



REPORT REFERENCE:

SA - 4680-1

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

British Standard 8233: 2014

CLIENT:

Brooks Murray Architects

SITE:

Building Q3, Mondial House, Bath Road, Heathrow, UB3 5AR

SURVEY DATES:

23rd – 29th September 2016

Report By	
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1	EXECUTIVE SUMMARY	4
1.1	INSTRUCTION	4
1.2	SCOPE OF REPORT	4
1.3	SUMMARY OF RESULTS	4
1.3.1	<i>Background Noise Levels</i>	4
1.4	CONCLUSIONS	4
2	INTRODUCTION	6
2.1	“SIGNIFICANT ADVERSE” AND “ADVERSE”	7
2.2	NOEL – NO OBSERVED EFFECT LEVEL	7
2.3	LOAEL – LOWEST OBSERVED ADVERSE EFFECT LEVEL	7
2.4	SOAEL – SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL	7
3	SITE LOCATION	8
4	PROCEEDURE	11
5	APPARATUS	12
5.1	118 NOISE METER S/N 11831471 ENVIRONMENTAL TESTING	ERROR! BOOKMARK NOT DEFINED.
5.2	RION NOISE METER S/N 00242696 ENVIRONMENTAL TESTING	ERROR! BOOKMARK NOT DEFINED.
6	RESULTS	13
6.1	INTERNAL LEVELS	13
	23 rd – 24 th September 2016	13
	24 th – 25 th September 2016	13
	25 th – 26 th September 2016	13
	26 th – 27 th September 2016	13
	27 th – 28 th September 2016	13
	28 th – 29 th September 2016	13
6.2	EXTERNAL LEVELS	14
	23 rd – 24 th September 2016	14
	24 th – 25 th September 2016	14
	25 th – 26 th September 2016	14
	26 th – 27 th September 2016	14
	27 th – 28 th September 2016	14
	28 th – 29 th September 2016	14
7	DISCUSSION OF RESULTS	15
8	OTHER EXTERNAL SOURCES	16
9	OUTDOOR LIVING AREAS	17
10	NPPF & NPSE	18
11	CONCLUSION	19
12	DOWNLOADED RESULTS	20

12.1	INTERNAL LEVELS.....	20
12.1.1	23 rd – 24 th September 2016.....	20
12.1.2	24 th – 25 th September 2016.....	22
12.1.3	25 th – 26 th September 2016.....	24
12.1.4	26 th – 27 th September 2016.....	26
12.1.5	27 th – 28 th September 2016.....	28
12.1.6	28 th – 29 th September 2016.....	30
12.2	EXTERNAL LEVELS.....	32
12.2.1	23 rd – 24 th September 2016.....	32
12.2.2	24 th – 25 th September 2016.....	34
12.2.3	25 th – 26 th September 2016.....	36
12.2.4	26 th – 27 th September 2016.....	38
12.2.5	27 th – 28 th September 2016.....	40
12.2.6	28 th – 29 th September 2016.....	42

1 EXECUTIVE SUMMARY

1.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Brooks Murray Architects to undertake a background noise survey to British Standard 8233:2014 to determine the impact of existing noise sources on the proposed accommodation scheme at Building Q3, Mondial Way, Bath Road, Heathrow.

1.2 Scope of Report

The measurements will be undertaken in accordance with ISO 1996 – Part 2: 2007 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;
- Monitor the potential internal noise levels on the proposed rooms;
- Provide specifications for the ventilation and window glazing within the proposed rooms.
- Review any commercial surround noise and make appropriate assessments if required.

1.3 Summary of Results

1.3.1 Background Noise Levels

A background noise survey was undertaken from 23rd – 29th September 2016 at two positions (Internal and External) in order to establish the underlying background noise levels. The maximum day time levels were found to be $L_{Aeq, 16 \text{ hour}}$ 32.6 dB and the maximum night time levels were found to be $L_{Aeq, 8 \text{ hours}}$ 27.5 dB at position 1 internally and the maximum day time levels were found to be $L_{Aeq, 16 \text{ hour}}$ 79.0 dB and the maximum night time levels were found to be $L_{Aeq, 8 \text{ hours}}$ 77.2 dB at position 2 externally on the roof. The external noise levels were recorded at roof level in order to ascertain noise levels associated with the regular aircraft noise as well as local road noise.

Assessment Position	Date Start	Date Finish	Daytime LAeq	Night Time LAeq
Position 1 Internal	23/09/2016	29/09/2016	32.6	27.5
Position 2 External	23/09/2016	29/09/2016	79.0	77.2

1.4 Conclusions

The monitored internal noise levels have demonstrated that the existing glazing specification will be sufficient in order to ensure compliance with the requirements of BS 8233 : 2014 and that provided MVHR ventilation is installed, no further remedial acoustic works are required.

With regards to nearby commercial premises, several detailed site inspections carried out have demonstrated that nearby offices are likely to have a Low Adverse Impact on the proposed development and that the noise associated to these local businesses forms part of the natural background noise level and that noise cannot be attributed to any specific commercial noises or activities.

Section 14 of the National Planning Policy Framework 2012 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 Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2012, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

2 INTRODUCTION

Sound Advice Acoustics Ltd have been instructed by Brooks Murray Architects to undertake a background noise survey to British Standard 8233:2014 to determine the impact of existing noise sources on the proposed accommodation scheme at Building Q3, Mondial Way, Bath Road, Heathrow.

A background noise survey was undertaken from 23rd – 29th September 2016 at two positions (Internal and External) in order to establish the underlying background noise levels.. This report by Sound Advice 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 to be monitored at the site in accordance with British Standard 7445: 2003 'Description and measurement of environmental noise assessments and calculation 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.

References and evaluations are to be made to the National Planning Policy Framework 2012 (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.

2.1 “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:

2.2 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.

2.3 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 SOAEL – Significant Observed Adverse Effect Level

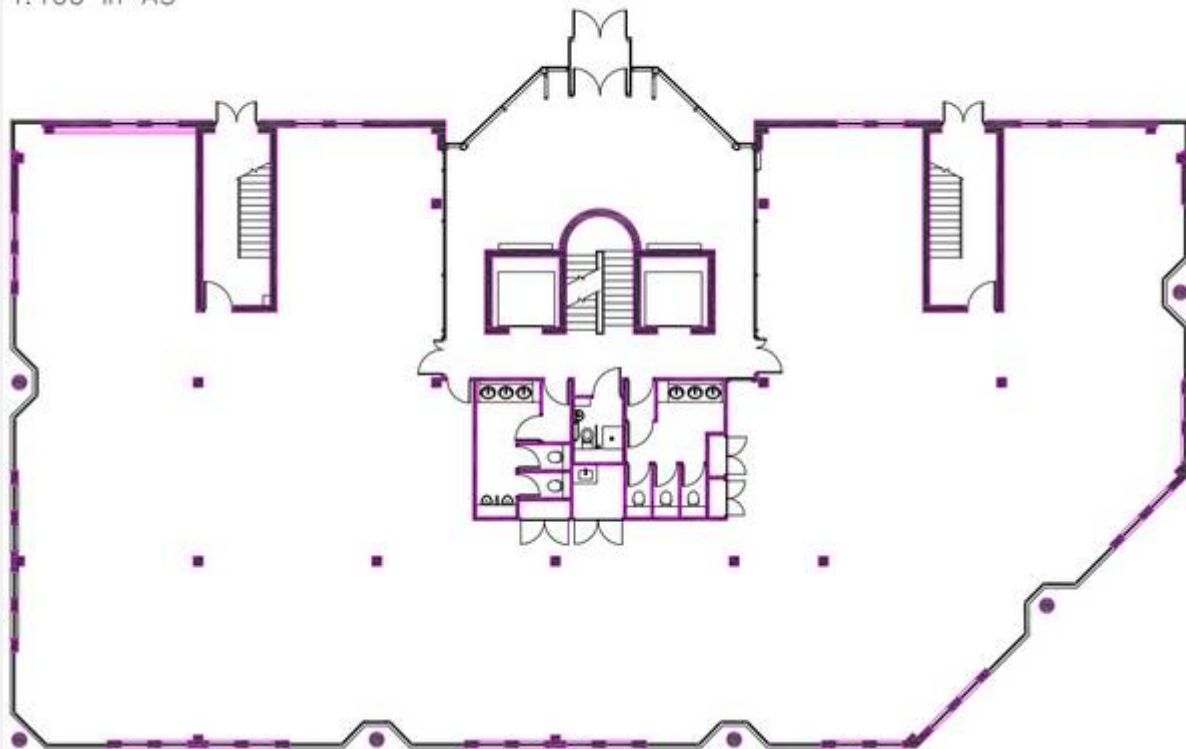
This is the level above which significant adverse effects on health and quality of life occur.

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.

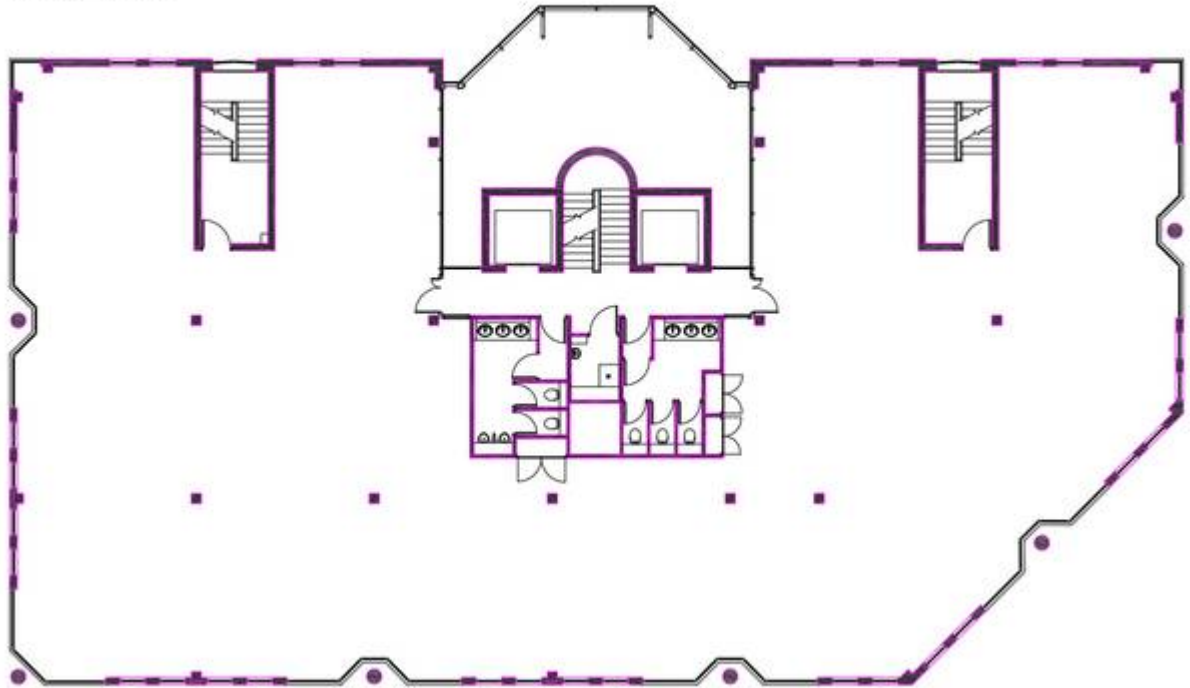
3 SITE LOCATION



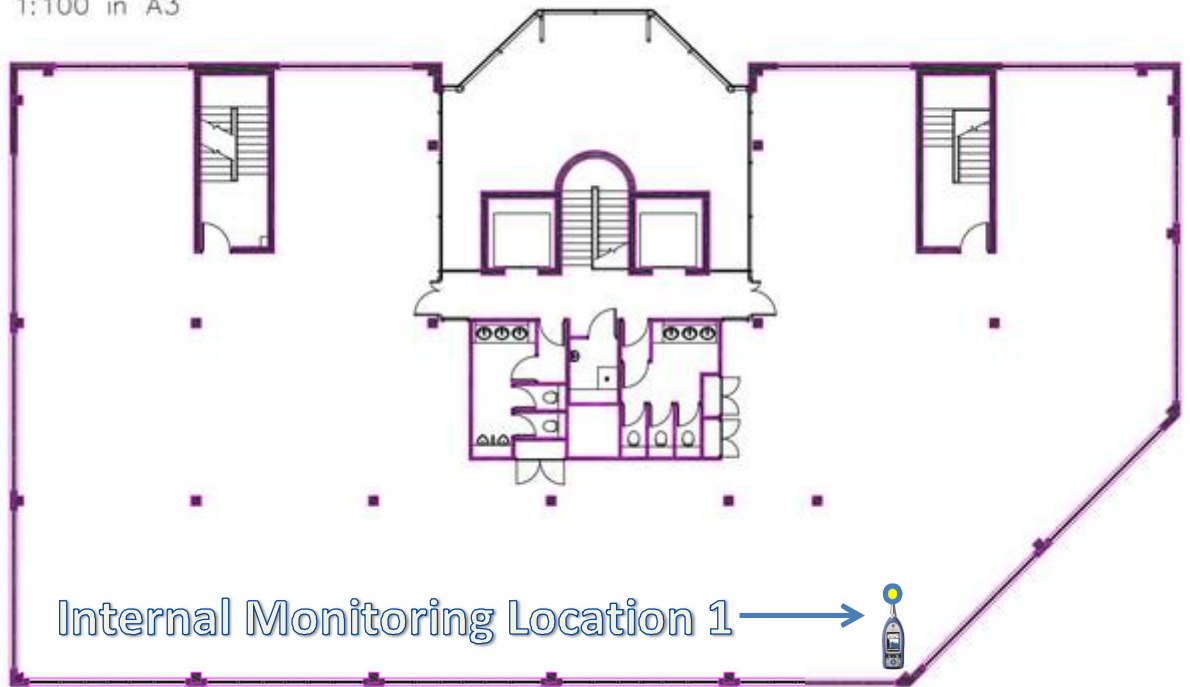
EXISTING GROUND
FLOOR
1:100 in A3



EXISTING FIRST
FLOOR
1:100 in A3



EXISTING SECOND
FLOOR
1:100 in A3





The internal noise monitoring location was placed on the top floor in order to assess the worst case scenario.

4 PROCEEDURE

Internal and external noise levels were recorded over a typical period and analysis date extrapolated between 07:00 hrs 23rd – and 07:00 hrs on 29th September 2016 at positions 1 and 2 as detailed on the attached plan sketch layout.

Position 1 was located internally within the building in order to capture the noise levels associated with all external sources and ascertain if the existing glazing specification is sufficient to achieve the requirements of BS 8233 : 2014. Position 2 was located on the roof of the development in order to capture the noise levels associated with the aircraft from Heathrow Airport. These levels have been recorded as a backup if the internal noise levels exceeded the requirements of BS 8233 : 2014. Sample measurements were recorded over continuous 5 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.

<u>Daytime 07:00 – 23:00</u>		<u>Night Time 23:00 – 07:00</u>	
L _{Aeq} 1 HOUR dB	L _{A10} 1 HOUR dB	L _{Aeq} 5 MINUTES dB	L _{A10} 5 MINUTES dB
L _{AMAX} 1 HOUR dB	L _{A50} 1 HOUR dB	L _{AMAX} 5 MINUTES dB	L _{A50} 5 MINUTES dB
L _{AMIN} 1 HOUR dB	L _{A90} 1 HOUR dB	L _{AMIN} 5 MINUTES dB	L _{A90} 5 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 $2 \times 10^{-5} \text{ Nm}^{-2}$ 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. Calibration schedules are implemented within Sound Advice Acoustics Ltd in accordance with UKAS directive LAB 23.

