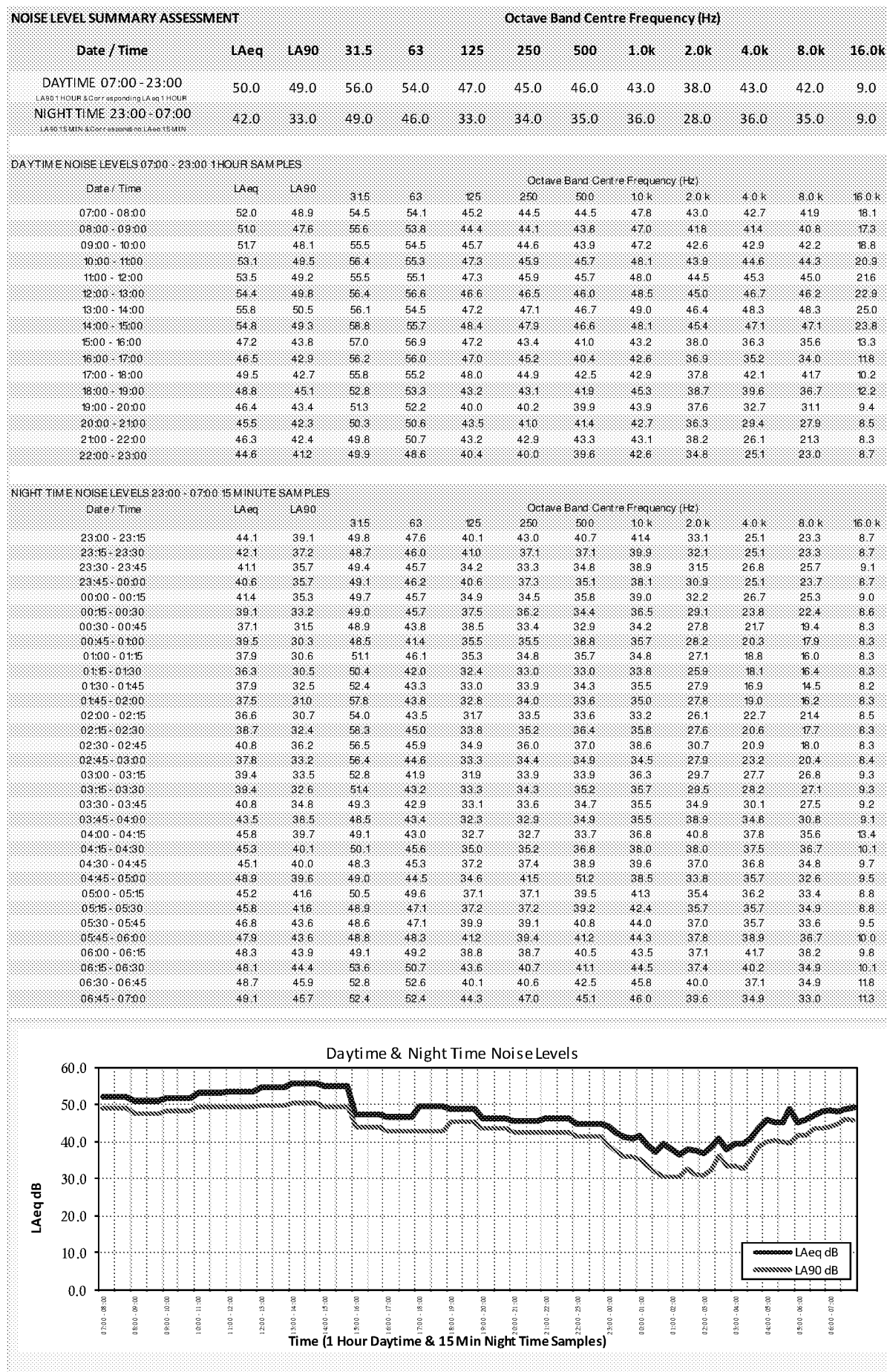
Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Calculated Levels at Nearest Noise Sensitive Properties	$L_{Aeq,T}$ 47 dB
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9.6 Planning Approval Recommendation

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 condition 5 can be discharged accordingly.

10 APPENDIX A – RESULTS

10.1 23rd – 24th June 2020

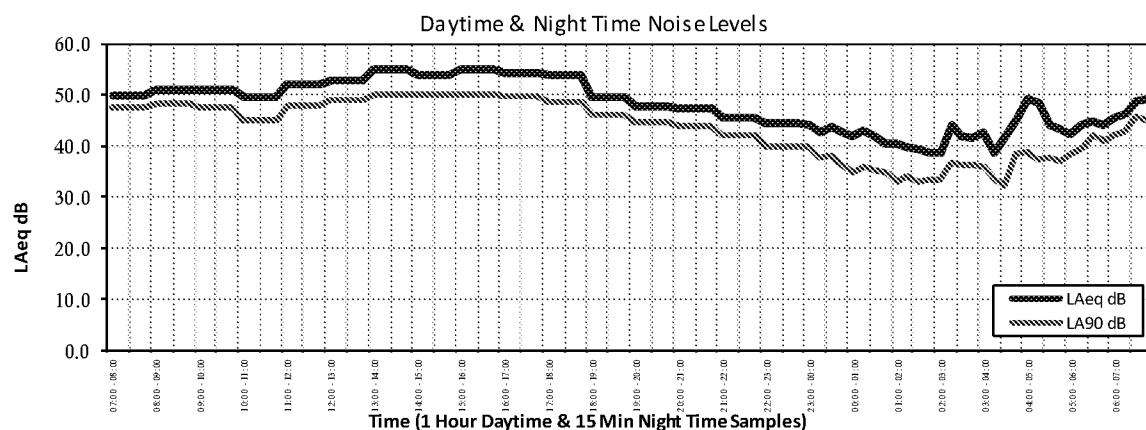


10.2 24th – 25th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	51.0	50.0	55.0	56.0	49.0	44.0	44.0	47.0	42.0	43.0	38.0	15.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	41.0	38.0	48.0	45.0	34.0	36.0	35.0	36.0	33.0	34.0	33.0	9.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	49.9	47.3	54.7	54.1	44.6	43.5	43.8	46.5	40.4	39.4	37.8	15.0
08:00 - 09:00	51.1	48.1	55.7	54.5	45.3	44.5	44.2	46.8	41.5	42.0	41.2	17.8
09:00 - 10:00	51.0	47.4	55.2	54.7	45.6	43.8	43.2	46.0	41.9	42.9	41.5	18.0
10:00 - 11:00	49.3	45.0	55.8	55.7	49.2	46.3	43.4	44.4	40.7	40.1	37.2	14.8
11:00 - 12:00	52.0	48.0	57.3	56.8	51.4	48.0	45.3	46.2	42.2	43.5	42.9	20.1
12:00 - 13:00	52.9	49.1	59.2	57.1	49.1	47.2	45.7	47.1	43.3	44.7	44.4	21.7
13:00 - 14:00	54.9	50.1	60.9	57.6	51.1	49.7	48.4	48.7	45.3	46.7	46.5	23.9
14:00 - 15:00	54.0	49.9	60.1	56.9	50.4	48.5	47.3	47.8	44.3	45.9	45.7	22.8
15:00 - 16:00	55.0	49.9	62.1	58.8	52.1	50.0	48.8	48.4	45.2	46.9	46.8	24.2
16:00 - 17:00	54.2	49.7	59.6	56.3	49.1	49.1	47.2	48.5	44.5	45.9	45.7	23.1
17:00 - 18:00	53.7	48.4	58.3	58.8	52.0	49.4	46.9	49.6	44.9	43.4	42.5	19.4
18:00 - 19:00	49.4	46.2	54.1	54.2	48.6	45.4	43.7	45.6	39.3	39.4	37.7	14.6
19:00 - 20:00	47.8	44.7	52.3	53.0	44.4	42.7	42.1	44.4	37.8	37.0	35.7	11.8
20:00 - 21:00	47.4	43.7	52.6	52.2	45.2	43.8	43.6	43.5	38.0	35.6	33.7	12.0
21:00 - 22:00	45.7	42.0	51.2	49.7	41.9	43.6	41.5	42.3	36.1	31.9	30.5	10.6
22:00 - 23:00	44.2	39.9	50.1	49.7	43.8	41.9	39.0	40.8	34.0	32.3	31.4	10.9