140 NOISE METER s/n 1403140 ENVIRONMENTAL TESTING

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1403140	2 YEARS	04.05.2016	04.05.2018
12.5mm Microphone (with windshield)	Norsonic	1220	52260	2 YEARS	04.05.2016	04.05.2018
Microphone Pre – Amplifier	Norsonic	1201	29307	2 YEARS	04.05.2016	04.05.2018

140 NOISE METER s/n 1402941 ENVIRONMENTAL TESTING

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1402941	2 YEARS	07.06.2016	07.06.2018
12.5mm Microphone (with windshield)	Norsonic	1220	91720	2 YEARS	07.06.2016	07.06.2018
Microphone Pre – Amplifier	Norsonic	1201	30327	2 YEARS	07.06.2016	07.06.2018

Full calibration certificates are available upon request.

6 RESULTS

6.1 INTERNAL LEVELS

23rd – 24th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	32.6	48.9	56.3	47.1	39.4	29.0	27.6	29.4	22.7	16.4	13.7	12.2
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	27.5	43.1	50.5	42.9	36.6	24.0	22.4	24.3	15.2	10.7	12.8	12.1

24th – 25th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	32.0	46.3	56.7	46.7	38.9	28.5	27.3	29.3	20.6	11.6	12.7	12.0
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	27.0	44.6	49.3	40.5	35.5	22.9	21.4	24.2	15.4	10.7	12.7	12.1

25th – 26th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	31.4	47.2	55.5	46.1	38.3	27.8	26.5	28.8	19.3	11.0	12.7	12.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	27.5	44.2	50.5	40.8	36.7	23.8	22.3	24.5	15.3	10.7	12.8	12.2

26th – 27th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	32.1	47.0	55.7	46.4	39.4	28.7	27.4	29.3	20.9	11.6	12.8	12.2
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	27.5	44.4	49.7	40.9	36.8	23.6	21.9	24.5	15.6	10.6	12.9	12.3

27th - 28th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	32.1	46.8	55.7	46.4	38.9	28.9	27.2	29.3	21.2	11.6	12.7	12.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	27.1	46.1	49.1	40.4	36.6	22.5	21.1	24.4	15.1	10.6	12.8	12.2

28th – 29th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	31.4	48.2	55.4	46.7	39.0	28.2	26.4	28.6	19.7	11.3	12.7	12.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	26.8	43.2	49.4	40.5	35.5	23.1	21.2	23.8	15.2	10.6	12.7	12.1

6.2 EXTERNAL LEVELS

23rd – 24th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	79.0	94.9	76.7	78.5	78.2	77.2	75.5	73.4	71.5	69.0	65.1	60.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	74.5	90.9	72.2	73.6	73.8	72.3	70.6	68.8	67.1	64.9	62.0	57.5

24th – 25th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	74.5	88.4	72.3	74.0	74.0	72.8	71.0	68.9	66.8	64.6	61.7	57.6
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	72.9	87.4	70.6	72.5	72.0	70.8	69.1	67.5	65.4	63.1	60.1	56.1

25th – 26th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	71.1	82.7	68.8	70.5	70.2	68.9	67.2	65.5	63.7	61.6	58.9	55.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	69.0	82.0	66.4	68.0	67.8	66.7	65.1	63.3	61.6	59.4	56.6	53.0

26th – 27th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	69.9	81.0	67.5	69.1	69.0	67.8	66.1	64.3	62.5	60.3	57.5	53.9
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	70.3	84.0	67.4	69.1	68.9	67.9	66.4	64.8	62.9	60.6	57.4	53.5

27th - 28th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	69.7	81.1	67.4	69.1	69.0	67.8	66.0	64.2	62.3	59.9	56.8	53.3
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	77.2	88.3	73.7	75.5	75.7	74.8	73.5	72.0	70.1	67.0	62.9	58.8

28th – 29th September 2016

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	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 LAmaz 16 HOUR	62.5	66.9	59.8	61.4	61.5	60.2	58.6	57.0	55.1	52.8	50.2	47.6
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	64.2	65.2	61.4	63.0	62.7	61.6	60.0	58.5	56.9	54.9	52.4	49.9

7 DISCUSSION OF RESULTS

The maximum day time levels were found to be $L_{Aeq, 16 \text{ hour}}$ 32.6 dB and the maximum night time levels were found to be $L_{Aeq, 8 \text{ hours}}$ 27.5 dB at position 1 internally.

Assessment Position	Date Start	Date Finish	Daytime LAeq	Night Time LAeq
Position 1 Internal	23/09/2016	29/09/2016	32.6	27.5

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 $L_{Aeq 16 \text{ HOUR}}$	--
Dining	Dining Room / Area	40 dB $L_{Aeq 16 \text{ HOUR}}$	--
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq 16 \text{ HOUR}}$	30 dB $L_{Aeq 8 \text{ HOUR}}$

Assessments therefore demonstrate that the internal noise levels recorded over a typical week demonstrate that the requirements of BS 8233 : 2014 are currently being met with the existing glazing system in place.

The existing glazing spec is unknown at this time although a recent survey reported a total thickness of 50mm which would suggest a possible construction of 8mm glass / 34mm air gap / 8mm glass, which would coincide with the excellent attenuation values currently being offered by the existing building structure. A standard window glazing spec would be 4mm glass / 16mm air gap / 4mm glass, so the improved glazing should remain in place within any proposed design.

8 OTHER EXTERNAL SOURCES

Several site visits were carried out during the assessment periods at various times of a typical working day. Observations of the surrounding premises.

- ✓ The main noise source for this area is clearly the A4 dual carriageway and activities from Heathrow Airport both south of the proposed development.
- ✓ Building Q1 to the north is currently under redevelopment and will be retained as offices.
- ✓ Mondial House to the East is also vacant and is advertised as office space.
- ✓ McDonalds to the South East of the development is operational but the activities are not influencing the overall background noise levels at the proposed development with any tonal or specific noise sources identified.
- ✓ Vanderlande located to the north and next to Q1 is an operational office block with no audible or visible external plant and activities / deliveries are included within the monitored data.
- ✓ The other building within Q3 to the south of the development is also a large office block dealing with Immigration with no audible or visible external plant and activities / deliveries are included within the monitored data.
- ✓ With all the surrounding offices, vehicle movement is included and forms part of the background noise level emanating from the main A4.
- ✓ There were no noise levels attributed to any one business within the immediate vicinity and therefore no specific noise assessments to BS 4142 : 2014 are possible or required.

9 OUTDOOR LIVING AREAS

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 and patios 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

The proposed development as no external living areas and therefore the above is not required.

10 NPPF & NPSE

The National Planning Policy Framework 2012 (NPPF) and assessments to the Noise Policy Statement for England 2010 (NPSE) should be made in conjunction with each other. Paragraph 123 of the National Planning Policy Framework (NPPF) states the following:

Planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

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

With the existing glazing / ventilation specifications achieved within this report, the development can be implemented within the guidelines of the aforementioned documents and ensure a development 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.

11 CONCLUSION

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.

The development should retain the existing 50mm thick window configuration as this development has demonstrates that the internal noise levels within the existing building is compliant with the requirements of BS 8233 : 2014 and that no further acoustic remedial works are required.

The development does not propose external living areas and therefore no assessment to the World Health Organisation's 'Guidelines for Community Noise' has been carried out.

There are no specific noise sources emanating from neighbouring properties and therefore no assessments to BS 4142 : 2014 could be carried out.

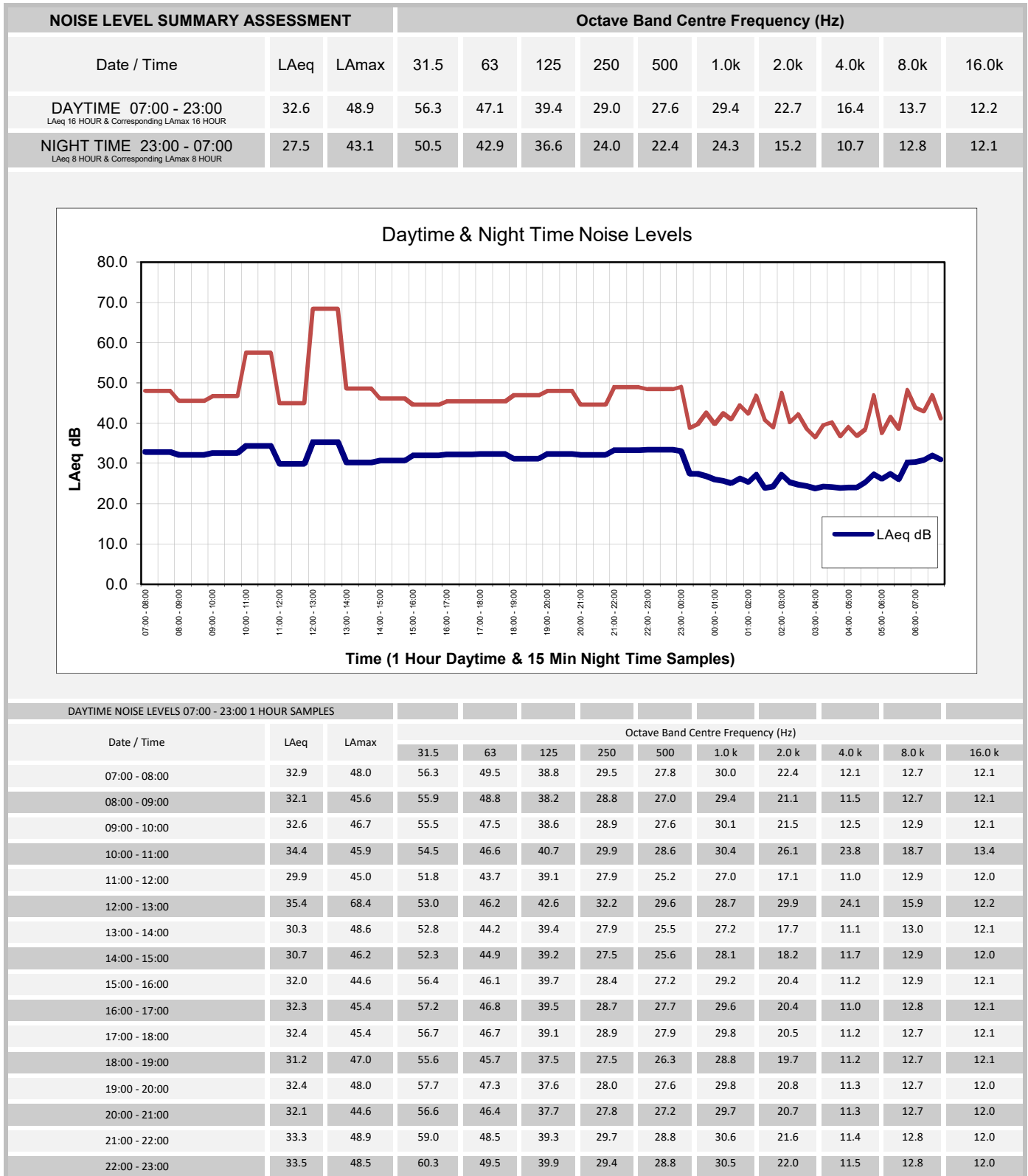
Section 14 of the National Planning Policy Framework 2012 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2012, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