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	44.1	39.7	49.6	46.8	41.1	40.0	37.3	40.2	34.3	34.2	33.4	12.0
23:15 - 23:30	42.5	37.8	49.5	44.7	35.4	35.6	35.4	38.5	32.8	33.1	32.3	11.4
23:30 - 23:45	43.7	37.9	49.9	45.7	39.3	38.7	37.8	38.5	34.1	35.1	34.4	12.5
23:45 - 00:00	42.7	36.1	48.7	44.7	37.4	36.5	35.3	37.8	33.1	34.1	33.3	11.9
00:00 - 00:15	41.9	34.9	47.8	43.7	41.3	37.0	34.0	35.9	32.4	34.0	33.2	11.8
00:15 - 00:30	43.0	36.0	48.9	45.2	40.5	38.4	35.4	36.8	33.4	35.3	34.7	12.7
00:30 - 00:45	41.9	35.1	48.5	45.1	38.0	37.1	35.4	35.2	32.1	34.2	33.5	11.9
00:45 - 01:00	40.3	34.8	47.6	43.3	39.6	36.1	33.9	34.4	30.5	32.1	31.3	10.8
01:00 - 01:15	40.5	33.1	48.1	44.0	33.5	34.5	33.7	35.0	30.9	32.4	31.7	11.1
01:15 - 01:30	39.8	34.2	47.3	44.8	34.4	36.0	34.8	34.6	29.7	30.9	30.1	10.3
01:30 - 01:45	39.3	33.0	48.3	43.6	33.9	35.1	33.4	33.8	29.7	30.9	29.9	10.2
01:45 - 02:00	38.6	33.5	45.8	42.0	32.2	34.2	33.3	34.5	29.0	28.6	27.4	9.4
02:00 - 02:15	38.6	33.5	46.9	43.0	32.6	34.5	33.3	32.8	29.1	30.1	29.0	9.8
02:15 - 02:30	44.1	36.6	48.3	47.0	41.3	43.9	43.5	37.8	32.2	32.3	31.4	10.7
02:30 - 02:45	41.8	36.4	48.0	45.4	34.6	35.8	35.2	36.1	32.2	33.8	33.1	11.7
02:45 - 03:00	41.6	36.3	47.8	44.5	34.3	36.1	35.2	36.2	31.9	33.2	32.5	11.3
03:00 - 03:15	42.5	35.8	48.6	45.0	33.9	35.4	35.2	36.4	34.3	34.6	33.3	11.9
03:15 - 03:30	38.6	33.2	45.8	42.0	32.5	33.9	33.0	33.6	30.0	29.8	27.9	9.5
03:30 - 03:45	41.8	32.2	46.9	44.0	32.4	33.4	34.0	35.7	37.2	30.5	27.4	8.9
03:45 - 04:00	45.1	38.4	48.2	44.5	33.5	34.4	34.9	35.3	41.2	35.5	32.7	9.0
04:00 - 04:15	49.1	38.9	46.8	43.5	33.2	35.7	34.9	36.4	42.9	42.3	41.4	9.2
04:15 - 04:30	48.3	37.5	46.8	43.2	32.3	33.3	33.7	35.8	39.8	42.3	41.9	8.8
04:30 - 04:45	44.1	37.8	47.8	44.0	32.0	34.5	36.8	38.9	34.7	36.9	34.0	8.5
04:45 - 05:00	43.3	36.8	50.3	46.4	33.9	34.8	37.3	37.5	34.5	33.2	35.6	9.0
05:00 - 05:15	42.4	38.5	47.5	46.0	36.2	36.6	38.3	39.4	32.7	29.6	27.1	8.5
05:15 - 05:30	44.2	39.6	47.4	45.4	35.1	36.9	38.4	39.7	33.4	37.6	30.2	8.5
05:30 - 05:45	44.9	41.9	49.3	47.6	38.0	39.1	39.7	42.2	35.5	31.9	29.2	8.6
05:45 - 06:00	44.2	40.8	50.5	50.1	39.5	38.1	39.3	41.3	34.8	31.9	29.4	8.9
06:00 - 06:15	45.4	41.9	50.6	50.4	41.9	40.5	40.5	41.5	35.6	36.4	30.1	8.9
06:15 - 06:30	46.1	42.7	57.0	52.2	43.2	41.1	41.2	42.3	36.0	36.9	31.7	9.5
06:30 - 06:45	48.7	45.7	66.1	57.7	42.8	42.8	44.7	45.3	40.0	35.3	32.2	9.4
06:45 - 07:00	49.1	45.0	64.5	56.6	43.6	44.9	44.3	45.3	39.8	37.4	35.6	10.9

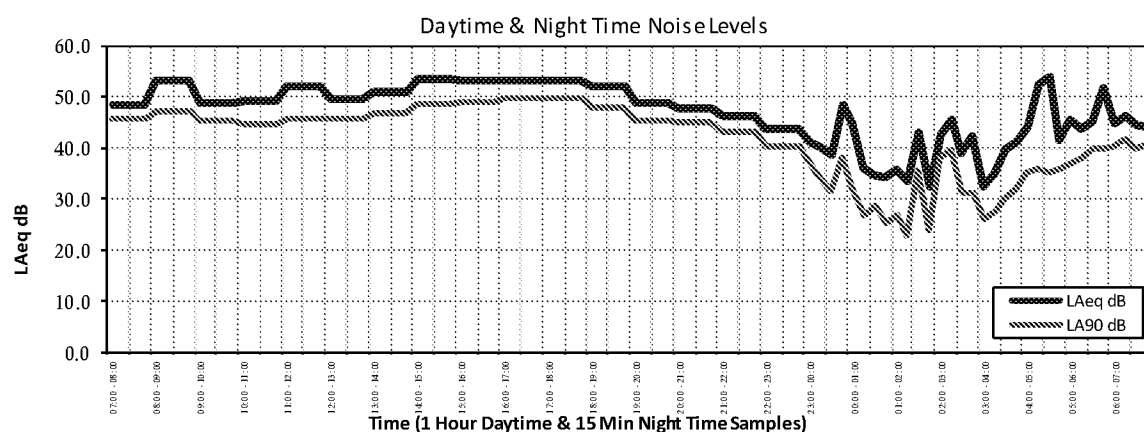


10.3 25th – 26th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	50.0	45.0	56.0	55.0	43.0	45.0	44.0	45.0	44.0	40.0	38.0	16.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	41.0	38.0	47.0	44.0	31.0	29.0	37.0	35.0	36.0	17.0	35.0	8.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	48.6	45.5	55.0	53.9	42.7	42.3	42.2	44.7	38.4	39.4	37.6	13.6
08:00 - 09:00	53.2	47.0	56.8	55.1	47.2	44.8	44.0	50.3	41.9	42.5	42.3	16.4
09:00 - 10:00	48.8	45.4	57.3	55.5	47.8	42.9	42.7	44.1	39.3	39.7	38.5	15.5
10:00 - 11:00	49.1	44.7	56.1	54.3	47.4	43.9	43.4	44.1	39.2	40.1	39.5	16.6
11:00 - 12:00	51.9	45.7	56.3	57.1	54.1	49.9	46.8	46.9	43.8	40.3	38.3	15.7
12:00 - 13:00	49.4	45.7	56.1	55.9	50.6	46.8	43.7	44.8	40.2	39.7	37.3	14.8
13:00 - 14:00	50.9	46.8	56.0	54.9	46.2	45.3	44.3	45.3	41.0	42.5	42.1	19.2
14:00 - 15:00	53.5	48.6	58.4	56.2	49.2	47.8	46.2	46.9	43.7	45.8	45.5	22.5
15:00 - 16:00	53.2	48.9	57.5	57.7	52.5	49.7	47.1	47.6	43.8	44.3	43.6	20.9
16:00 - 17:00	53.2	49.7	57.6	56.4	50.4	48.7	47.0	48.2	43.3	44.0	43.8	21.5
17:00 - 18:00	53.1	49.8	58.4	56.5	48.2	48.4	46.7	48.5	43.6	43.7	43.4	21.1
18:00 - 19:00	52.0	47.9	55.0	54.7	45.6	44.7	44.5	47.4	45.7	40.3	40.1	16.5
19:00 - 20:00	48.6	45.3	52.3	53.0	45.2	45.9	43.8	45.7	38.9	34.9	33.4	12.0
20:00 - 21:00	47.6	44.9	50.6	51.7	43.4	43.4	42.5	45.3	38.3	28.7	25.9	8.9
21:00 - 22:00	46.1	43.0	50.2	50.2	43.5	43.7	41.6	43.7	36.7	27.3	23.8	9.0
22:00 - 23:00	43.6	40.1	49.5	49.4	41.6	41.7	39.4	41.3	33.3	23.1	20.7	8.6