12 DOWNLOADED RESULTS

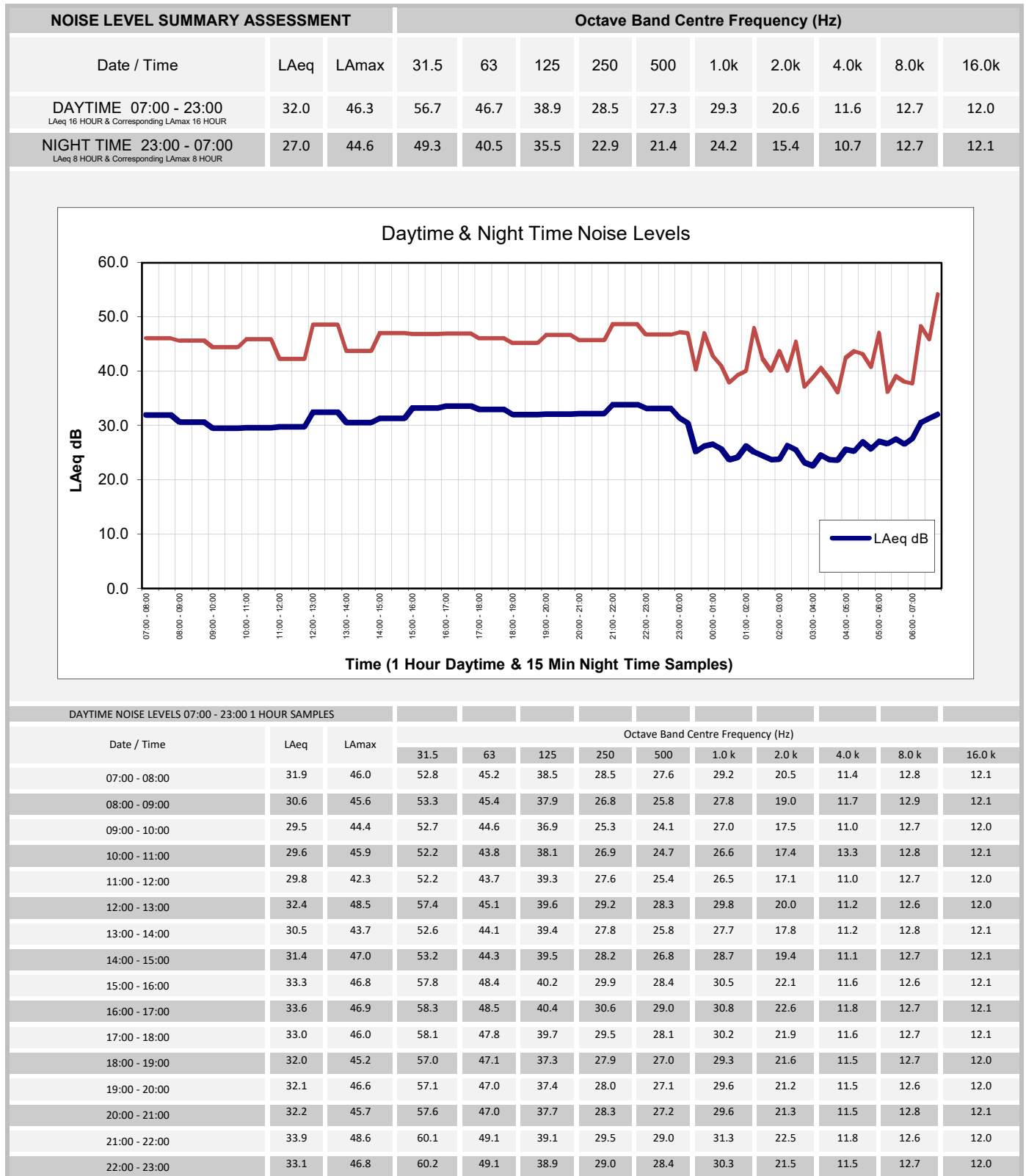
12.1 INTERNAL LEVELS

12.1.1 23rd – 24th September 2016



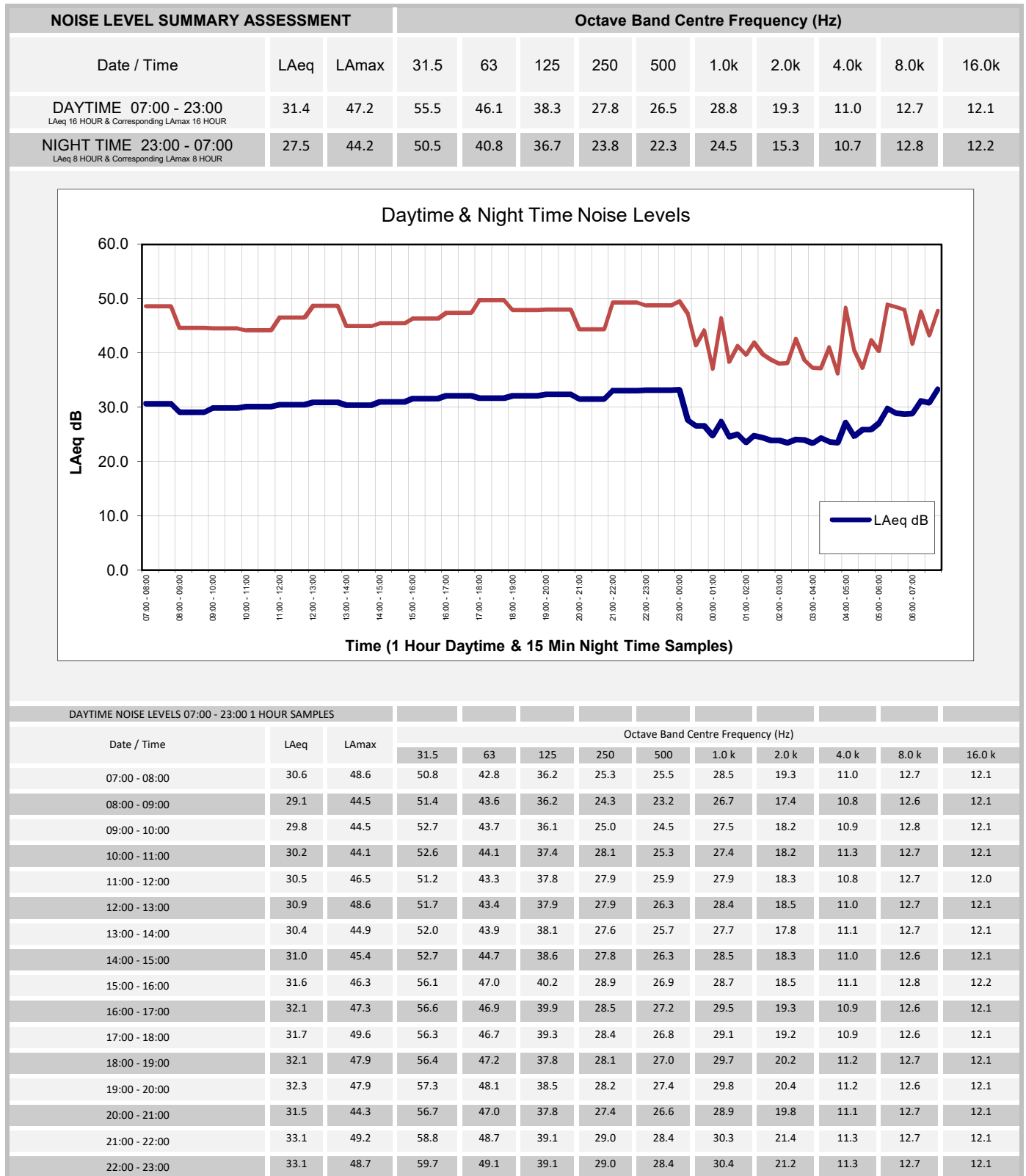
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	33.1	49.0	60.8	50.7	40.7	29.8	29.0	29.5	20.5	11.4	12.7	12.0
23:15 - 23:30	27.5	38.8	50.4	48.9	36.6	22.5	20.8	23.9	14.4	10.7	12.8	12.0
23:30 - 23:45	27.4	39.8	50.7	50.4	36.3	22.2	20.1	23.0	14.2	10.6	12.7	12.0
23:45 - 00:00	26.9	42.6	49.5	40.6	35.3	21.9	20.4	24.3	15.1	10.6	13.0	12.2
00:00 - 00:15	26.0	39.8	48.3	39.4	35.6	21.7	19.6	23.1	13.8	10.6	12.8	12.1
00:15 - 00:30	25.7	42.5	47.7	38.5	35.8	21.7	19.3	22.7	13.4	10.6	13.1	12.2
00:30 - 00:45	25.1	41.0	46.7	37.5	35.8	21.6	19.0	21.8	12.6	10.5	13.0	12.1
00:45 - 01:00	26.3	44.5	49.1	40.7	36.1	22.4	19.9	22.8	15.5	10.7	12.8	12.1
01:00 - 01:15	25.3	42.4	52.1	39.6	35.0	21.6	19.4	21.4	13.8	10.8	12.9	12.1
01:15 - 01:30	27.2	46.8	49.4	41.5	35.7	22.9	21.2	24.5	15.1	10.8	12.8	12.1
01:30 - 01:45	23.9	40.8	46.7	37.4	34.7	21.0	17.6	19.8	11.2	10.6	12.6	12.0
01:45 - 02:00	24.3	39.0	46.1	36.5	35.7	21.5	18.4	20.4	11.5	10.5	12.7	12.0
02:00 - 02:15	27.2	47.5	49.0	39.9	36.4	22.6	21.8	24.2	15.6	10.8	12.8	12.0
02:15 - 02:30	25.4	40.2	44.1	37.1	36.9	22.3	19.3	21.6	13.3	10.6	12.8	12.1
02:30 - 02:45	24.8	42.2	44.6	36.3	36.8	21.8	18.2	20.8	13.2	10.6	12.6	12.0
02:45 - 03:00	24.4	38.6	43.8	36.6	36.5	21.5	18.0	20.2	11.7	10.5	13.0	12.2
03:00 - 03:15	23.8	36.5	45.6	37.7	36.2	21.3	17.7	18.8	10.9	10.5	12.8	12.1
03:15 - 03:30	24.3	39.6	44.9	37.2	36.3	21.6	18.0	20.1	11.9	10.5	13.0	12.2
03:30 - 03:45	24.2	40.2	44.2	38.0	36.1	21.3	17.7	20.1	11.5	10.5	12.9	12.1
03:45 - 04:00	23.9	36.7	43.8	35.4	36.1	21.2	17.4	19.6	11.2	10.5	12.9	12.1
04:00 - 04:15	24.1	39.1	44.8	38.2	36.1	21.4	17.6	19.8	11.6	10.5	12.7	12.0
04:15 - 04:30	24.0	36.8	46.6	36.9	35.8	21.5	18.2	19.4	11.7	10.5	12.8	12.1
04:30 - 04:45	25.4	38.5	45.9	38.5	35.9	22.1	19.5	22.0	13.2	10.5	12.7	12.1
04:45 - 05:00	27.3	47.0	47.8	40.5	36.1	22.6	21.0	24.6	15.9	10.9	12.8	12.1
05:00 - 05:15	26.2	37.6	47.7	39.1	36.2	23.1	20.6	23.0	13.8	10.6	12.8	12.1
05:15 - 05:30	27.4	41.6	48.3	41.4	36.1	23.5	22.1	24.6	15.5	10.6	12.7	12.0
05:30 - 05:45	26.0	38.6	48.0	40.4	35.7	22.2	19.8	23.0	13.9	10.6	12.8	12.1
05:45 - 06:00	30.3	48.2	50.9	41.8	36.0	25.5	25.7	28.1	18.4	10.8	12.8	12.1
06:00 - 06:15	30.4	43.9	51.3	44.0	38.0	28.2	26.6	27.3	17.2	10.7	12.8	12.1
06:15 - 06:30	30.9	43.0	52.5	44.8	37.2	27.2	26.9	28.2	18.6	10.9	12.7	12.1
06:30 - 06:45	32.0	46.9	53.6	45.5	38.4	28.7	28.1	29.3	19.7	11.1	12.8	12.1
06:45 - 07:00	31.0	41.2	52.8	45.4	38.1	28.2	27.0	28.2	18.6	11.0	12.8	12.1

12.1.2 24th – 25th September 2016



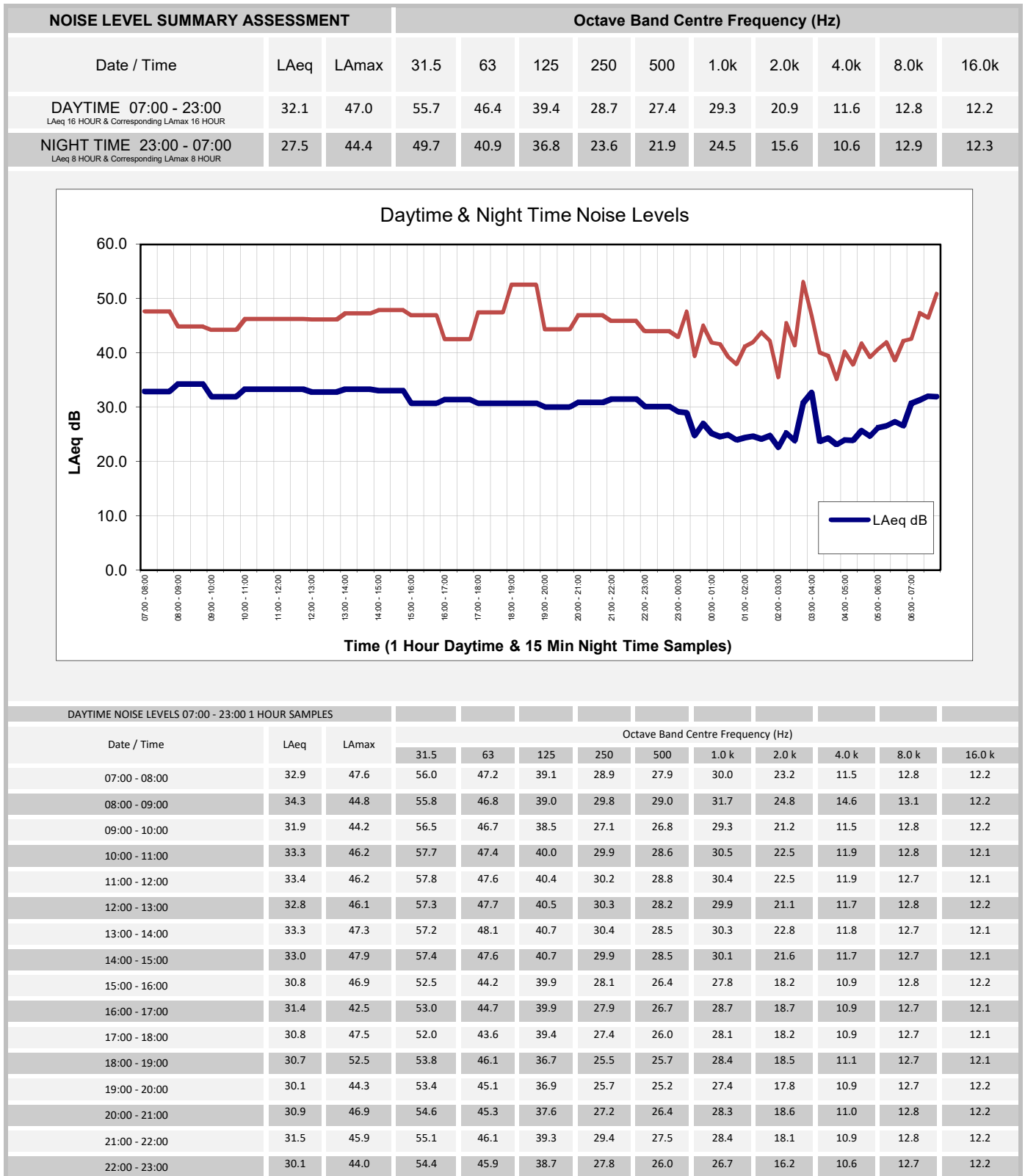
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	31.4	47.2	56.6	46.7	36.5	26.8	26.0	29.0	19.6	11.0	12.7	12.0
23:15 - 23:30	30.5	47.0	56.5	45.9	36.9	27.2	25.9	27.5	19.1	11.0	12.7	12.0
23:30 - 23:45	25.2	40.2	47.6	39.4	34.2	21.4	18.8	22.2	13.1	10.6	12.6	12.0
23:45 - 00:00	26.2	47.0	48.6	42.8	36.2	21.6	19.0	22.5	13.7	10.6	13.0	12.2
00:00 - 00:15	26.6	42.8	47.5	41.2	36.8	22.8	19.9	23.5	13.9	10.6	12.8	12.1
00:15 - 00:30	25.7	41.0	47.3	38.2	34.2	21.6	19.0	23.0	13.6	10.6	12.8	12.1
00:30 - 00:45	23.7	37.9	45.5	36.7	33.6	20.8	17.6	20.2	11.4	10.5	12.9	12.1
00:45 - 01:00	24.2	39.3	47.6	37.7	33.6	20.8	17.8	20.8	12.3	10.5	12.8	12.1
01:00 - 01:15	26.2	40.1	48.0	39.6	34.6	21.6	19.6	23.6	14.3	10.7	12.8	12.1
01:15 - 01:30	25.1	47.9	47.7	39.9	34.2	21.2	18.5	21.6	14.6	11.1	12.8	12.1
01:30 - 01:45	24.4	42.3	46.6	37.0	34.1	21.1	18.1	21.0	12.3	10.6	12.6	12.0
01:45 - 02:00	23.7	40.1	45.4	37.4	35.0	20.9	17.3	19.7	11.1	10.6	12.6	12.0
02:00 - 02:15	23.8	43.7	46.2	37.3	35.2	20.9	17.4	19.6	11.2	10.5	12.7	12.1
02:15 - 02:30	26.3	40.1	45.6	39.8	35.7	21.9	19.6	23.7	14.2	10.6	12.6	12.0
02:30 - 02:45	25.5	45.4	41.9	36.2	38.1	22.7	18.5	21.6	12.9	10.5	12.7	12.0
02:45 - 03:00	23.2	37.1	43.7	35.0	35.4	21.0	16.9	18.2	11.1	10.5	12.6	12.0
03:00 - 03:15	22.6	38.9	43.3	34.4	35.2	20.5	16.3	17.1	10.0	10.5	12.6	12.0
03:15 - 03:30	24.6	40.6	42.0	34.2	34.9	20.7	17.8	21.6	12.6	10.5	12.7	12.1
03:30 - 03:45	23.7	38.6	44.0	36.4	34.8	20.5	17.3	19.7	11.4	10.5	12.8	12.1
03:45 - 04:00	23.6	36.1	44.2	35.5	34.6	20.4	17.4	19.6	11.4	10.5	12.8	12.1
04:00 - 04:15	25.6	42.5	43.7	38.0	34.6	20.9	19.0	22.9	13.5	10.6	12.9	12.1
04:15 - 04:30	25.3	43.7	47.6	38.2	34.8	21.2	19.2	22.2	12.9	10.5	12.7	12.1
04:30 - 04:45	27.0	43.2	48.2	40.8	35.4	23.4	22.0	24.1	14.7	10.6	12.7	12.1
04:45 - 05:00	25.7	40.8	47.5	40.6	35.3	21.6	19.8	22.4	13.5	10.6	12.7	12.1
05:00 - 05:15	27.1	47.1	49.2	39.8	35.1	22.3	21.2	24.6	15.8	10.7	12.6	12.0
05:15 - 05:30	26.7	36.2	49.8	40.3	35.4	22.1	20.3	23.6	17.0	11.3	12.7	12.1
05:30 - 05:45	27.5	39.1	49.8	40.8	35.5	22.3	21.4	24.9	16.7	10.9	12.7	12.1
05:45 - 06:00	26.6	38.1	48.4	41.3	35.5	21.4	19.8	23.9	15.5	10.8	12.8	12.1
06:00 - 06:15	27.6	37.7	51.0	41.6	35.9	23.6	22.2	24.6	16.0	10.9	12.9	12.1
06:15 - 06:30	30.6	48.3	50.6	42.0	36.1	26.3	26.3	28.2	19.4	11.0	12.6	12.0
06:30 - 06:45	31.3	45.9	51.9	43.0	36.6	26.7	26.5	29.0	20.3	11.1	12.8	12.1
06:45 - 07:00	32.0	54.2	51.8	43.2	36.6	25.6	27.2	30.1	20.5	11.2	12.7	12.1