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	41.1	37.5	47.2	48.0	37.5	36.4	36.1	39.2	31.0	17.2	14.8	8.3
23:15 - 23:30	40.0	34.0	48.1	45.0	39.8	36.6	35.2	38.1	29.4	16.1	14.4	8.3
23:30 - 23:45	38.5	31.4	47.9	46.7	34.5	33.1	34.0	36.4	28.4	16.9	15.4	8.3
23:45 - 00:00	48.4	37.9	44.3	43.5	35.7	36.5	37.2	40.6	39.2	41.7	41.4	16.2
00:00 - 00:15	44.8	31.6	44.2	43.4	34.0	34.1	35.0	38.2	35.4	37.6	37.4	15.0
00:15 - 00:30	36.0	26.9	44.7	42.5	29.1	28.6	29.7	34.0	26.7	20.6	19.2	8.4
00:30 - 00:45	34.5	28.5	41.9	44.1	30.8	28.8	28.8	32.1	25.2	20.0	18.8	8.4
00:45 - 01:00	34.1	25.2	43.2	42.0	31.7	28.2	27.1	31.4	24.4	22.1	21.0	8.5
01:00 - 01:15	35.7	26.8	41.6	40.4	31.1	29.5	28.4	31.7	26.6	26.2	25.2	8.9
01:15 - 01:30	33.4	22.8	44.2	43.6	28.6	27.4	27.5	31.3	23.6	17.1	16.9	8.4
01:30 - 01:45	43.0	35.6	44.3	44.2	32.2	28.8	30.6	35.1	35.8	35.3	35.6	14.9
01:45 - 02:00	32.4	23.8	42.3	42.3	28.0	24.7	24.4	26.6	24.7	23.5	23.5	9.0
02:00 - 02:15	42.7	38.1	48.0	45.6	30.5	28.7	31.1	35.0	35.6	34.9	35.0	14.5
02:15 - 02:30	45.4	39.4	45.4	43.6	31.9	31.5	33.4	37.3	38.4	37.7	37.7	16.5
02:30 - 02:45	38.8	31.2	52.8	50.1	34.7	29.6	29.0	30.5	31.2	31.2	30.8	11.1
02:45 - 03:00	42.2	31.0	50.8	47.5	34.3	29.7	29.9	33.7	33.0	35.7	35.0	12.8
03:00 - 03:15	32.6	25.9	52.9	49.7	39.0	30.2	25.5	27.7	21.9	20.9	20.2	8.4
03:15 - 03:30	35.0	27.6	52.3	49.1	39.3	35.2	30.4	31.3	24.8	17.1	14.6	8.3
03:30 - 03:45	39.8	29.9	49.7	48.1	42.1	39.2	33.1	34.6	30.8	31.7	22.7	8.6
03:45 - 04:00	41.1	31.8	47.9	45.4	36.5	32.1	31.1	33.0	37.7	29.6	24.2	8.3
04:00 - 04:15	43.9	35.3	47.2	45.6	37.5	30.8	28.8	31.9	40.5	34.1	32.7	8.4
04:15 - 04:30	52.4	38.0	44.7	43.0	30.7	28.6	28.6	41.8	49.5	40.5	39.7	10.6
04:30 - 04:45	53.9	35.1	45.5	43.4	30.9	29.0	31.9	40.3	51.7	40.1	38.5	9.7
04:45 - 05:00	41.5	35.9	46.1	45.2	31.8	31.1	36.2	34.6	29.0	35.0	33.4	8.4
05:00 - 05:15	45.6	37.1	46.5	46.2	33.1	35.8	41.7	35.4	29.8	40.2	37.2	8.7
05:15 - 05:30	43.6	37.9	47.0	47.4	34.0	33.5	37.0	37.2	32.1	37.0	35.0	8.5
05:30 - 05:45	45.1	39.8	50.6	48.7	36.2	35.6	38.4	40.0	36.2	37.9	33.5	8.6
05:45 - 06:00	51.5	39.7	49.0	47.2	36.6	36.9	38.5	40.0	46.8	39.1	37.6	10.7
06:00 - 06:15	44.9	40.4	54.8	51.2	38.8	38.1	40.7	41.2	35.1	34.8	31.3	8.7
06:15 - 06:30	46.1	41.8	50.1	50.9	37.4	36.2	38.8	39.4	37.4	38.9	37.5	9.0
06:30 - 06:45	44.5	40.0	50.1	50.6	43.3	38.1	37.3	39.2	36.0	36.6	33.5	8.9
06:45 - 07:00	44.0	40.5	54.5	53.2	42.4	38.0	36.9	38.4	34.4	36.0	34.6	10.2

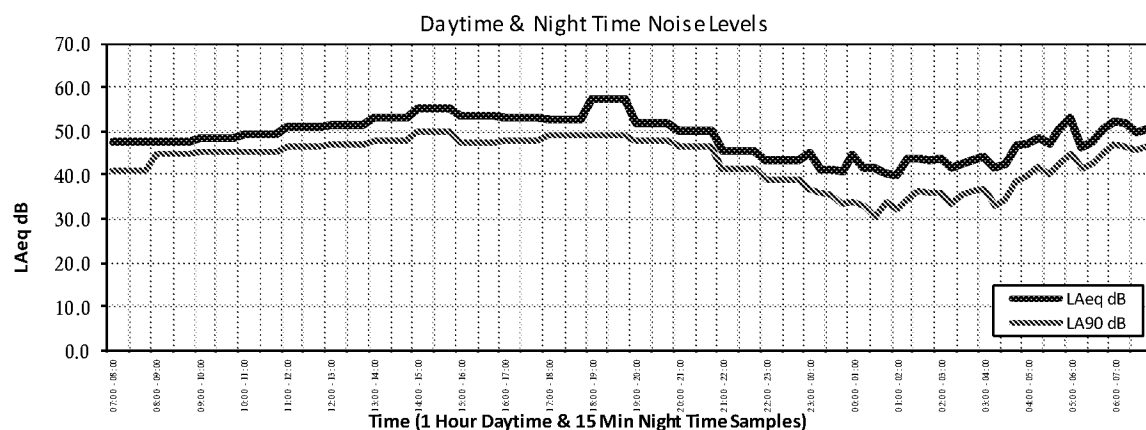


10.4 26th – 27th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	52.0	47.0	57.0	57.0	49.0	42.0	42.0	47.0	44.0	44.0	45.0	21.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	43.0	36.0	47.0	45.0	32.0	32.0	33.0	37.0	35.0	37.0	36.0	9.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	47.6	41.0	54.5	53.7	42.2	38.2	38.0	38.7	35.4	43.6	36.0	11.3
08:00 - 09:00	47.7	44.9	55.5	54.7	44.6	42.2	43.1	42.5	39.6	36.3	37.6	15.9
09:00 - 10:00	48.5	45.4	56.0	57.1	48.7	43.8	42.4	43.0	39.3	39.3	38.6	16.4
10:00 - 11:00	49.2	45.3	56.5	56.8	48.1	42.8	42.4	42.9	40.0	40.4	41.3	19.4
11:00 - 12:00	51.0	46.6	56.8	56.8	51.3	47.6	43.3	44.5	41.2	42.8	42.6	19.5
12:00 - 13:00	51.6	46.9	56.6	58.5	50.4	47.8	43.8	44.5	41.9	43.7	43.6	20.3
13:00 - 14:00	52.9	47.9	57.0	56.2	49.1	45.8	45.5	46.6	43.9	44.8	44.7	21.5
14:00 - 15:00	55.3	49.8	57.2	60.3	55.4	53.7	46.6	47.1	45.5	47.8	47.8	24.4
15:00 - 16:00	53.7	47.2	57.9	57.1	50.8	47.9	45.0	46.0	43.7	46.7	46.2	21.1
16:00 - 17:00	53.0	47.7	57.2	55.5	48.8	44.9	44.3	46.7	44.5	45.0	44.8	21.4
17:00 - 18:00	52.6	48.9	56.6	56.0	47.6	44.3	43.5	46.5	43.7	44.8	44.6	21.7
18:00 - 19:00	57.5	49.2	53.5	53.5	49.4	54.8	54.6	52.2	49.5	46.0	44.5	21.0
19:00 - 20:00	51.8	47.8	51.0	50.8	41.8	41.8	42.2	46.9	42.8	43.5	43.0	19.1
20:00 - 21:00	50.3	46.6	51.4	51.4	44.7	41.6	41.3	45.9	41.8	41.3	40.5	16.8
21:00 - 22:00	45.5	41.6	49.5	49.6	41.6	38.7	38.5	42.6	37.2	33.5	31.8	10.7
22:00 - 23:00	43.4	38.9	46.7	46.7	40.4	39.4	36.8	40.6	34.3	30.9	29.5	9.7

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	45.1	36.8	46.8	47.9	40.8	42.3	40.6	42.9	34.8	27.0	25.2	8.8
23:15 - 23:30	41.2	35.9	46.1	45.3	35.0	36.9	35.8	38.8	32.3	25.5	23.8	8.6
23:30 - 23:45	41.3	35.7	46.7	45.0	33.8	33.3	33.3	38.5	32.2	30.2	29.1	9.6
23:45 - 00:00	40.7	33.5	44.8	46.8	46.3	37.5	34.6	37.7	31.4	26.4	24.2	8.6
00:00 - 00:15	44.6	34.0	43.9	48.0	46.5	44.2	44.2	39.1	33.5	27.5	25.1	8.7
00:15 - 00:30	41.6	32.8	45.8	47.4	39.2	42.3	38.8	37.0	32.5	26.6	24.4	8.6
00:30 - 00:45	41.5	30.6	45.3	44.6	42.0	39.4	38.6	38.4	31.1	22.2	19.1	8.3
00:45 - 01:00	40.2	34.0	44.0	47.3	31.4	30.8	32.9	37.1	31.4	29.2	27.8	9.2
01:00 - 01:15	39.9	32.3	40.9	41.0	29.2	29.0	30.5	36.4	31.4	30.4	29.1	9.5
01:15 - 01:30	43.9	34.3	41.4	40.1	32.2	32.1	33.4	37.3	35.0	36.9	36.1	13.0
01:30 - 01:45	43.7	36.3	42.1	40.0	32.3	32.0	33.0	37.3	34.8	36.6	35.9	13.0
01:45 - 02:00	43.2	36.1	42.1	41.2	32.8	32.2	33.3	36.5	34.5	36.0	35.2	12.4
02:00 - 02:15	43.8	36.1	47.1	46.8	33.0	32.4	33.5	35.7	34.8	37.2	36.3	13.1
02:15 - 02:30	41.8	33.4	40.8	40.0	31.2	30.8	31.5	34.8	33.0	35.0	34.1	11.6
02:30 - 02:45	42.5	35.5	41.4	40.3	32.1	32.4	32.4	36.3	33.8	35.3	34.3	11.8
02:45 - 03:00	43.3	36.2	43.4	46.3	32.8	32.6	34.8	35.9	34.4	36.3	35.3	12.4
03:00 - 03:15	44.0	36.8	47.9	47.1	36.1	37.6	35.8	37.2	35.0	36.7	35.8	12.8
03:15 - 03:30	41.6	33.1	45.1	42.6	31.7	31.5	33.1	35.9	33.1	33.8	32.8	11.0
03:30 - 03:45	42.4	34.1	42.4	43.9	32.1	31.5	33.4	35.1	33.5	35.5	34.6	12.0
03:45 - 04:00	46.7	38.6	41.0	38.2	33.2	33.4	34.1	37.6	38.7	40.1	39.3	15.7
04:00 - 04:15	47.2	39.9	45.6	42.7	33.8	34.1	35.6	39.1	40.7	39.9	38.5	14.4
04:15 - 04:30	48.4	41.7	45.9	44.2	34.7	35.1	37.3	38.7	41.8	41.4	40.9	15.9
04:30 - 04:45	47.3	40.1	44.5	43.4	34.5	34.4	35.9	38.3	38.5	40.9	40.2	16.1
04:45 - 05:00	50.7	42.8	46.0	43.5	37.1	38.5	39.8	41.9	42.2	44.1	43.7	20.1
05:00 - 05:15	52.9	44.8	48.7	44.9	39.9	40.4	41.5	44.0	45.2	46.0	45.6	22.6
05:15 - 05:30	46.5	41.5	46.8	45.2	35.9	36.3	38.1	40.6	38.2	38.9	37.7	14.3
05:30 - 05:45	47.6	42.5	46.7	44.6	36.9	37.9	38.5	41.1	39.8	40.5	38.0	14.7
05:45 - 06:00	50.7	45.2	46.6	45.4	38.3	38.5	40.2	42.8	45.1	42.6	40.9	17.2
06:00 - 06:15	52.2	46.8	47.4	49.2	38.6	39.2	40.7	44.2	46.8	43.9	42.6	18.4
06:15 - 06:30	52.0	46.4	49.1	47.0	39.2	39.6	41.4	44.5	45.6	44.5	43.0	18.5
06:30 - 06:45	49.7	45.7	48.2	47.9	42.5	40.7	41.2	44.8	41.7	41.1	39.8	16.1
06:45 - 07:00	50.5	46.7	49.2	49.6	38.7	40.0	42.4	46.0	42.0	42.4	39.8	15.3

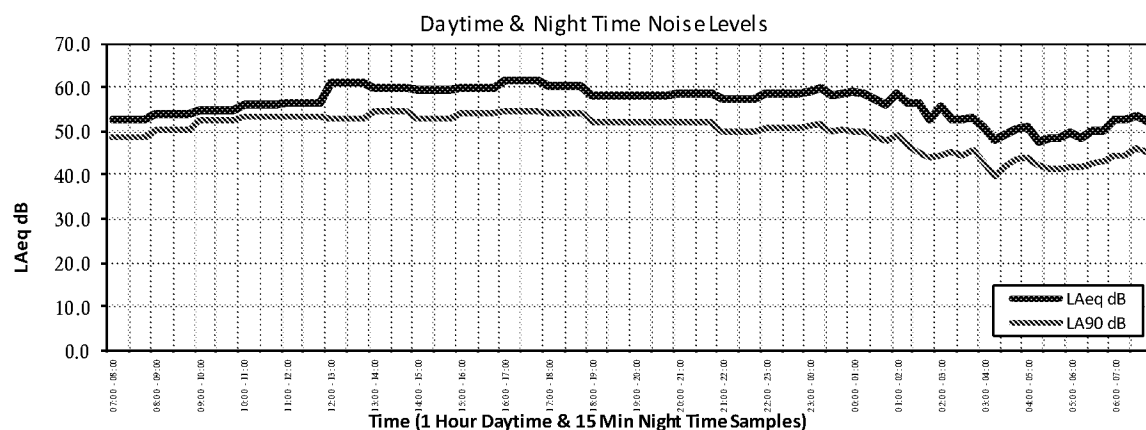


10.5 27th – 28th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	58.0	52.0	56.0	56.0	48.0	48.0	48.0	51.0	49.0	53.0	53.0	28.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	51.0	45.0	52.0	46.0	40.0	41.0	41.0	39.0	43.0	46.0	46.0	22.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	52.5	48.5	50.7	49.8	41.1	43.1	44.2	47.9	44.0	43.7	42.6	18.2
08:00 - 09:00	53.8	50.2	53.0	53.5	45.1	44.3	45.3	49.2	45.0	45.2	44.2	20.1
09:00 - 10:00	54.8	52.3	54.3	54.2	46.4	45.9	46.6	50.2	46.0	45.6	45.6	22.9
10:00 - 11:00	55.8	53.1	56.0	55.7	47.4	47.1	47.6	51.2	47.1	46.9	46.5	23.6
11:00 - 12:00	56.7	53.3	56.9	56.8	47.9	47.6	47.7	51.6	47.8	48.3	48.2	24.8
12:00 - 13:00	61.0	52.7	59.2	59.1	52.8	55.6	52.3	54.7	54.3	52.7	51.2	26.7
13:00 - 14:00	59.9	54.5	59.9	57.6	50.1	50.0	49.7	52.4	50.6	52.8	52.8	29.1
14:00 - 15:00	59.6	52.7	58.0	55.6	48.5	49.1	48.7	51.3	50.3	52.9	52.7	29.2
15:00 - 16:00	60.0	54.1	58.5	57.3	52.9	50.5	50.1	52.1	50.4	52.8	53.3	30.0
16:00 - 17:00	61.6	54.4	57.8	56.4	55.2	54.3	53.2	55.8	53.0	53.3	53.2	29.4
17:00 - 18:00	60.2	54.0	57.4	55.5	51.1	50.4	50.2	52.7	50.9	53.1	53.1	29.6
18:00 - 19:00	58.3	52.2	55.6	53.1	47.9	48.4	48.4	51.0	49.0	51.3	51.2	27.6
19:00 - 20:00	58.3	52.1	54.8	52.4	47.7	47.5	47.7	50.5	48.9	51.4	51.2	27.6
20:00 - 21:00	56.7	51.9	54.6	51.5	47.9	48.9	47.8	50.5	49.3	51.9	51.6	28.1
21:00 - 22:00	57.1	50.0	53.2	50.1	45.4	45.9	46.0	48.7	47.7	50.5	50.4	26.6
22:00 - 23:00	58.4	50.9	55.6	51.1	47.1	48.0	47.5	49.5	48.9	51.8	51.8	28.1