12.1.3 25th – 26th September 2016



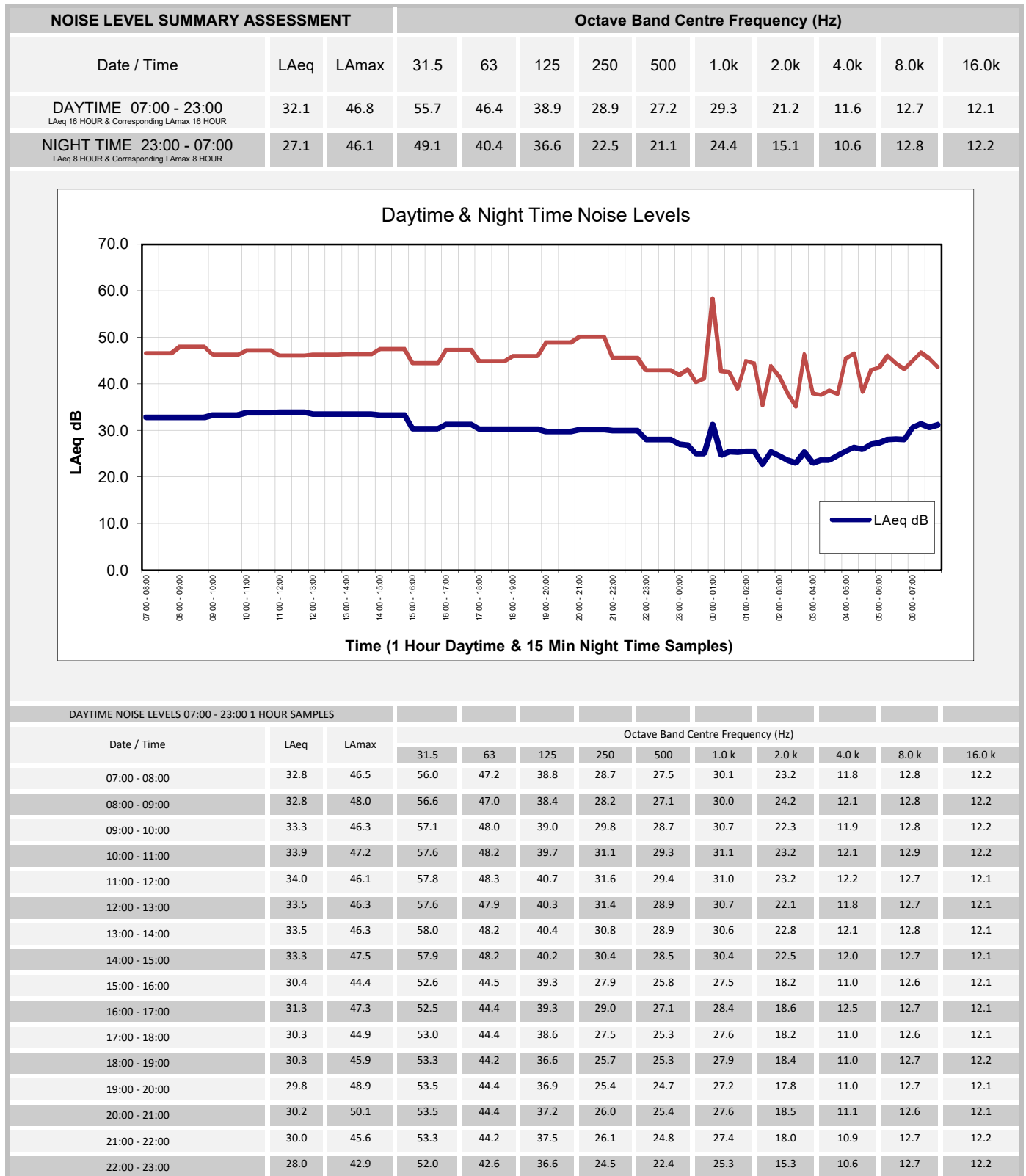
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	33.2	49.5	59.4	49.0	39.2	28.8	28.2	30.6	21.2	11.3	12.7	12.1
23:15 - 23:30	27.6	47.2	49.8	39.3	35.6	22.5	21.3	25.4	15.3	10.6	12.7	12.1
23:30 - 23:45	26.6	41.4	47.2	38.2	35.2	21.7	20.0	24.4	13.5	10.6	12.9	12.3
23:45 - 00:00	26.6	44.1	47.8	39.3	35.3	22.0	20.0	24.1	14.0	10.7	12.7	12.2
00:00 - 00:15	24.8	37.0	46.4	36.7	35.8	21.6	18.2	21.3	12.0	10.6	12.7	12.1
00:15 - 00:30	27.4	46.4	53.1	42.0	36.4	23.1	21.8	24.6	14.9	10.7	12.7	12.1
00:30 - 00:45	24.6	38.3	49.4	39.2	35.7	21.7	18.6	20.4	11.4	10.6	12.6	12.1
00:45 - 01:00	25.0	41.3	45.9	38.1	35.8	21.4	18.7	21.5	12.4	10.6	13.1	12.3
01:00 - 01:15	23.5	39.6	47.3	37.7	35.3	21.0	17.2	18.9	10.2	10.5	12.8	12.2
01:15 - 01:30	24.8	41.9	44.5	37.3	35.5	21.1	18.2	21.5	11.8	10.5	13.0	12.3
01:30 - 01:45	24.4	39.8	47.3	37.9	35.8	21.3	17.8	20.5	11.6	10.5	12.8	12.2
01:45 - 02:00	23.9	38.8	45.1	34.9	36.1	21.3	17.3	19.7	11.0	10.5	12.8	12.2
02:00 - 02:15	23.9	38.0	45.5	34.5	36.9	21.1	17.1	19.1	10.8	10.5	12.9	12.2
02:15 - 02:30	23.5	38.1	42.5	34.9	37.0	21.4	16.9	18.3	9.7	10.5	12.7	12.1
02:30 - 02:45	24.1	42.6	43.6	35.3	36.7	21.4	17.5	19.7	11.2	10.5	12.7	12.1
02:45 - 03:00	24.0	38.7	46.9	37.1	36.8	21.8	18.1	18.7	11.4	10.5	12.7	12.2
03:00 - 03:15	23.4	37.2	42.6	35.5	36.7	21.2	17.3	17.8	9.7	10.4	13.0	12.3
03:15 - 03:30	24.3	37.1	43.3	35.8	36.5	21.3	18.1	20.2	10.9	10.4	13.0	12.3
03:30 - 03:45	23.6	41.0	42.6	35.6	36.6	21.0	17.3	18.5	10.7	10.5	12.8	12.2
03:45 - 04:00	23.5	36.2	44.0	34.9	36.5	20.8	16.8	18.5	10.2	10.4	12.9	12.2
04:00 - 04:15	27.2	48.3	45.9	39.1	36.8	21.7	20.4	24.8	15.3	10.6	12.7	12.2
04:15 - 04:30	24.7	40.5	47.6	37.7	36.7	21.4	18.2	20.8	11.9	10.5	12.7	12.1
04:30 - 04:45	25.9	37.2	49.2	38.5	36.8	22.4	20.3	22.6	13.3	10.5	12.8	12.2
04:45 - 05:00	25.9	42.3	49.1	38.1	36.7	21.9	19.6	22.7	13.3	10.5	12.7	12.1
05:00 - 05:15	27.1	40.3	50.8	41.7	36.9	23.4	21.4	24.1	14.8	10.6	12.7	12.1
05:15 - 05:30	29.8	48.9	52.8	41.8	36.9	26.1	24.7	27.0	19.4	11.2	12.8	12.2
05:30 - 05:45	28.9	48.5	51.6	42.2	37.0	25.8	23.5	26.0	17.5	11.1	12.7	12.1
05:45 - 06:00	28.7	47.9	50.1	41.2	37.0	26.1	24.5	25.9	15.1	10.9	13.2	12.4
06:00 - 06:15	28.8	41.6	51.8	42.4	37.4	25.0	24.1	25.8	16.8	10.8	12.8	12.2
06:15 - 06:30	31.2	47.6	53.6	44.2	38.1	27.7	27.3	28.4	18.9	11.0	12.8	12.2
06:30 - 06:45	30.8	43.2	54.0	43.9	37.3	26.3	26.3	28.4	19.0	11.0	12.8	12.2
06:45 - 07:00	33.3	47.8	55.3	46.5	38.7	29.4	29.2	30.8	21.6	11.3	12.8	12.2

12.1.4 26th – 27th September 2016



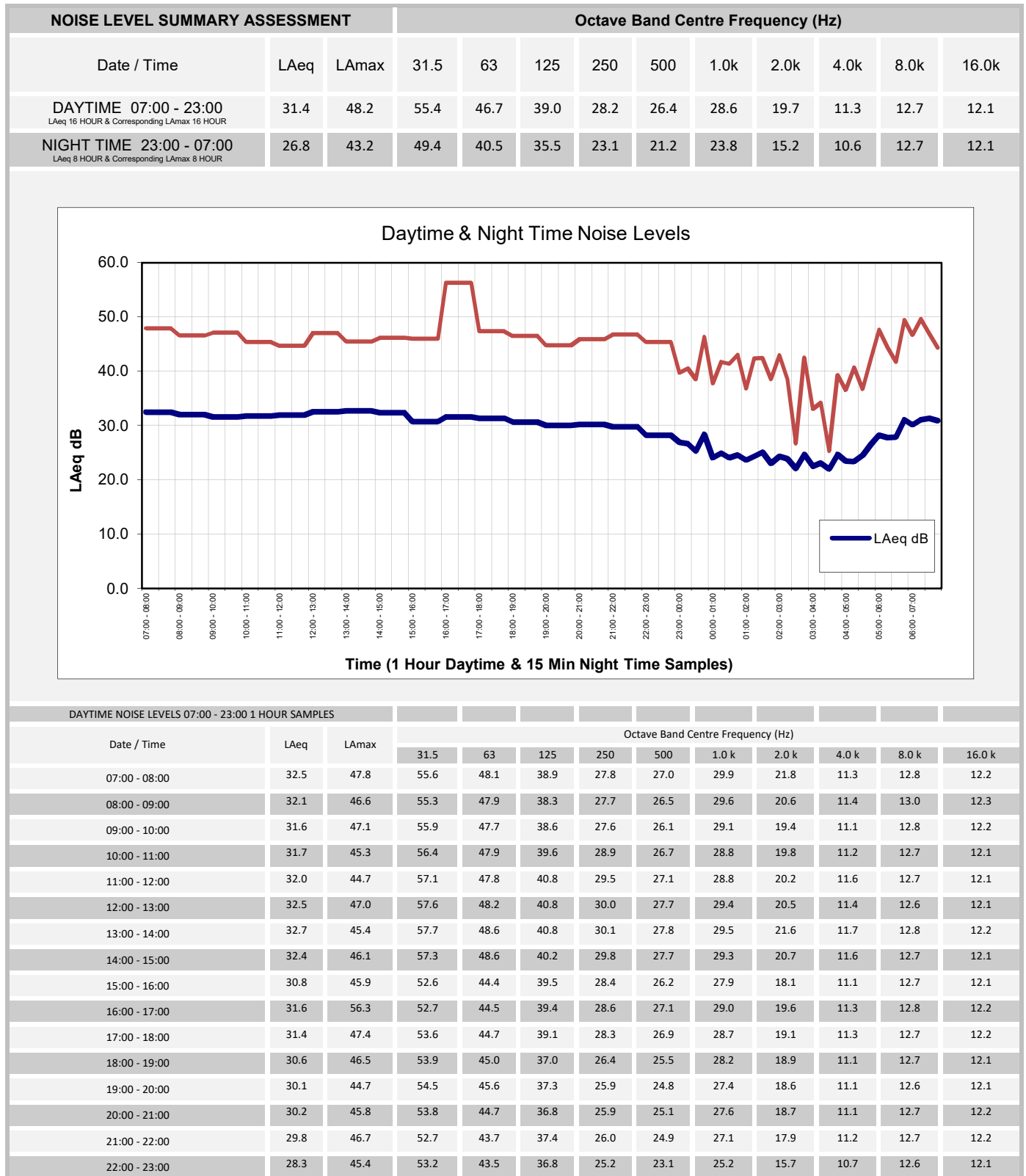
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	29.2	42.9	52.7	43.8	38.9	27.9	24.9	25.5	15.0	10.6	12.7	12.2
23:15 - 23:30	29.0	47.6	54.2	42.9	37.0	25.1	23.0	26.2	18.1	10.8	12.7	12.2
23:30 - 23:45	24.8	39.4	50.3	37.7	35.8	21.6	18.4	21.2	12.2	10.5	12.8	12.2
23:45 - 00:00	27.0	45.0	51.4	40.8	36.0	23.6	21.4	23.8	15.5	10.7	12.8	12.2
00:00 - 00:15	25.2	41.9	47.6	41.9	36.8	21.9	18.6	20.9	11.7	10.5	13.1	12.4
00:15 - 00:30	24.6	41.6	46.7	38.4	35.9	21.3	18.2	20.7	12.6	10.5	13.1	12.3
00:30 - 00:45	24.9	39.3	46.7	37.8	36.2	21.7	18.8	21.0	12.4	10.5	13.1	12.4
00:45 - 01:00	24.0	37.9	47.8	37.0	36.2	21.1	18.0	19.4	10.8	10.5	12.8	12.2
01:00 - 01:15	24.4	41.2	49.3	38.9	35.8	21.0	17.8	20.2	11.7	10.5	13.1	12.4
01:15 - 01:30	24.7	42.0	46.1	36.9	35.9	20.6	18.4	21.1	12.5	10.6	12.8	12.2
01:30 - 01:45	24.2	43.8	48.6	38.3	35.7	20.8	17.9	19.7	11.6	10.9	13.1	12.3
01:45 - 02:00	24.8	42.2	47.0	36.8	35.9	21.1	18.8	21.2	12.6	10.5	12.8	12.2
02:00 - 02:15	22.6	35.5	46.7	35.6	36.0	20.6	16.3	16.0	9.7	10.4	12.9	12.2
02:15 - 02:30	25.3	45.4	44.6	37.5	36.1	21.8	18.7	22.1	12.6	10.5	12.8	12.2
02:30 - 02:45	23.8	41.4	44.0	36.0	36.3	21.6	17.6	19.1	11.2	10.4	12.9	12.3
02:45 - 03:00	30.8	53.0	45.2	38.7	38.3	23.3	23.0	28.8	18.8	10.6	12.8	12.2
03:00 - 03:15	32.7	46.8	49.2	42.8	40.7	25.4	25.4	30.6	20.7	11.1	13.1	12.4
03:15 - 03:30	23.7	40.1	44.8	36.6	36.4	21.6	17.7	18.7	10.5	10.4	13.0	12.3
03:30 - 03:45	24.3	39.5	45.1	37.3	36.3	21.6	18.6	19.9	11.2	10.4	12.9	12.3
03:45 - 04:00	23.1	35.1	45.0	37.1	36.1	20.9	17.2	17.2	10.3	10.4	12.9	12.3
04:00 - 04:15	24.0	40.2	45.0	37.9	36.1	20.9	18.0	19.5	11.5	10.5	12.9	12.3
04:15 - 04:30	23.9	37.8	45.8	37.3	35.8	21.1	18.0	19.4	11.5	10.5	12.8	12.2
04:30 - 04:45	25.7	41.7	49.5	39.0	36.0	22.3	20.8	22.0	13.6	10.6	12.9	12.3
04:45 - 05:00	24.7	39.2	47.1	38.8	35.8	21.7	18.4	20.9	12.7	10.5	12.8	12.2
05:00 - 05:15	26.2	40.7	48.5	41.0	35.7	22.5	20.4	23.0	14.2	10.6	12.8	12.2
05:15 - 05:30	26.6	42.0	49.2	39.7	35.6	22.3	20.8	23.7	14.5	10.5	12.8	12.2
05:30 - 05:45	27.4	38.6	49.7	40.7	36.4	23.1	21.7	24.5	15.6	10.6	13.0	12.3
05:45 - 06:00	26.6	42.2	49.0	41.4	35.8	22.5	20.9	23.7	14.4	10.5	12.8	12.2
06:00 - 06:15	30.7	42.6	52.4	44.7	38.0	27.8	26.7	27.9	18.2	10.8	12.8	12.2
06:15 - 06:30	31.3	47.3	53.6	45.4	37.8	26.9	26.5	28.8	19.7	11.1	12.8	12.2
06:30 - 06:45	32.0	46.5	54.5	45.1	37.9	27.4	26.8	29.5	22.2	11.3	12.8	12.2
06:45 - 07:00	31.9	50.9	55.2	46.9	38.7	28.0	27.5	29.2	20.3	11.4	12.8	12.2