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	59.1	51.0	54.9	50.2	46.8	47.5	47.7	49.4	49.6	52.7	52.6	29.0
23:15 - 23:30	59.9	51.4	57.4	53.1	48.0	48.3	48.2	49.9	50.4	53.5	53.6	30.0
23:30 - 23:45	58.3	50.0	53.1	48.2	45.6	46.4	46.5	48.4	48.8	51.9	51.9	28.1
23:45 - 00:00	58.6	50.4	54.7	49.6	46.3	49.0	48.6	50.1	48.9	51.8	51.8	28.1
00:00 - 00:15	58.9	50.1	55.6	50.3	47.4	48.2	47.7	48.8	49.3	52.5	52.5	28.8
00:15 - 00:30	58.7	49.7	59.6	53.6	47.5	47.4	47.1	48.6	49.3	52.3	52.4	28.7
00:30 - 00:45	57.5	48.6	52.8	47.5	45.0	45.7	45.6	47.3	48.0	51.1	51.0	27.3
00:45 - 01:00	56.0	47.6	51.9	47.6	45.2	45.3	44.5	46.0	46.6	49.7	49.5	25.6
01:00 - 01:15	58.7	49.1	56.5	50.5	46.7	47.0	46.8	48.2	49.2	52.4	52.4	28.8
01:15 - 01:30	56.5	47.1	52.4	49.3	44.2	44.8	44.9	46.1	47.0	50.2	50.1	26.3
01:30 - 01:45	56.5	45.4	52.1	46.3	44.0	44.6	44.5	46.0	47.0	50.2	50.1	26.3
01:45 - 02:00	52.7	44.0	46.3	42.4	39.9	40.9	41.1	42.8	43.2	46.4	46.1	22.2
02:00 - 02:15	55.4	44.5	52.3	46.1	42.9	44.1	43.4	44.7	45.8	49.2	49.0	25.2
02:15 - 02:30	52.7	45.2	46.6	43.9	40.0	40.5	40.9	42.4	43.3	46.6	46.2	22.2
02:30 - 02:45	52.5	44.4	46.5	43.6	39.7	40.2	40.6	42.5	42.9	46.2	45.9	22.0
02:45 - 03:00	53.2	45.5	49.2	43.6	40.4	40.8	40.9	42.7	43.7	47.1	46.8	22.8
03:00 - 03:15	50.9	42.5	47.1	45.0	38.7	38.6	38.9	40.5	41.3	44.8	44.3	20.4
03:15 - 03:30	48.0	39.7	46.9	42.7	36.3	36.3	37.2	38.6	38.9	41.9	40.9	17.1
03:30 - 03:45	49.2	41.7	44.2	42.1	37.0	37.1	37.8	39.9	40.0	42.9	42.2	18.4
03:45 - 04:00	50.6	43.6	43.9	39.9	37.0	36.9	37.1	39.1	44.3	43.7	42.9	19.0
04:00 - 04:15	50.8	44.0	44.7	45.5	38.8	38.8	38.5	40.6	42.8	44.5	43.7	19.6
04:15 - 04:30	47.7	42.2	42.8	40.9	36.9	36.4	36.7	39.0	39.6	41.2	40.0	16.1
04:30 - 04:45	48.5	41.4	42.7	42.6	36.7	36.7	38.2	38.8	39.0	42.4	41.5	17.7
04:45 - 05:00	48.4	41.5	46.3	46.5	36.9	36.1	37.5	38.3	38.8	42.6	41.4	17.7
05:00 - 05:15	49.7	42.0	43.6	41.1	37.3	37.0	37.8	39.6	40.2	43.8	42.9	18.9
05:15 - 05:30	48.3	41.7	41.3	41.0	36.3	36.3	37.3	39.1	38.8	42.2	41.2	16.8
05:30 - 05:45	50.0	42.8	42.6	41.5	37.5	37.8	39.6	41.3	40.5	43.7	42.9	18.9
05:45 - 06:00	50.3	43.2	44.6	42.1	37.6	38.0	38.7	40.6	40.8	44.2	43.4	19.2
06:00 - 06:15	52.7	44.4	48.2	45.6	40.6	40.7	41.2	43.3	43.1	46.4	46.1	22.2
06:15 - 06:30	52.6	44.6	47.5	44.2	40.0	40.7	42.0	44.1	43.2	46.1	45.5	21.6
06:30 - 06:45	53.6	46.1	49.0	45.2	40.8	41.6	42.3	45.3	44.4	47.0	46.6	22.7
06:45 - 07:00	52.2	45.1	47.5	45.1	39.9	40.5	41.2	43.9	42.9	45.6	45.1	21.3

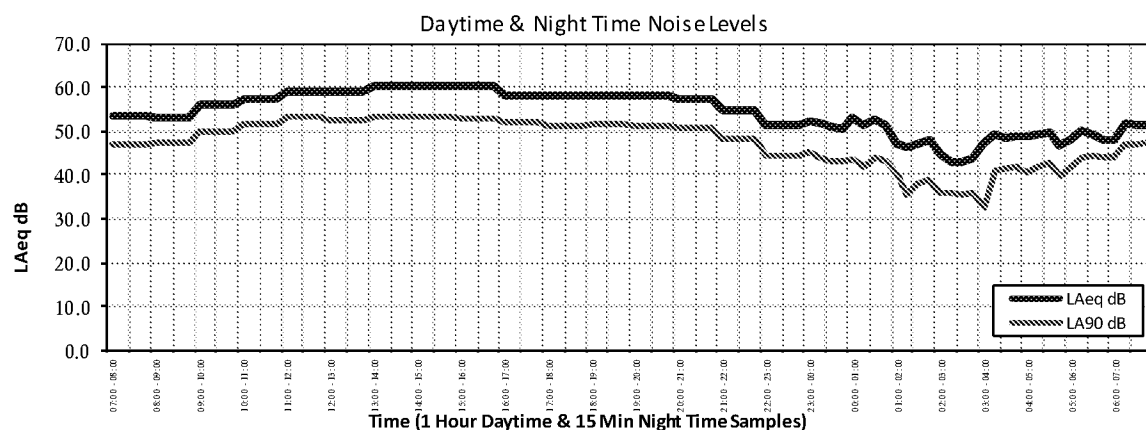


10.6 28th – 29th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	57.0	53.0	58.0	55.0	50.0	48.0	48.0	52.0	49.0	51.0	51.0	28.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	50.0	44.0	44.0	44.0	37.0	39.0	40.0	43.0	42.0	45.0	42.0	18.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	53.5	46.9	50.0	47.1	41.9	42.4	42.7	45.7	44.1	46.7	46.4	22.6
08:00 - 09:00	53.1	47.2	49.9	46.7	44.2	42.0	42.6	45.7	44.0	46.2	46.0	22.4
09:00 - 10:00	56.2	50.1	53.9	52.0	47.0	46.3	45.7	48.7	46.8	49.2	49.2	25.7
10:00 - 11:00	57.3	51.4	55.4	53.8	48.6	48.3	47.7	50.2	47.9	50.0	50.0	26.6
11:00 - 12:00	59.2	53.2	57.6	55.0	50.1	50.3	49.7	51.6	49.9	52.1	52.1	28.8
12:00 - 13:00	58.9	52.6	57.6	54.8	50.0	49.4	48.8	51.5	49.6	51.8	51.8	28.5
13:00 - 14:00	60.2	53.3	58.4	55.1	50.9	50.6	49.8	52.2	50.8	53.3	53.4	30.2
14:00 - 15:00	60.1	53.3	58.8	55.5	50.4	50.4	49.7	52.1	50.8	53.1	53.2	30.0
15:00 - 16:00	60.3	52.7	57.9	54.8	49.8	50.4	50.0	52.1	50.8	53.3	53.5	29.9
16:00 - 17:00	58.3	52.2	56.1	52.9	48.2	48.3	48.0	50.9	49.0	51.2	51.1	27.9
17:00 - 18:00	58.1	51.3	55.3	52.3	49.5	48.5	48.3	50.6	48.7	51.0	51.0	27.7
18:00 - 19:00	58.2	51.7	55.3	52.3	48.7	48.3	48.0	50.3	48.8	51.3	51.3	27.9
19:00 - 20:00	58.1	51.3	55.5	52.8	47.8	47.6	47.7	50.2	48.7	51.1	51.2	27.6
20:00 - 21:00	57.4	50.6	53.9	50.6	46.3	46.6	46.6	49.1	47.9	50.6	50.6	27.0
21:00 - 22:00	54.9	48.1	50.8	48.4	44.0	44.3	44.3	47.2	45.6	47.9	47.8	24.1
22:00 - 23:00	51.5	44.5	47.8	45.5	40.0	40.1	40.7	43.8	42.0	44.8	44.5	20.6