12.1.5 27th - 28th September 2016



NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			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	27.1	41.9	51.9	42.8	36.3	23.8	20.7	24.1	14.3	10.6	12.6	12.1
23:15 - 23:30	26.9	43.1	48.7	39.0	35.7	20.9	19.9	24.6	14.9	10.6	12.9	12.3
23:30 - 23:45	25.1	40.4	48.1	37.7	35.2	20.4	18.4	22.1	13.0	10.5	12.6	12.1
23:45 - 00:00	25.1	41.2	49.3	38.3	36.0	20.6	18.4	21.8	12.4	10.5	12.7	12.2
00:00 - 00:15	31.3	58.3	50.5	37.5	36.1	20.8	23.9	29.8	21.1	11.2	12.8	12.2
00:15 - 00:30	24.8	42.7	47.9	36.7	35.9	20.5	18.2	21.3	12.4	10.5	12.8	12.2
00:30 - 00:45	25.5	42.5	48.6	42.3	36.4	22.4	19.0	21.6	13.6	10.6	12.7	12.2
00:45 - 01:00	25.4	39.0	47.7	40.4	35.9	20.9	18.7	22.2	13.1	10.6	12.7	12.2
01:00 - 01:15	25.6	44.9	46.7	37.6	35.5	20.8	19.1	22.7	14.1	10.8	12.7	12.2
01:15 - 01:30	25.6	44.4	48.5	37.2	35.6	20.6	18.8	22.7	13.8	10.5	13.0	12.3
01:30 - 01:45	22.7	35.3	46.0	38.1	35.7	19.7	15.9	16.8	9.7	10.4	13.1	12.3
01:45 - 02:00	25.5	43.8	48.3	38.9	35.3	20.3	18.8	22.6	13.7	10.6	12.7	12.2
02:00 - 02:15	24.6	41.6	44.8	35.5	35.8	20.5	18.1	21.3	12.0	10.5	12.9	12.3
02:15 - 02:30	23.6	38.1	43.6	35.7	37.1	20.7	16.7	18.5	10.3	10.4	12.7	12.2
02:30 - 02:45	23.0	35.1	42.5	35.0	36.5	20.3	16.2	17.4	10.0	10.4	12.9	12.3
02:45 - 03:00	25.4	46.3	43.7	36.9	36.7	20.8	18.6	22.3	12.6	10.5	12.9	12.3
03:00 - 03:15	23.0	38.0	43.3	34.8	36.9	20.3	16.2	16.8	9.8	10.7	12.8	12.2
03:15 - 03:30	23.6	37.7	43.3	35.0	36.9	20.6	17.1	18.6	10.2	10.5	12.8	12.2
03:30 - 03:45	23.6	38.6	43.8	35.6	37.0	20.5	17.1	18.7	10.3	10.5	12.7	12.2
03:45 - 04:00	24.7	37.9	44.2	35.8	37.0	20.8	18.3	21.0	11.6	10.5	12.7	12.2
04:00 - 04:15	25.6	45.4	44.3	36.8	37.1	21.0	19.0	22.6	13.0	10.5	12.7	12.2
04:15 - 04:30	26.4	46.5	46.5	37.7	37.1	21.4	19.7	23.6	14.1	10.6	12.8	12.2
04:30 - 04:45	26.0	38.3	47.0	38.5	36.8	21.6	20.0	23.0	13.2	10.5	12.8	12.2
04:45 - 05:00	27.1	43.0	47.5	38.4	36.7	24.0	22.0	24.2	14.6	11.0	12.8	12.2
05:00 - 05:15	27.4	43.5	49.4	41.3	36.7	22.4	21.3	24.8	14.7	10.5	12.8	12.2
05:15 - 05:30	28.1	46.0	49.7	41.7	36.5	23.2	22.5	25.7	15.5	10.6	12.8	12.3
05:30 - 05:45	28.2	44.4	50.1	41.7	36.5	22.7	22.2	26.0	15.5	10.5	12.8	12.2
05:45 - 06:00	28.1	43.2	52.4	40.9	36.7	22.5	21.8	25.9	15.3	10.5	12.8	12.2
06:00 - 06:15	30.6	44.9	52.1	44.3	37.7	25.8	25.4	28.3	18.3	11.0	12.8	12.2
06:15 - 06:30	31.4	46.7	53.3	44.8	38.4	27.4	26.5	28.7	20.2	10.9	12.8	12.2
06:30 - 06:45	30.7	45.4	53.3	45.0	37.8	25.6	25.2	28.5	18.5	10.9	12.8	12.2
06:45 - 07:00	31.2	43.6	54.2	46.7	38.2	26.8	26.1	28.6	19.3	11.0	12.8	12.3

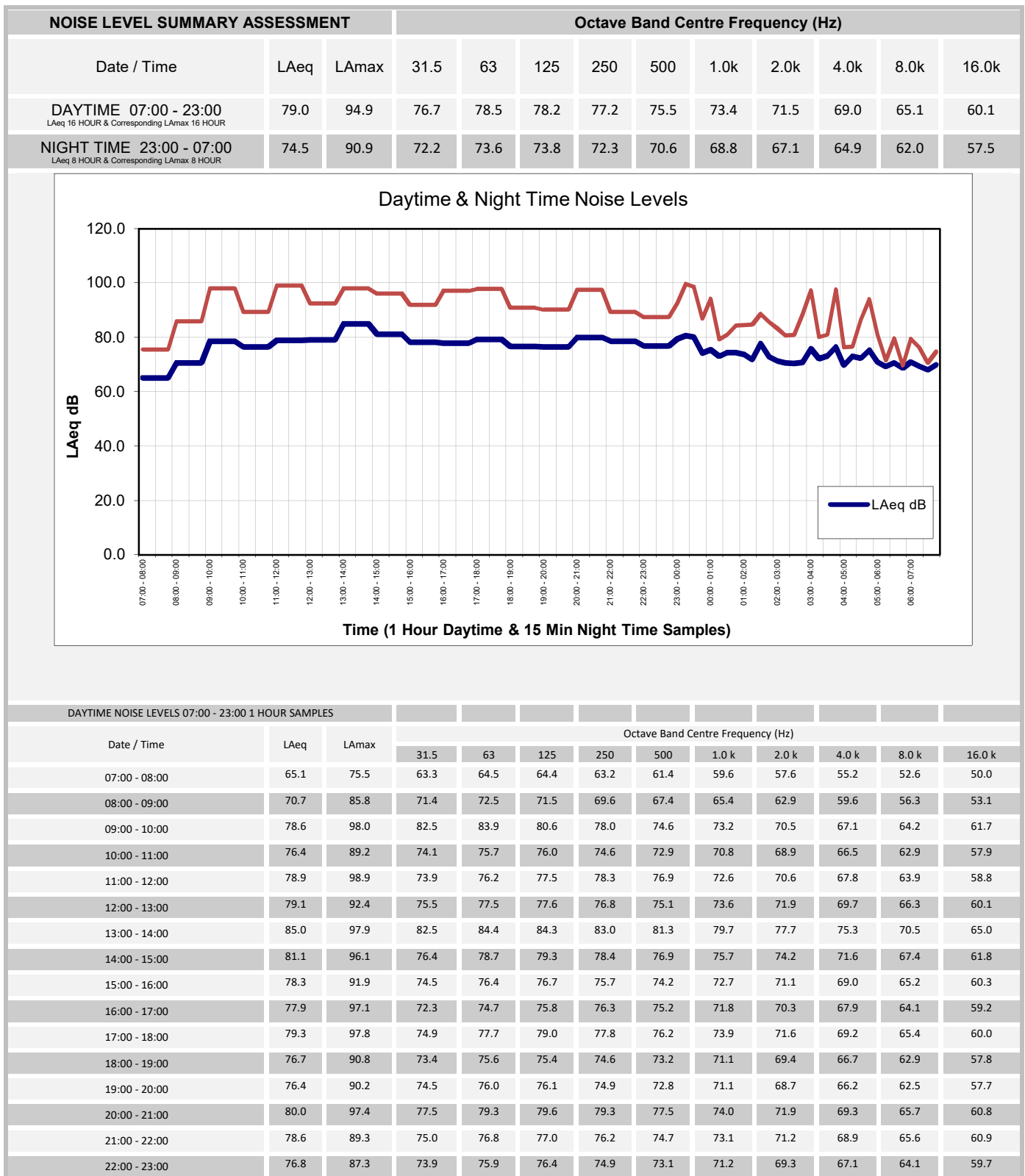
12.1.6 28th – 29th September 2016



NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			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	26.9	39.7	52.2	43.4	36.8	24.5	21.6	23.0	13.9	10.6	12.6	12.1
23:15 - 23:30	26.7	40.5	50.4	41.8	36.3	23.5	20.8	23.6	14.7	10.7	12.7	12.1
23:30 - 23:45	25.3	38.5	48.0	38.0	35.6	22.4	19.3	21.7	13.1	10.6	12.6	12.1
23:45 - 00:00	28.4	46.3	54.2	43.4	35.8	24.4	22.7	25.7	16.8	10.8	12.7	12.2
00:00 - 00:15	24.1	37.7	48.8	40.0	35.4	20.6	17.2	19.8	11.7	10.4	13.0	12.3
00:15 - 00:30	24.9	41.7	47.8	38.6	35.4	20.6	18.6	21.6	12.3	10.4	12.7	12.2
00:30 - 00:45	24.1	41.4	47.3	37.6	34.7	20.9	17.7	20.5	11.9	10.4	12.7	12.1
00:45 - 01:00	24.6	43.0	47.5	38.7	35.1	20.6	18.0	21.0	12.5	10.5	12.7	12.1
01:00 - 01:15	23.6	36.8	47.8	38.4	35.2	20.1	16.8	19.1	11.0	10.4	12.7	12.1
01:15 - 01:30	24.3	42.3	47.1	38.0	34.6	20.5	18.0	20.7	12.1	10.4	12.7	12.2
01:30 - 01:45	25.1	42.4	46.9	37.9	35.5	21.2	18.5	21.8	13.1	10.5	12.8	12.2
01:45 - 02:00	23.0	38.5	46.0	35.7	35.3	20.5	16.4	18.0	10.5	10.4	12.7	12.1
02:00 - 02:15	24.3	42.9	45.7	37.1	36.1	20.6	17.7	20.3	12.1	10.5	12.6	12.1
02:15 - 02:30	23.9	38.5	44.9	36.8	35.6	21.8	17.9	19.6	11.6	10.5	12.7	12.1
02:30 - 02:45	22.1	26.7	42.8	34.6	35.0	20.9	15.8	15.6	9.8	10.4	12.7	12.1
02:45 - 03:00	24.7	42.5	43.6	36.4	34.9	21.3	18.2	21.5	12.6	10.5	12.7	12.1
03:00 - 03:15	22.5	33.1	42.6	33.9	35.0	21.0	16.3	17.0	10.0	10.4	12.7	12.1
03:15 - 03:30	23.1	34.2	43.6	35.2	34.9	21.3	17.0	18.4	10.9	10.4	12.7	12.2
03:30 - 03:45	22.0	25.3	42.4	33.6	34.8	20.6	15.5	16.1	9.7	10.4	12.6	12.1
03:45 - 04:00	24.7	39.3	44.3	36.3	35.1	21.3	18.3	21.4	12.5	10.5	12.7	12.2
04:00 - 04:15	23.5	36.5	43.1	35.5	35.0	20.7	16.9	19.5	11.3	10.4	12.7	12.1
04:15 - 04:30	23.4	40.7	45.0	35.3	35.1	20.9	16.8	19.0	11.1	10.4	12.8	12.2
04:30 - 04:45	24.5	36.7	45.6	38.5	34.9	21.1	17.8	21.1	12.4	10.4	12.8	12.2
04:45 - 05:00	26.6	42.4	47.8	39.6	35.1	22.3	20.5	23.9	15.5	10.6	12.7	12.1
05:00 - 05:15	28.2	47.6	49.4	39.4	35.2	24.1	23.7	25.7	16.3	10.7	12.7	12.1
05:15 - 05:30	27.8	44.4	50.4	41.4	35.6	24.6	22.3	24.9	16.9	11.1	12.7	12.1
05:30 - 05:45	27.9	41.7	50.8	42.0	35.4	23.2	21.7	25.6	15.6	10.7	12.6	12.1
05:45 - 06:00	31.1	49.4	51.8	43.0	35.6	25.8	26.5	29.0	19.6	11.1	12.7	12.1
06:00 - 06:15	30.1	46.6	51.9	44.2	36.1	26.2	25.3	27.7	18.9	11.0	12.7	12.1
06:15 - 06:30	31.1	49.6	54.8	45.0	36.5	27.0	26.2	28.7	19.7	11.1	12.7	12.1
06:30 - 06:45	31.3	46.9	53.6	45.7	36.8	26.8	26.2	28.7	21.1	11.2	12.6	12.1
06:45 - 07:00	30.9	44.3	53.5	44.9	36.6	26.9	25.7	28.5	19.8	11.2	12.7	12.1