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	52.3	45.1	46.3	45.8	46.9	44.9	43.7	44.1	42.5	45.4	45.1	21.3
23:15 - 23:30	51.9	43.9	47.2	43.3	42.0	41.9	41.0	42.8	42.3	45.4	45.3	21.5
23:30 - 23:45	51.1	43.3	46.5	44.1	38.6	39.4	39.9	42.5	41.6	44.6	44.3	20.5
23:45 - 00:00	50.6	43.1	44.4	42.9	39.0	39.0	39.8	41.7	41.0	44.1	43.8	20.0
00:00 - 00:15	53.0	43.6	47.5	43.9	42.9	42.1	41.8	43.4	43.3	46.5	46.5	22.8
00:15 - 00:30	51.4	41.7	46.2	41.2	38.5	39.1	39.2	41.1	41.7	45.1	45.0	21.2
00:30 - 00:45	52.7	44.0	48.1	44.1	45.3	44.6	44.2	43.0	43.0	46.1	45.9	22.2
00:45 - 01:00	51.3	43.3	45.4	41.2	38.3	38.9	39.2	41.0	41.9	45.1	44.8	20.9
01:00 - 01:15	47.0	40.0	44.6	42.2	35.4	34.6	35.3	36.6	37.6	41.0	40.4	16.9
01:15 - 01:30	46.2	35.6	42.9	44.2	36.6	34.2	35.3	36.6	36.7	40.0	39.5	15.9
01:30 - 01:45	47.2	37.9	42.8	40.4	37.4	34.8	35.3	37.6	37.8	41.0	40.5	16.8
01:45 - 02:00	48.0	39.0	44.5	42.8	35.4	35.6	36.8	38.1	38.5	41.8	41.4	17.8
02:00 - 02:15	44.7	36.0	39.1	37.6	33.0	32.8	33.2	35.0	35.4	38.6	37.9	14.6
02:15 - 02:30	43.0	36.0	36.4	34.7	30.8	31.0	31.8	33.5	33.7	36.9	36.1	13.1
02:30 - 02:45	42.8	35.7	43.5	40.3	31.8	31.9	33.5	36.0	33.1	35.8	35.4	13.9
02:45 - 03:00	43.7	35.9	41.5	38.0	32.0	32.2	33.1	35.2	35.1	37.3	36.0	13.1
03:00 - 03:15	47.2	32.6	41.8	41.3	36.4	34.9	36.1	37.7	37.4	40.8	40.6	16.9
03:15 - 03:30	49.4	40.8	43.9	43.7	36.8	36.9	37.8	39.2	39.9	43.2	42.8	16.9
03:30 - 03:45	48.5	41.6	44.1	43.6	36.3	36.7	37.1	39.2	39.2	42.2	41.6	17.8
03:45 - 04:00	48.9	42.0	40.9	40.0	35.0	35.3	35.5	38.0	43.2	41.9	40.2	16.1
04:00 - 04:15	48.9	40.7	43.9	43.0	35.7	35.9	36.5	39.4	41.5	42.1	41.3	17.4
04:15 - 04:30	49.2	42.0	45.1	41.1	36.8	37.5	37.9	40.0	40.3	42.9	42.2	18.1
04:30 - 04:45	49.7	42.5	45.1	44.9	37.2	37.6	38.7	43.1	40.2	42.8	42.1	18.1
04:45 - 05:00	46.6	39.7	44.1	44.0	35.5	35.4	38.1	39.5	37.2	40.6	37.6	13.8
05:00 - 05:15	47.8	41.9	46.5	46.5	36.7	37.1	38.5	41.9	38.6	40.4	39.5	15.7
05:15 - 05:30	50.0	44.0	46.2	46.1	38.5	38.4	39.6	43.1	40.4	43.5	42.1	18.1
05:30 - 05:45	49.4	44.5	49.3	46.8	39.2	39.3	40.4	44.2	40.0	42.0	40.1	16.5
05:45 - 06:00	48.0	44.0	48.3	47.0	38.3	38.6	40.4	43.4	38.2	40.2	37.9	13.9
06:00 - 06:15	48.0	43.9	47.8	48.1	38.2	38.9	39.7	43.9	38.5	40.1	37.0	13.4
06:15 - 06:30	51.7	46.9	49.0	48.7	44.4	41.7	42.5	46.1	42.3	44.4	43.2	19.4
06:30 - 06:45	51.3	47.0	49.8	50.2	41.5	41.6	42.7	46.7	41.9	43.1	42.3	18.7
06:45 - 07:00	51.5	47.4	51.4	50.5	42.6	43.9	43.2	47.0	42.1	42.7	42.2	18.4

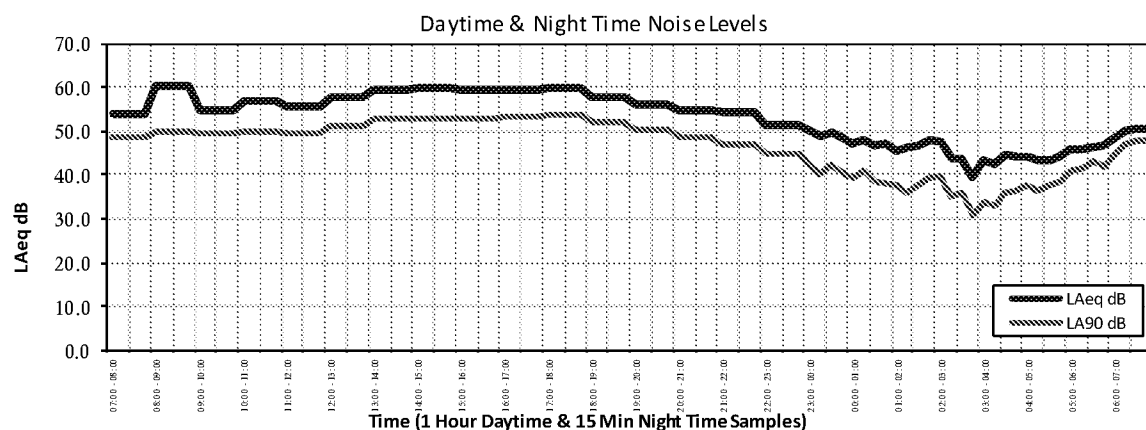


10.7 29th – 30th June 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	55.0	49.0	58.0	55.0	50.0	50.0	46.0	49.0	50.0	47.0	47.0	29.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	45.0	38.0	45.0	45.0	37.0	38.0	37.0	38.0	37.0	41.0	35.0	16.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	53.8	48.6	57.1	56.4	46.5	48.3	46.4	48.8	44.8	45.2	44.6	20.8
08:00 - 09:00	60.5	50.0	56.0	54.5	46.4	46.7	46.0	58.5	48.9	47.9	47.7	24.1
09:00 - 10:00	54.7	49.5	56.9	54.9	45.9	45.6	45.7	48.6	45.3	47.2	46.9	23.3
10:00 - 11:00	56.7	50.0	56.2	55.1	47.1	46.9	46.7	49.1	47.2	49.9	49.5	25.9
11:00 - 12:00	55.8	49.3	57.4	54.5	46.2	45.7	45.5	47.7	46.5	49.0	48.8	25.4
12:00 - 13:00	57.7	51.0	57.7	54.8	49.7	48.3	47.6	49.3	48.2	50.8	50.9	27.6
13:00 - 14:00	59.6	52.8	58.4	55.7	49.7	49.6	49.2	51.6	50.3	52.5	52.6	29.2
14:00 - 15:00	59.7	52.9	58.9	56.1	49.5	49.6	49.4	51.7	50.3	52.7	52.8	29.4
15:00 - 16:00	59.2	53.0	59.8	56.6	49.2	49.9	49.9	51.9	50.0	52.1	52.0	28.6
16:00 - 17:00	59.3	53.5	58.1	56.4	49.6	49.7	49.7	52.2	49.9	52.0	52.0	28.5
17:00 - 18:00	59.8	53.6	58.3	55.3	49.5	49.8	49.8	52.3	50.4	52.6	52.7	29.2
18:00 - 19:00	57.8	51.9	55.6	53.0	46.8	47.6	47.9	51.1	48.4	50.5	50.6	27.0
19:00 - 20:00	56.0	50.2	54.1	51.8	45.3	45.8	46.1	49.4	46.6	48.7	48.6	25.1
20:00 - 21:00	54.7	48.6	51.5	50.1	44.6	44.3	44.4	47.7	45.2	47.5	47.4	23.6
21:00 - 22:00	54.3	47.1	51.7	48.7	43.7	44.0	44.1	47.1	44.9	47.1	47.0	23.3
22:00 - 23:00	51.5	44.6	49.5	47.0	40.8	41.0	41.3	44.1	42.0	44.6	44.3	20.5