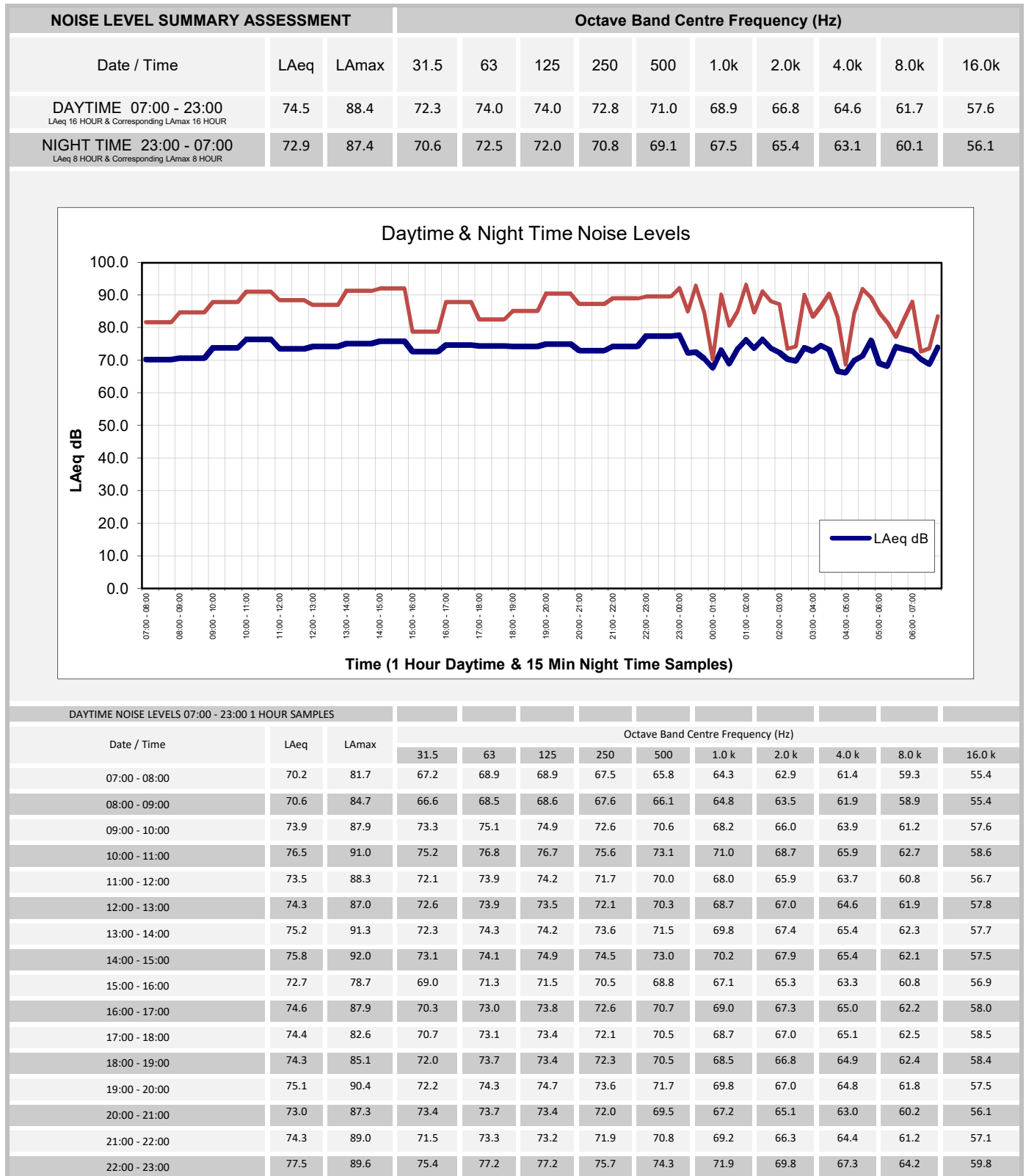
12.2 EXTERNAL LEVELS

12.2.1 23rd – 24th September 2016



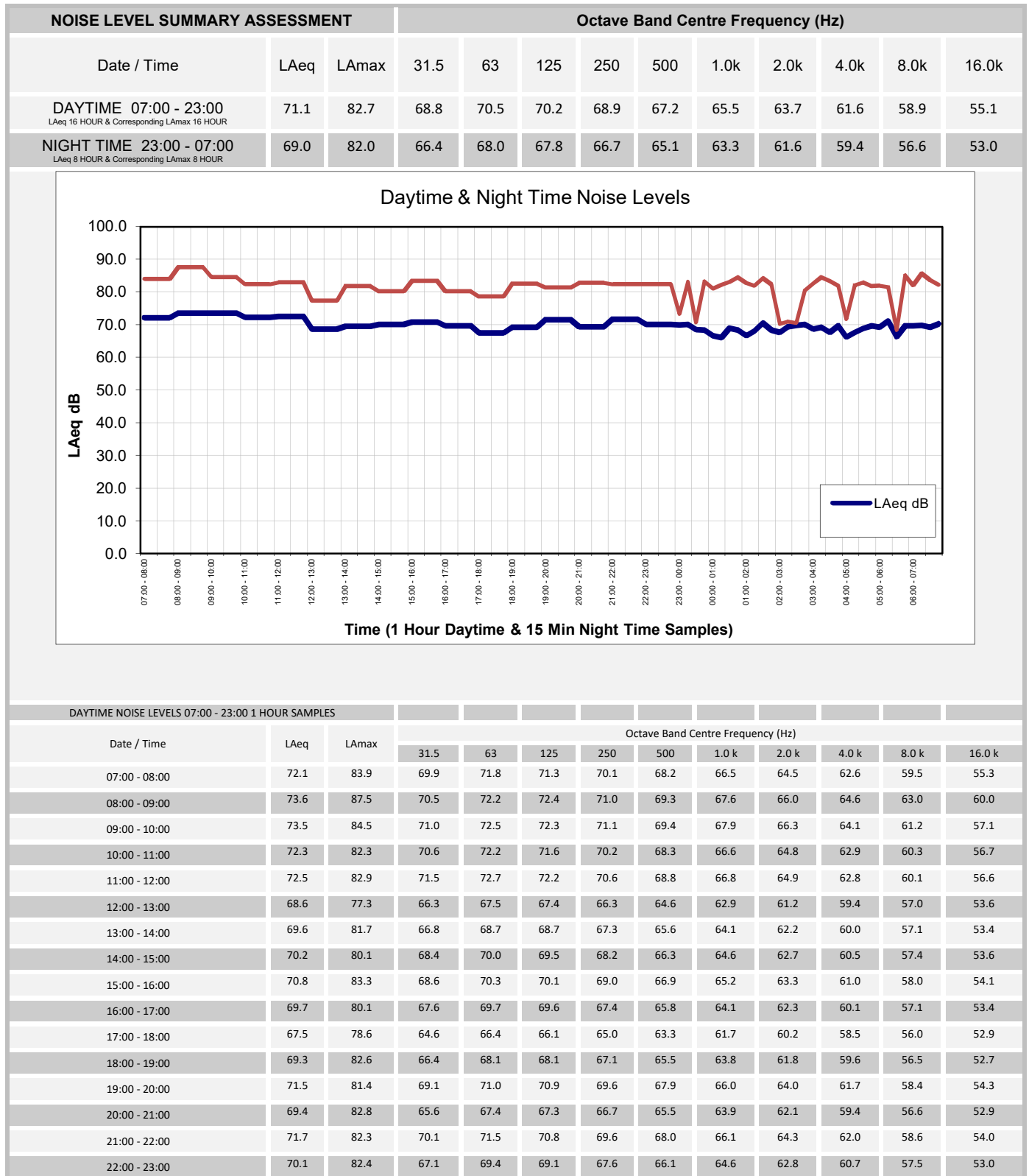
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	79.5	92.6	73.6	75.3	76.0	75.6	75.0	73.7	72.5	70.9	68.0	63.4
23:15 - 23:30	80.7	99.7	75.1	79.8	82.1	79.1	76.8	75.6	73.9	69.0	65.8	60.9
23:30 - 23:45	80.2	98.7	81.4	80.8	80.6	79.2	77.0	74.7	72.2	69.5	66.1	61.3
23:45 - 00:00	74.3	86.9	71.7	73.8	73.8	72.5	70.5	68.7	66.8	64.5	61.5	57.3
00:00 - 00:15	75.5	94.2	69.7	71.8	72.2	71.5	70.0	69.1	68.8	67.8	63.5	59.7
00:15 - 00:30	73.0	79.3	69.1	71.2	71.4	70.5	69.0	67.5	65.6	63.7	61.0	57.2
00:30 - 00:45	74.4	81.0	72.5	73.9	73.7	72.3	70.5	68.7	66.9	65.0	62.4	58.2
00:45 - 01:00	74.5	84.3	73.7	75.2	74.5	72.8	70.7	68.9	66.9	64.7	61.9	58.0
01:00 - 01:15	73.7	84.4	71.8	73.1	73.4	71.8	69.8	68.0	66.2	64.2	61.6	57.6
01:15 - 01:30	71.9	84.6	67.9	70.2	70.9	69.7	68.3	66.2	64.5	62.4	59.6	55.5
01:30 - 01:45	77.7	88.6	78.3	79.7	78.7	77.0	74.8	72.1	69.5	66.9	63.6	59.1
01:45 - 02:00	72.9	85.6	69.7	71.4	71.4	70.3	68.7	67.4	65.8	63.4	60.6	56.6
02:00 - 02:15	71.3	83.3	68.6	70.6	69.6	68.6	67.0	65.5	64.1	62.1	59.9	56.2
02:15 - 02:30	70.7	80.7	67.2	69.0	69.2	68.1	66.7	65.1	63.4	61.3	58.8	55.2
02:30 - 02:45	70.5	80.8	68.1	69.6	69.3	68.3	66.7	64.8	63.0	60.9	58.2	54.4
02:45 - 03:00	70.8	88.4	67.1	67.9	68.2	67.2	65.8	64.4	63.5	63.0	61.1	55.3
03:00 - 03:15	75.9	97.2	68.9	69.7	69.8	69.0	68.1	68.2	69.2	69.9	67.3	59.5
03:15 - 03:30	72.1	80.2	68.8	70.8	70.7	69.5	67.9	66.4	64.7	62.9	60.3	56.4
03:30 - 03:45	73.3	81.0	69.7	71.8	72.0	70.8	69.2	67.6	66.0	64.1	61.5	57.8
03:45 - 04:00	76.5	97.6	68.8	71.3	72.6	73.7	74.3	71.7	67.8	65.1	62.0	57.6
04:00 - 04:15	69.8	76.3	66.9	68.5	68.5	67.5	65.8	64.1	62.3	60.4	57.7	53.8
04:15 - 04:30	73.1	76.5	67.9	70.2	70.6	69.9	68.6	67.2	65.8	64.3	62.0	58.3
04:30 - 04:45	72.4	86.5	70.8	70.7	71.0	69.9	68.3	67.1	65.1	62.5	59.6	55.6
04:45 - 05:00	75.3	94.0	76.5	77.5	76.8	74.8	72.3	69.8	67.2	64.3	61.0	56.5
05:00 - 05:15	71.0	81.1	67.7	69.8	69.8	68.7	67.0	65.5	63.5	61.4	58.7	54.7
05:15 - 05:30	69.3	71.5	65.7	67.7	67.8	66.8	65.3	63.7	62.0	60.0	57.5	53.7
05:30 - 05:45	70.7	79.6	68.7	70.2	70.1	68.6	66.8	65.1	63.3	61.1	58.5	54.5
05:45 - 06:00	68.8	69.6	65.9	67.6	67.6	66.5	64.7	63.1	61.4	59.6	57.0	53.2
06:00 - 06:15	71.0	79.4	68.6	70.3	69.7	68.5	66.7	65.1	63.7	62.1	59.6	56.1
06:15 - 06:30	69.4	76.4	67.5	68.8	69.0	67.3	65.4	63.6	62.0	60.2	57.8	54.2
06:30 - 06:45	68.0	70.6	64.8	66.5	66.5	65.4	63.8	62.2	60.7	58.9	56.5	52.9
06:45 - 07:00	70.0	74.7	67.8	69.3	69.1	67.8	66.0	64.3	62.6	60.7	58.0	54.0