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	50.0	42.3	45.1	44.6	39.3	39.1	39.2	42.2	40.4	43.3	42.9	19.0
23:15 - 23:30	48.7	40.1	47.3	43.0	37.0	37.3	37.8	40.7	39.2	42.1	41.8	18.0
23:30 - 23:45	49.5	42.3	45.9	44.9	39.5	38.8	38.7	41.0	39.8	42.9	42.6	18.8
23:45 - 00:00	48.5	40.4	45.3	42.0	36.6	37.4	37.4	40.0	39.0	42.0	41.7	17.9
00:00 - 00:15	47.0	39.5	42.0	41.4	35.6	35.6	36.0	38.8	37.6	40.5	40.0	16.2
00:15 - 00:30	48.2	40.8	45.4	43.9	36.9	37.0	38.0	40.7	38.7	41.4	41.0	17.4
00:30 - 00:45	46.9	38.4	44.7	42.6	35.4	35.6	36.9	38.7	37.3	40.3	39.8	16.2
00:45 - 01:00	47.3	37.9	44.4	40.2	35.1	35.4	36.1	38.0	37.8	40.9	40.6	16.9
01:00 - 01:15	45.5	37.7	41.2	38.6	33.1	33.3	33.9	36.3	36.0	39.2	38.7	15.2
01:15 - 01:30	46.4	36.0	44.5	45.5	34.4	34.5	35.4	38.3	36.8	39.8	39.4	15.9
01:30 - 01:45	46.9	37.8	42.7	42.3	36.8	37.5	36.9	37.7	37.3	40.5	40.0	16.3
01:45 - 02:00	48.2	39.1	44.1	45.9	41.0	41.1	42.5	39.9	38.8	40.8	40.4	16.7
02:00 - 02:15	47.7	39.7	42.7	42.2	36.0	36.2	37.0	38.7	38.1	41.2	40.9	17.3
02:15 - 02:30	43.8	35.0	40.5	38.9	31.5	31.1	31.6	33.9	34.1	37.5	36.9	13.8
02:30 - 02:45	43.6	35.9	43.4	41.2	32.3	32.0	33.2	36.1	34.1	36.9	36.4	13.6
02:45 - 03:00	39.6	31.0	44.0	45.3	30.5	29.5	29.2	33.0	30.4	32.5	31.8	10.8
03:00 - 03:15	43.4	33.7	45.9	44.9	33.3	33.7	35.9	37.3	33.8	35.9	35.4	12.8
03:15 - 03:30	42.3	32.9	40.7	39.2	31.2	31.2	32.6	35.7	33.0	35.2	34.6	12.4
03:30 - 03:45	44.5	35.9	39.9	38.6	31.7	32.2	33.3	36.5	35.5	37.9	37.1	14.0
03:45 - 04:00	44.2	36.5	39.6	40.7	31.0	30.4	32.4	35.5	35.9	35.9	32.9	10.9
04:00 - 04:15	44.0	37.6	38.4	36.2	29.3	29.0	29.7	34.9	39.6	35.8	32.8	10.4
04:15 - 04:30	43.2	36.4	45.0	44.2	33.5	33.7	34.8	38.2	33.8	35.3	33.9	10.5
04:30 - 04:45	43.3	37.5	43.3	43.1	32.7	32.4	35.3	37.4	32.6	37.9	31.9	9.6
04:45 - 05:00	44.0	38.3	45.0	43.2	32.4	32.6	35.9	38.1	33.4	38.1	33.7	10.3
05:00 - 05:15	46.0	40.9	44.7	45.2	34.0	34.8	37.2	40.4	36.3	38.9	37.6	12.9
05:15 - 05:30	45.7	41.4	46.2	46.1	36.3	37.7	37.5	41.8	36.6	36.7	35.2	11.6
05:30 - 05:45	46.4	43.0	49.0	48.2	36.7	37.5	38.9	43.2	37.2	36.7	34.6	11.5
05:45 - 06:00	46.8	41.9	49.6	47.8	37.1	37.9	39.5	42.9	37.3	38.2	35.3	12.2
06:00 - 06:15	48.3	44.2	48.5	50.3	37.9	39.1	40.8	45.1	40.0	37.3	35.9	13.0
06:15 - 06:30	50.3	47.1	49.1	48.8	45.8	41.9	43.2	47.0	41.8	39.3	38.3	14.5
06:30 - 06:45	50.5	47.9	50.5	50.0	39.8	41.0	42.7	47.2	41.7	40.2	39.3	15.7
06:45 - 07:00	50.8	47.8	52.0	51.9	44.0	43.2	43.4	47.3	41.9	40.1	38.8	14.8

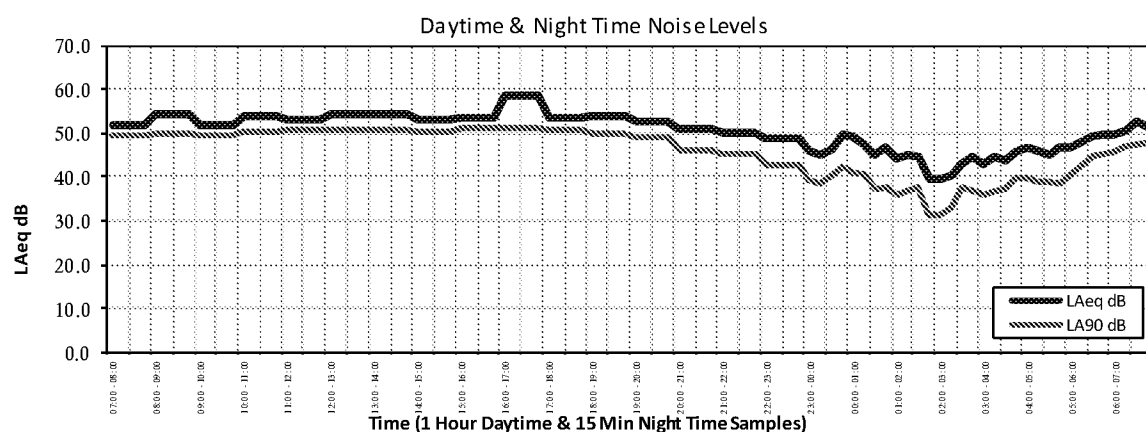


10.8 30th June – 1st July 2020

NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	53.0	51.0	56.0	55.0	44.0	44.0	45.0	49.0	45.0	44.0	43.0	20.0
NIGHT TIME 23:00 - 07:00 LAeq 15 MIN & Corresponding LAeq 15 MIN	45.0	37.0	44.0	44.0	33.0	33.0	36.0	37.0	41.0	38.0	36.0	14.0

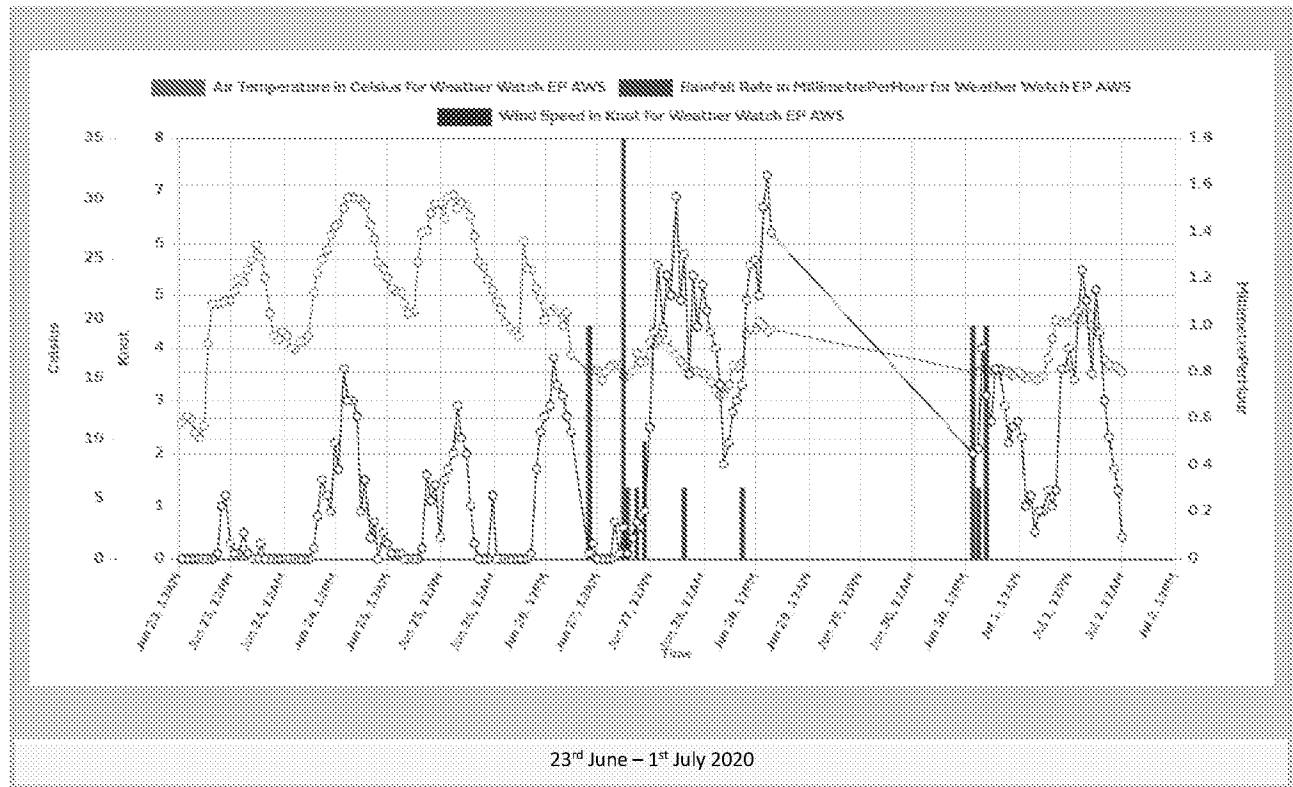
DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
07:00 - 08:00	51.7	49.3	54.2	53.6	43.3	44.1	44.2	48.5	43.6	40.6	38.4	14.7
08:00 - 09:00	54.2	49.8	55.5	54.9	44.2	44.4	44.9	49.2	45.1	46.1	45.8	17.7
09:00 - 10:00	51.7	49.4	56.9	55.6	46.3	45.0	45.1	48.5	43.5	39.7	39.0	15.2
10:00 - 11:00	53.8	50.1	56.5	56.4	48.7	46.3	45.3	50.0	45.1	43.5	43.8	19.4
11:00 - 12:00	53.3	50.9	55.6	54.5	44.5	44.4	44.8	48.8	45.5	44.1	43.2	19.6
12:00 - 13:00	54.1	50.8	56.1	56.0	45.6	45.4	45.4	49.4	45.4	45.6	44.8	20.3
13:00 - 14:00	54.3	50.7	56.8	54.9	46.4	45.8	45.6	49.2	45.9	45.7	45.3	21.5
14:00 - 15:00	53.1	50.4	56.8	55.1	48.4	45.8	46.1	48.9	44.8	43.0	42.8	18.1
15:00 - 16:00	53.6	51.0	57.8	56.4	49.9	45.8	46.4	49.5	45.1	43.9	43.4	19.5
16:00 - 17:00	56.8	51.2	57.4	56.1	62.9	50.5	50.3	53.5	52.4	47.8	47.5	22.7
17:00 - 18:00	53.4	50.8	55.2	54.0	45.0	45.2	45.0	49.8	45.0	43.2	42.3	18.1
18:00 - 19:00	53.8	50.0	52.6	52.5	44.4	44.9	44.7	49.5	45.1	44.7	44.2	20.0
19:00 - 20:00	52.8	49.0	52.6	51.3	44.4	44.2	43.9	48.3	44.3	44.0	43.2	19.0
20:00 - 21:00	50.8	46.3	48.7	49.3	43.4	41.7	42.0	46.5	42.4	41.5	40.7	16.7
21:00 - 22:00	50.1	45.4	47.4	47.4	39.7	40.7	40.6	45.3	41.2	41.6	41.0	17.1
22:00 - 23:00	48.8	42.8	45.5	45.6	38.0	38.2	38.7	43.0	39.6	41.2	40.8	16.8

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
23:00 - 23:15	45.8	39.1	44.7	46.2	34.5	35.2	36.2	40.8	36.6	37.8	37.3	14.0
23:15 - 23:30	44.9	38.3	42.7	43.5	33.9	34.7	35.7	39.8	35.8	36.9	36.2	13.1
23:30 - 23:45	46.5	40.3	42.3	43.8	36.9	35.9	36.3	40.6	37.3	39.0	38.4	14.7
23:45 - 00:00	49.7	42.2	44.0	43.0	39.6	38.5	38.7	42.1	40.5	43.0	42.6	16.4
00:00 - 00:15	49.3	41.2	44.1	41.3	36.5	37.2	37.8	40.6	39.8	42.8	42.4	18.4
00:15 - 00:30	47.8	40.6	43.8	41.1	35.4	35.6	36.4	39.0	38.1	41.1	40.6	16.7
00:30 - 00:45	45.0	37.4	45.4	43.1	34.6	34.8	36.8	37.6	35.5	38.1	37.5	14.1
00:45 - 01:00	46.7	37.5	42.8	43.2	35.0	35.2	36.1	38.8	37.3	40.1	39.6	15.8
01:00 - 01:15	44.0	36.1	41.1	40.5	39.9	37.5	34.2	37.4	34.6	36.7	36.0	13.0
01:15 - 01:30	44.9	36.9	40.6	38.9	33.2	32.8	33.4	36.9	35.6	38.4	37.8	14.3
01:30 - 01:45	44.8	37.5	41.2	40.0	32.3	32.8	33.3	37.4	35.7	38.1	37.4	13.9
01:45 - 02:00	39.6	31.1	44.2	40.6	30.8	31.4	33.1	35.0	30.4	30.8	29.5	9.6
02:00 - 02:15	39.5	31.4	42.2	40.3	30.5	30.8	31.9	33.6	30.3	31.8	30.9	10.2
02:15 - 02:30	40.3	32.8	42.3	40.3	30.5	29.2	29.8	33.9	31.4	33.1	32.3	10.9
02:30 - 02:45	42.8	37.5	44.1	42.2	32.4	32.6	33.8	37.8	34.1	34.8	33.7	11.5
02:45 - 03:00	44.4	38.6	40.6	40.2	32.5	32.5	33.1	35.6	35.2	38.1	37.5	14.1
03:00 - 03:15	43.1	35.9	44.3	44.9	32.0	32.3	33.9	37.4	33.9	35.7	34.8	12.2
03:15 - 03:30	44.8	36.7	41.4	41.3	32.6	32.6	33.3	37.7	35.9	38.0	37.1	13.9
03:30 - 03:45	43.9	37.1	43.9	43.6	33.3	32.8	34.1	37.4	35.4	36.7	35.7	12.8
03:45 - 04:00	45.7	39.7	45.0	44.3	31.2	30.6	31.5	35.3	40.6	38.5	36.2	12.7
04:00 - 04:15	46.7	39.8	42.8	40.5	31.2	31.3	31.7	36.8	43.1	37.1	34.7	11.3
04:15 - 04:30	46.0	39.0	44.6	42.1	33.1	33.2	33.8	38.3	41.0	37.4	35.8	12.2
04:30 - 04:45	45.1	38.9	46.2	44.2	33.8	33.7	36.2	40.1	39.9	34.5	31.5	9.4
04:45 - 05:00	46.6	38.5	45.4	43.7	32.4	32.9	35.8	37.7	34.8	42.8	34.3	10.6
05:00 - 05:15	46.9	40.6	47.3	44.7	34.2	35.9	39.2	41.1	36.8	40.7	36.6	13.0
05:15 - 05:30	48.1	42.7	46.9	46.7	36.2	37.7	40.7	43.2	39.1	39.8	38.8	15.1
05:30 - 05:45	49.2	44.9	48.1	46.5	37.2	38.6	39.8	44.8	40.1	41.8	38.6	14.7
05:45 - 06:00	49.6	45.1	49.5	48.3	38.0	39.7	41.1	45.5	41.0	40.5	39.6	15.6
06:00 - 06:15	49.6	45.5	49.0	49.7	39.5	40.2	41.2	45.8	40.6	40.6	39.1	15.0
06:15 - 06:30	50.4	48.8	49.2	48.6	43.0	41.5	41.7	46.4	41.2	42.1	39.2	15.1
06:30 - 06:45	52.5	47.2	50.8	50.3	41.5	41.4	41.8	46.5	41.9	47.3	41.0	16.0
06:45 - 07:00	51.4	47.7	51.3	51.0	42.6	42.2	42.5	47.4	42.5	42.3	41.5	17.4



11 APPENDIX B – WEATHER CONDITIONS

11.1 23rd June – 1st July 2020



END OF REPORT