12.2.2 24th – 25th September 2016



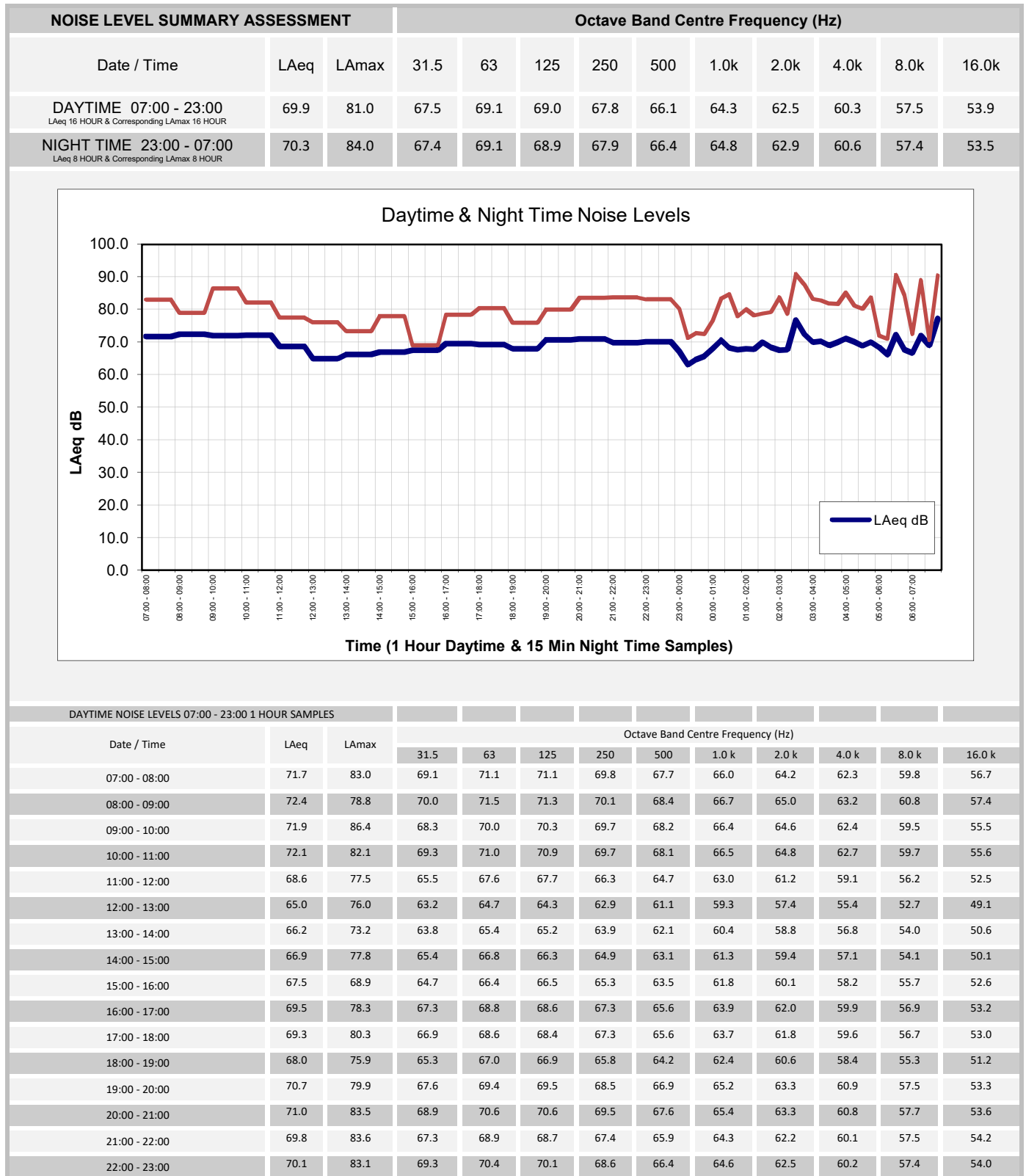
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	77.7	92.1	74.4	77.2	77.1	76.5	74.0	71.6	70.3	68.3	64.3	59.4
23:15 - 23:30	72.3	85.0	71.5	72.1	72.4	70.8	68.5	66.5	64.6	62.6	59.8	55.9
23:30 - 23:45	72.5	92.8	68.5	69.8	69.8	69.2	69.0	68.4	63.7	61.9	58.5	54.6
23:45 - 00:00	70.6	84.6	68.4	69.5	69.3	68.3	67.0	65.2	62.9	61.0	58.4	54.7
00:00 - 00:15	67.7	70.3	65.2	66.7	66.6	65.4	63.7	61.9	60.3	58.4	56.0	52.6
00:15 - 00:30	73.1	90.2	68.9	70.5	69.7	69.2	68.6	68.2	66.5	62.3	59.1	54.9
00:30 - 00:45	69.0	80.6	64.9	66.7	66.6	65.7	64.4	63.1	61.9	60.4	57.7	54.3
00:45 - 01:00	73.5	85.1	71.6	73.6	73.2	71.3	69.5	67.8	66.1	63.8	61.3	57.5
01:00 - 01:15	76.3	93.2	71.7	74.9	73.9	72.3	71.4	71.1	69.8	66.3	62.8	58.1
01:15 - 01:30	73.7	84.7	71.8	73.3	72.7	71.5	69.7	67.9	66.3	64.6	62.2	58.1
01:30 - 01:45	76.5	91.1	75.6	76.9	76.2	74.7	73.1	71.3	68.4	66.3	62.9	58.2
01:45 - 02:00	73.7	88.1	71.8	74.2	74.2	72.1	70.0	68.0	66.3	63.6	60.9	57.2
02:00 - 02:15	72.4	87.2	72.7	72.2	71.9	70.3	68.5	67.0	64.7	62.6	60.0	56.5
02:15 - 02:30	70.4	73.5	66.8	68.7	68.8	67.8	66.2	64.6	63.2	61.4	59.2	56.1
02:30 - 02:45	69.8	74.3	66.3	68.1	68.0	67.0	65.5	63.9	62.4	60.8	58.7	55.6
02:45 - 03:00	73.9	90.0	72.2	74.5	72.2	71.7	70.1	68.9	65.8	64.0	61.4	58.0
03:00 - 03:15	72.8	83.4	70.8	72.6	72.1	70.4	68.7	67.2	65.2	63.4	61.2	57.9
03:15 - 03:30	74.5	86.6	72.5	74.6	73.9	72.6	70.6	68.8	67.1	64.9	61.8	58.0
03:30 - 03:45	73.3	90.4	71.0	74.7	74.1	71.8	70.6	68.3	65.5	61.4	57.7	52.8
03:45 - 04:00	66.6	83.0	66.9	67.8	66.5	65.0	62.8	60.7	58.9	57.1	54.9	50.8
04:00 - 04:15	66.2	68.7	63.8	65.4	65.2	63.9	62.1	60.5	58.7	56.9	54.5	51.0
04:15 - 04:30	69.9	84.3	66.7	67.8	68.0	67.7	66.8	64.3	62.1	59.8	56.8	52.7
04:30 - 04:45	71.4	91.8	65.9	67.5	67.8	67.5	67.4	67.2	63.6	60.9	57.8	53.7
04:45 - 05:00	76.2	89.3	75.4	77.4	76.5	75.3	73.1	70.9	68.2	65.1	61.6	57.2
05:00 - 05:15	69.1	84.8	65.6	67.3	67.2	66.1	64.5	63.1	62.1	60.8	57.4	53.3
05:15 - 05:30	68.2	81.6	65.1	66.8	66.6	65.3	63.9	62.5	61.1	59.0	56.4	52.9
05:30 - 05:45	74.1	77.2	70.1	72.2	72.4	71.5	70.0	68.5	66.8	65.0	62.1	57.9
05:45 - 06:00	73.4	82.9	68.6	71.1	71.6	70.5	69.2	67.7	66.2	64.4	61.9	57.8
06:00 - 06:15	72.8	88.0	72.7	74.1	73.3	71.5	69.3	67.1	65.0	62.8	59.9	55.8
06:15 - 06:30	70.4	72.7	68.1	69.7	69.6	68.2	66.5	64.8	63.0	61.0	58.3	54.4
06:30 - 06:45	68.8	73.7	66.2	67.9	67.8	66.6	64.8	63.1	61.4	59.6	57.3	53.9
06:45 - 07:00	74.0	83.5	70.1	71.4	72.2	71.7	70.3	69.1	66.4	63.4	59.6	54.9

12.2.3 25th – 26th September 2016



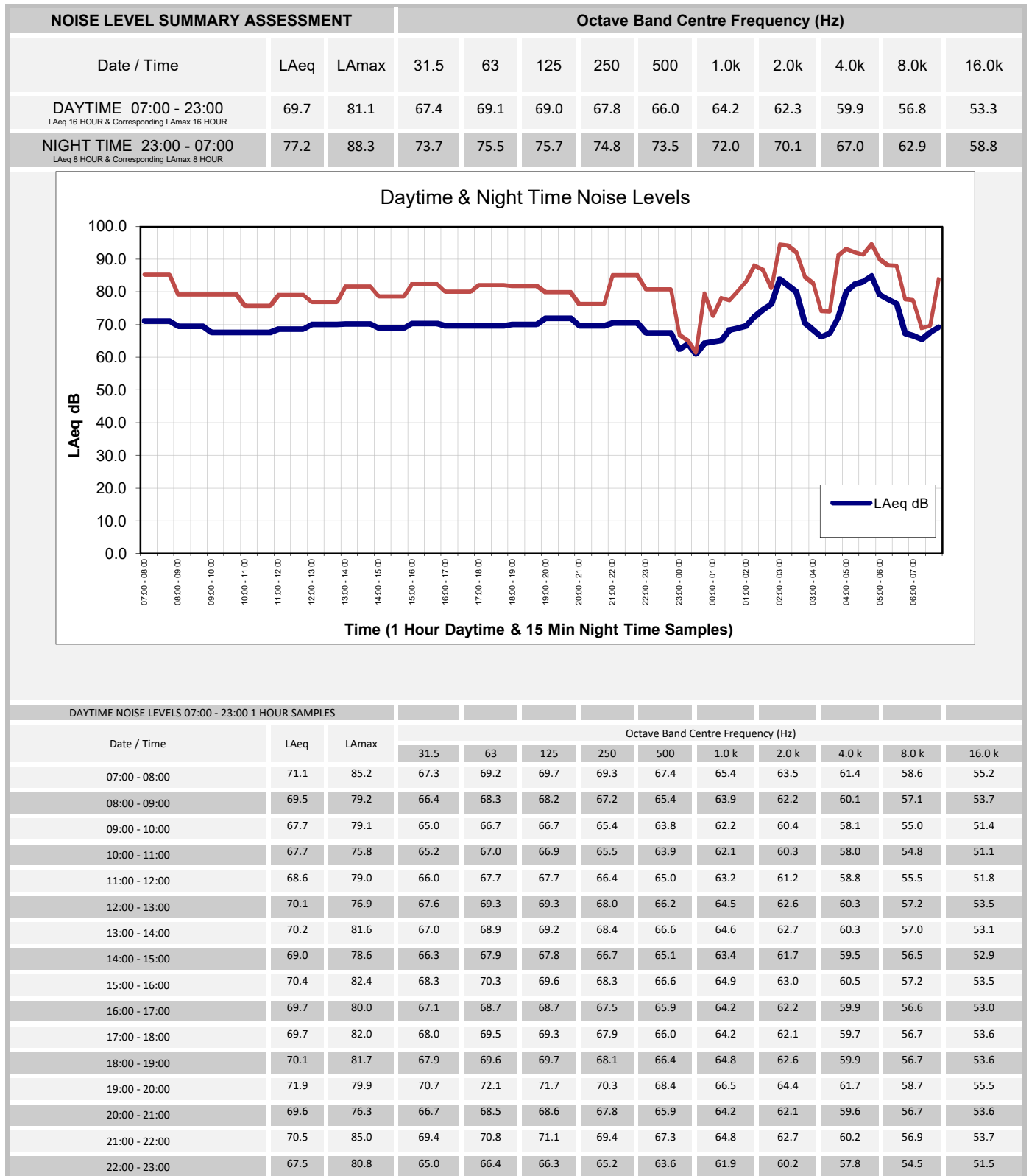
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	70.0	73.2	66.5	68.4	68.6	67.6	66.1	64.4	62.6	60.4	57.2	52.9
23:15 - 23:30	70.1	83.1	66.5	68.5	68.7	68.1	66.5	64.3	62.6	60.4	57.2	52.9
23:30 - 23:45	68.5	70.7	66.4	67.9	67.7	66.4	64.7	63.0	61.1	58.9	56.1	52.5
23:45 - 00:00	68.4	83.2	65.2	68.1	68.0	65.4	64.1	62.7	61.1	59.2	56.5	52.9
00:00 - 00:15	66.7	81.1	64.5	66.3	65.8	64.5	62.7	61.0	59.3	57.3	54.7	51.1
00:15 - 00:30	66.1	82.2	66.7	67.4	65.6	64.2	62.3	60.4	58.5	56.3	53.6	50.4
00:30 - 00:45	69.0	83.1	67.3	68.4	68.2	67.4	65.8	63.4	61.1	58.9	56.2	52.7
00:45 - 01:00	68.3	84.5	66.1	67.4	67.5	67.0	65.2	62.3	60.4	58.3	55.6	52.4
01:00 - 01:15	66.7	82.8	61.7	63.5	64.0	63.9	63.1	60.7	59.4	57.7	54.8	51.5
01:15 - 01:30	68.1	81.9	65.0	66.1	66.3	65.8	64.1	62.2	60.9	59.0	55.9	52.5
01:30 - 01:45	70.6	84.2	66.8	69.1	69.8	68.8	67.3	64.8	62.9	60.9	57.3	53.5
01:45 - 02:00	68.4	82.3	66.7	69.8	68.9	66.6	64.7	62.8	60.8	58.7	55.9	52.2
02:00 - 02:15	67.7	70.3	63.8	65.6	65.7	64.8	63.4	62.0	60.4	58.6	56.3	53.3
02:15 - 02:30	69.4	71.0	63.7	65.5	65.9	65.5	64.6	63.6	62.4	60.6	58.2	55.0
02:30 - 02:45	69.8	70.6	64.7	66.7	67.1	66.4	65.3	64.2	62.7	60.8	58.1	54.7
02:45 - 03:00	70.1	80.5	67.4	67.8	68.2	67.4	66.0	64.5	62.9	60.7	58.0	54.5
03:00 - 03:15	68.7	82.7	64.6	66.5	66.7	66.2	65.1	62.9	61.3	59.1	56.1	52.3
03:15 - 03:30	69.2	84.5	66.8	68.7	69.3	67.6	66.3	63.3	61.4	58.9	55.9	52.1
03:30 - 03:45	67.6	83.3	66.6	68.5	68.3	65.4	63.8	62.2	60.2	57.0	54.2	50.7
03:45 - 04:00	69.6	81.9	66.2	67.8	68.3	67.6	65.2	64.1	62.6	59.9	56.8	52.9
04:00 - 04:15	66.2	71.7	62.2	64.0	64.1	63.1	61.9	60.5	59.0	57.1	54.3	50.9
04:15 - 04:30	67.6	82.0	64.7	66.9	66.0	64.8	63.1	61.8	60.8	58.5	54.8	51.0
04:30 - 04:45	68.8	82.9	66.5	67.8	67.5	66.3	65.0	63.5	61.3	59.1	55.6	51.5
04:45 - 05:00	69.7	81.7	68.7	69.4	68.8	67.3	65.6	64.1	62.5	60.3	57.2	53.5
05:00 - 05:15	69.3	81.9	67.2	68.3	68.0	66.7	65.1	63.8	62.3	59.4	56.3	52.4
05:15 - 05:30	71.1	81.5	69.0	70.2	69.8	68.3	66.6	65.3	63.7	62.3	60.0	56.9
05:30 - 05:45	66.4	68.4	64.9	66.2	65.7	64.2	62.4	60.6	59.0	56.9	54.2	50.5
05:45 - 06:00	69.7	85.1	67.3	68.6	68.6	68.0	66.7	63.8	62.0	59.6	56.6	52.8
06:00 - 06:15	69.7	82.0	67.5	69.0	68.8	67.9	66.2	63.9	62.3	60.1	57.3	53.3
06:15 - 06:30	69.8	85.6	67.0	69.5	68.8	67.4	66.4	64.5	62.0	59.7	56.5	52.7
06:30 - 06:45	69.2	83.6	67.6	69.4	67.7	66.9	65.3	63.8	61.4	59.6	57.5	54.6
06:45 - 07:00	70.2	82.2	68.9	70.6	69.2	68.2	66.3	64.5	62.7	60.7	58.1	54.7

12.2.4 26th – 27th September 2016



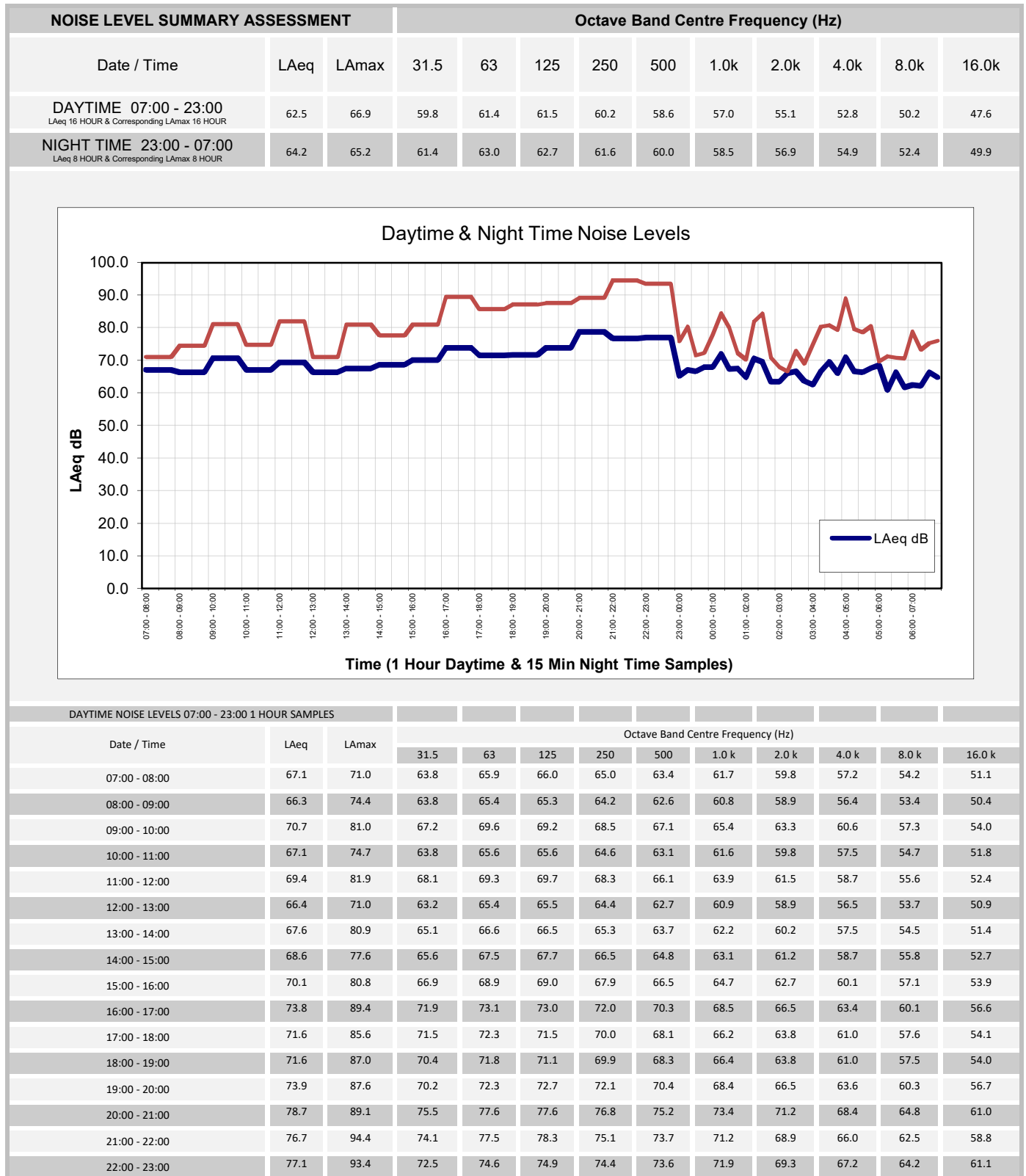
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	67.0	80.2	65.3	66.6	66.3	65.0	63.2	61.3	59.5	57.5	54.6	50.8
23:15 - 23:30	63.1	71.2	61.1	62.5	62.3	61.1	59.4	57.5	55.6	53.2	50.4	47.6
23:30 - 23:45	64.6	72.7	61.7	63.6	63.4	62.4	60.7	59.1	57.3	54.9	52.0	49.1
23:45 - 00:00	65.6	72.4	63.5	64.9	64.8	63.4	61.8	60.0	58.2	55.7	52.9	50.1
00:00 - 00:15	68.0	76.6	66.3	67.6	67.5	66.2	64.5	62.7	60.5	57.8	54.7	51.6
00:15 - 00:30	70.5	83.4	69.8	70.3	70.0	68.5	66.8	65.0	63.0	60.3	57.0	53.8
00:30 - 00:45	68.2	84.6	64.1	65.7	66.1	65.8	64.9	62.2	60.9	58.7	55.2	52.3
00:45 - 01:00	67.6	77.9	65.9	67.3	67.2	66.0	64.1	62.2	60.0	57.5	54.2	50.5
01:00 - 01:15	68.0	80.1	65.4	66.8	66.8	65.9	64.7	62.8	60.3	57.8	54.2	49.9
01:15 - 01:30	67.8	78.2	65.3	67.5	67.5	65.8	64.1	62.2	60.3	57.9	54.6	50.6
01:30 - 01:45	69.9	78.8	67.5	69.6	69.1	68.0	66.2	64.4	62.5	60.1	56.8	52.9
01:45 - 02:00	68.3	79.2	65.1	66.9	67.0	66.2	64.6	62.7	60.9	58.7	55.5	51.7
02:00 - 02:15	67.5	83.6	64.9	66.7	66.7	65.6	63.9	62.0	60.0	57.6	54.3	50.3
02:15 - 02:30	67.6	78.6	65.2	66.9	67.0	66.1	64.0	62.1	60.1	57.5	54.0	49.8
02:30 - 02:45	76.7	90.8	73.1	75.3	75.0	74.3	72.6	71.5	69.3	66.6	64.1	60.0
02:45 - 03:00	72.4	87.7	71.3	72.8	72.3	71.1	69.0	66.8	64.6	62.2	59.3	55.7
03:00 - 03:15	70.0	83.2	68.7	70.1	69.6	68.7	66.6	64.6	62.1	59.6	56.4	52.7
03:15 - 03:30	70.2	82.8	68.6	69.5	69.0	67.6	66.1	64.6	62.8	60.9	57.5	53.7
03:30 - 03:45	68.9	81.7	65.5	67.2	67.5	66.8	65.4	63.8	61.2	58.7	55.4	51.3
03:45 - 04:00	70.0	81.6	66.9	68.6	68.5	67.4	66.0	64.7	62.8	60.3	57.1	53.4
04:00 - 04:15	71.1	85.1	67.1	69.0	69.1	68.0	66.4	65.1	64.0	62.9	59.9	55.3
04:15 - 04:30	70.1	81.2	66.8	68.5	68.5	67.5	66.1	64.7	62.9	60.4	57.5	53.8
04:30 - 04:45	68.8	80.2	67.9	68.7	68.5	67.1	65.2	63.3	61.3	59.0	55.9	52.3
04:45 - 05:00	70.0	83.7	69.1	70.4	69.6	68.3	66.7	64.7	62.3	59.8	56.6	52.8
05:00 - 05:15	68.3	72.0	65.6	67.2	67.1	65.9	64.3	62.6	60.9	58.8	56.0	52.4
05:15 - 05:30	66.0	70.9	63.3	65.0	64.8	63.5	61.9	60.3	58.6	56.7	54.1	50.7
05:30 - 05:45	72.2	90.5	68.6	70.9	70.6	69.8	68.6	67.1	65.0	61.1	57.8	53.8
05:45 - 06:00	67.6	84.3	64.0	65.8	66.1	65.7	64.7	61.8	60.0	57.6	54.5	50.6
06:00 - 06:15	66.7	72.4	63.9	65.6	65.5	64.3	62.6	61.0	59.4	57.5	55.1	52.1
06:15 - 06:30	72.0	89.0	66.3	68.1	68.3	67.6	66.8	66.1	65.5	63.5	60.1	55.4
06:30 - 06:45	69.0	70.5	66.3	68.0	68.0	66.8	65.1	63.4	61.7	59.5	56.6	52.9
06:45 - 07:00	77.2	90.4	72.8	74.6	74.5	73.8	72.8	71.9	70.0	67.8	64.3	59.9

12.2.5 27th - 28th September 2016



NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			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	62.5	66.9	59.8	61.4	61.5	60.2	58.6	57.0	55.1	52.8	50.2	47.6
23:15 - 23:30	64.2	65.2	61.4	63.0	62.7	61.6	60.0	58.5	56.9	54.9	52.4	49.9
23:30 - 23:45	61.0	61.4	57.9	59.5	59.4	58.2	56.7	55.3	53.8	51.8	49.5	47.1
23:45 - 00:00	64.3	79.5	61.6	63.7	64.4	63.1	60.4	58.9	56.7	54.1	51.3	48.6
00:00 - 00:15	64.7	72.7	61.8	63.8	63.7	62.3	60.7	59.1	57.4	55.2	52.7	50.1
00:15 - 00:30	65.2	78.2	61.6	63.8	64.8	63.6	61.5	59.4	57.8	55.4	52.6	50.0
00:30 - 00:45	68.3	77.5	67.0	69.0	68.1	66.6	64.6	62.7	60.8	58.2	55.4	52.5
00:45 - 01:00	69.0	80.3	65.4	67.4	67.4	66.9	65.5	63.2	61.5	59.3	56.6	53.7
01:00 - 01:15	69.7	83.3	68.1	68.8	69.0	68.1	66.6	64.4	61.8	59.3	56.2	53.2
01:15 - 01:30	72.4	88.1	74.1	74.2	74.2	72.0	69.2	66.8	64.2	61.3	57.9	54.7
01:30 - 01:45	74.6	86.8	73.4	74.7	74.3	73.0	71.1	69.2	66.9	64.3	61.2	58.0
01:45 - 02:00	76.3	81.2	73.3	75.3	75.5	74.3	72.7	70.8	68.8	66.3	63.2	60.1
02:00 - 02:15	84.0	94.5	82.5	85.0	84.7	82.8	80.5	78.6	76.2	73.3	69.6	65.5
02:15 - 02:30	82.1	94.2	81.0	81.6	81.6	80.4	79.1	76.9	74.4	71.1	67.5	63.9
02:30 - 02:45	80.1	92.2	79.6	80.5	80.6	79.3	76.7	74.5	72.4	69.6	66.0	62.0
02:45 - 03:00	70.5	84.7	67.4	70.0	70.8	69.6	66.5	64.9	63.0	60.8	56.8	53.5
03:00 - 03:15	68.3	82.6	68.8	68.9	69.2	67.1	65.5	63.1	60.2	57.2	53.8	50.3
03:15 - 03:30	66.2	74.1	64.3	66.1	65.5	64.1	62.4	60.7	58.7	56.2	53.2	50.1
03:30 - 03:45	67.3	74.0	64.8	66.6	66.6	65.2	63.6	61.8	59.9	57.5	54.6	51.5
03:45 - 04:00	72.2	91.2	68.2	72.0	73.2	71.7	69.9	66.2	63.8	60.9	57.3	53.6
04:00 - 04:15	80.0	93.2	72.2	75.3	76.6	77.0	76.3	74.9	73.0	69.6	64.7	60.1
04:15 - 04:30	82.3	92.2	73.5	76.7	78.3	78.8	78.4	77.4	75.5	71.7	66.6	61.8
04:30 - 04:45	83.2	91.5	73.6	76.7	78.4	79.0	78.9	78.3	76.7	73.1	68.0	63.0
04:45 - 05:00	85.0	94.6	78.5	80.0	80.6	80.8	80.5	79.9	78.4	75.5	70.8	65.8
05:00 - 05:15	79.2	90.0	76.4	78.3	78.6	77.6	75.9	73.6	71.7	68.8	65.3	61.8
05:15 - 05:30	77.8	88.1	74.6	76.3	76.3	75.5	74.1	72.2	70.3	68.0	65.0	61.5
05:30 - 05:45	76.5	88.0	73.5	75.8	75.8	74.3	73.1	71.1	69.1	66.1	62.9	59.5
05:45 - 06:00	67.4	77.8	65.1	66.8	66.7	65.5	63.9	62.0	59.8	57.2	54.2	51.1
06:00 - 06:15	66.7	77.5	63.0	64.9	65.1	64.3	63.0	61.1	59.5	57.1	54.3	51.3
06:15 - 06:30	65.5	68.9	63.5	65.1	64.9	63.6	61.6	59.9	58.0	55.7	52.9	50.1
06:30 - 06:45	67.6	69.6	64.7	66.5	66.5	65.5	63.8	62.1	60.2	57.7	54.7	51.7
06:45 - 07:00	69.2	83.9	68.7	69.9	69.3	67.8	65.7	63.7	61.5	58.9	55.7	52.5

12.2.6 28th – 29th September 2016



NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	Octave Band Centre Frequency (Hz)									
			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	65.2	75.8	61.3	63.2	63.3	62.4	60.9	59.5	58.0	56.0	53.2	50.0
23:15 - 23:30	67.1	80.4	64.3	66.2	66.3	65.0	63.2	61.6	59.9	57.3	54.2	51.3
23:30 - 23:45	66.7	71.6	64.0	65.7	65.6	64.4	62.7	61.1	59.3	57.0	54.3	51.6
23:45 - 00:00	67.9	72.2	64.8	66.5	66.5	65.6	63.9	62.3	60.6	58.3	55.8	53.3
00:00 - 00:15	67.9	77.9	65.7	66.6	66.7	65.5	63.9	62.2	60.6	58.5	56.2	53.8
00:15 - 00:30	71.9	84.3	69.4	71.7	72.0	69.9	68.3	66.4	64.3	61.9	59.0	56.5
00:30 - 00:45	67.3	80.0	63.6	65.6	65.7	65.0	63.8	61.7	59.7	57.4	54.7	51.9
00:45 - 01:00	67.5	72.2	63.9	66.0	66.3	65.3	63.6	62.0	60.1	57.8	55.1	52.2
01:00 - 01:15	64.7	70.3	60.9	62.5	62.5	61.6	60.3	59.0	57.5	55.7	53.5	51.2
01:15 - 01:30	70.5	81.9	67.4	69.9	69.6	68.3	66.3	65.0	63.2	60.8	58.5	56.2
01:30 - 01:45	69.5	84.3	64.1	66.7	66.8	66.0	65.7	63.8	62.0	60.5	57.9	55.6
01:45 - 02:00	63.5	70.8	60.6	62.4	62.1	60.8	59.2	57.9	56.3	54.3	51.9	49.5
02:00 - 02:15	63.5	68.0	60.0	61.6	61.5	60.6	59.2	57.8	56.3	54.3	52.0	49.6
02:15 - 02:30	66.1	66.7	63.3	64.8	64.8	63.7	62.1	60.5	58.8	56.6	54.1	51.4
02:30 - 02:45	66.7	72.8	63.9	65.4	65.4	64.2	62.6	61.0	59.4	57.2	54.6	52.0
02:45 - 03:00	63.6	69.0	60.1	61.9	61.9	60.8	59.5	58.0	56.3	54.4	52.1	49.7
03:00 - 03:15	62.4	74.8	60.9	62.0	61.5	60.2	58.6	56.8	55.0	52.6	50.1	47.6
03:15 - 03:30	66.6	80.3	62.2	63.8	64.1	63.5	62.6	61.2	59.2	57.2	54.8	52.3
03:30 - 03:45	69.5	80.8	64.5	66.8	67.2	66.6	65.6	63.5	62.3	60.2	57.6	54.9
03:45 - 04:00	66.1	79.3	61.8	63.8	64.0	63.1	61.7	60.3	59.0	57.1	54.1	51.6
04:00 - 04:15	70.9	89.0	66.4	67.5	68.4	68.0	67.7	65.4	63.5	61.0	57.4	54.3
04:15 - 04:30	66.7	79.6	65.4	66.8	65.8	64.7	63.3	61.2	59.0	56.5	53.5	50.5
04:30 - 04:45	66.4	78.6	64.1	65.9	65.7	64.8	63.0	60.8	58.8	56.4	53.4	50.6
04:45 - 05:00	67.7	80.5	64.6	66.5	66.6	65.7	64.6	62.2	60.0	57.5	54.5	51.7
05:00 - 05:15	68.5	69.6	63.9	65.9	66.3	65.5	64.3	62.9	61.3	59.3	56.8	54.2
05:15 - 05:30	60.9	71.2	56.2	58.3	58.3	57.7	56.5	55.3	53.6	51.7	49.4	47.0
05:30 - 05:45	66.3	70.8	61.7	63.6	63.7	63.1	62.0	60.7	59.2	57.3	54.9	52.4
05:45 - 06:00	61.7	70.5	57.8	59.3	59.3	58.4	57.2	56.0	54.6	52.7	50.4	48.3
06:00 - 06:15	62.4	78.7	59.2	60.2	60.4	59.6	58.8	56.9	54.8	52.8	50.7	48.8
06:15 - 06:30	62.1	73.2	60.5	61.6	60.3	59.5	58.0	56.7	54.7	52.5	50.1	47.7
06:30 - 06:45	66.4	75.3	63.6	64.7	64.9	64.0	62.3	60.7	59.1	56.9	54.3	51.8
06:45 - 07:00												

END OF REPORT