



REPORT REFERENCE:

SA – 7809

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

COMPLIANCE TEST

PLANNING CONDITIONS 9 & 10

British Standard 8233: 2014

CLIENT:

Elivia Homes Southern Ltd

SITE:

Grange Road

Netley

Hampshire

SO31 5FF

SURVEY DATES:

14th – 17th June 2024

Report By



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1 INTRODUCTION

1.1 Outline

Sound Advice Acoustics Ltd has been instructed by Elivia Homes Southern Ltd to undertake post construction compliance tests at Plots 18 and 22, Grange Road, Netley, Hampshire, SO31 5FE in order to ascertain if the site achieves compliance with the requirements of Planning Condition 9 & 10 against British Standard 8233: 2014 for internal noise levels. The site is fully operational and therefore it would not be possible to monitor internal noise levels during the week. Therefore, data from Saturday and Sunday is to be used.

1.2 Testing Programme

Eastleigh Council requires details of the location of the rooms to be testing prior to testing being undertaken. Testing was undertaken within Plot 18 and Plot 22 which were closest to the main road and considered to be the worst case scenario.

1.3 Testing Procedure

Internal noise levels were recorded within Plot 18 & Plot 22 facing the main road as a worst case scenario. Levels were recorded within the living room and bedroom. The microphones were secured to tripods and located in centre of the rooms at a height of 1.5m. Measurements were captured on a typical Saturday & Sunday as the site is operational during the week and 24 hour measurements would not be possible. The measurements were taken over continuous 15 minute periods and are averaged over the relevant assessment periods as agreed. Data from the initial planning report show little to no difference between weekday and weekend data and therefore the weekend data captured can be relied on. Measurements were taken with all windows and doors closed. The testing carried out therefore ensure that the site can be signed off with regards to the set planning conditions.

1.4 Uplift

Due to the site being fully operational, the noise levels were recorded over a weekend and the data from Sunday used, when there was no works undertaken. Our previous assessment identified the following noise level decreases from a weekday to a Sunday. These have been applied to the data to account for any uplift associated with weekday data.

	Daytime (07:00-23:00)	Night Time (23:00-07:00)
Weekday	71.0	63.3
Sunday	70.3	63.2
Uplift	+0.7	+0.1

1.5 Conclusion

The tabulated results detailed within this report have been evaluated from the attached figures for internal evaluations against planning condition 9 & 10 and compliance verified.

Therefore, based on the assessments made within this report, it is the professional opinion of Sound Advice Acoustics Ltd that planning condition 9 & 10 can be discharged.

2 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 Impact Acoustics Ltd in accordance with UKAS directive LAB 23.

2.1 Plot 18 Lounge

Description	Make	Type	Serial No.	Calibration Intervals	Cert No	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1402941	2 YEARS	TCRT22-1467	25.07.2022	25.07.2024
12.5mm Microphone (with windshield)	GRAS	40AF	179711	2 YEARS		25.07.2022	25.07.2024
Microphone Pre – Amplifier	Norsonic	1209	30479	2 YEARS		25.07.2022	25.07.2024
Integrated Sound Level Meter	Norsonic	140	1402941	2 YEARS		25.07.2022	25.07.2024

2.2 Plot 18 Bedroom

Description	Make	Type	Serial No.	Calibration Intervals	Cert No	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1403140	2 YEARS	C00485	03.06.2024	03.06.2026
12.5mm Microphone (with windshield)	Norsonic	1225	579775	2 YEARS		03.06.2024	03.06.2026
Microphone Pre – Amplifier	Norsonic	1206	12486	2 YEARS		03.06.2024	03.06.2026

2.3 Plot 22 Lounge

Description	Make	Type	Serial No.	Calibration Intervals	Cert No	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Rion	NI-52	242696	2 Years	TCRT23-1453	23.06.2023	23.06.2025
Microphone (With Windshield)	Rion	Uc-59	6178	2 Years		23.06.2023	23.06.2025
Microphone Pre – Amplifier	Rion	Nh-25	32724	2 Years		23.06.2023	23.06.2025

2.4 Plot 22 Bedroom

Description	Make	Type	Serial No.	Calibration Intervals	Cert No	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	118	31471	2 YEARS	TCRT23-1042	15.01.2024	15.01.2026
12.5mm Microphone (with windshield)	GRAS	40AF	114650	2 YEARS		15.01.2024	15.01.2026
Microphone Pre – Amplifier	Norsonic	1206	30327	2 YEARS		15.01.2024	15.01.2026

Full calibration certificates are available upon request.

3 PLANNING CONDITIONS

3.1 Planning Condition 9

Prior to construction above ground, details of a system for ventilating the residential properties to protect thermal and acoustic comfort of future occupants shall be submitted to the Local Planning Authority for approval. The development shall be carried out in accordance with the approved details before occupation and thereafter maintained.

Reason: to protect the amenity, health and wellbeing of future occupiers

3.2 Planning Condition 10

Details of fenestration with confirmation that it will achieve the internal guideline levels recommended in Table 4 of BS8233:2014 shall be submitted to the Local Planning Authority for approval prior to installation. The approved fenestration to be installed prior to first occupation and thereafter maintained.

Reason: to protect the amenity, health and wellbeing of future occupiers.

Therefore, this noise report has been undertaken in order to demonstrate compliance with the above planning conditions and noise levels recorded in two plots closest to the main road to assess the worst case scenario.

4 RESULTS & ASSESSMENTS

4.1 BS 8233: 2014 Indoor Living Areas Criteria

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

Table 4 Indoor ambient noise levels for dwellings

Activity	Location	07:00 – 23:00	23:00 – 07:00
Resting	Living Room	35 dB LAeq 16 HOUR	--
Dining	Dining Room / Area	40 dB LAeq 16 HOUR	--
Sleeping (daytime resting)	Bedroom	35 dB LAeq 16 HOUR	30 dB LAeq 8 HOUR

4.2 Results

Plot 18 Lounge

Time Period	Plot 18 Lounge
Daytime (07:00 – 23:00)	22.7
Night Time (23:00 – 07:00)	16.1
Criteria Achieved	COMPLIANT

Plot 18 Bedroom 1

Time Period	Plot 18 Bedroom 1
Daytime (07:00 – 23:00)	19.7
Night Time (23:00 – 07:00)	16.2
Criteria Achieved	COMPLIANT

Plot 22 Lounge

Time Period	Plot 22 Lounge
Daytime (07:00 – 23:00)	28.9
Night Time (23:00 – 07:00)	18.1
Criteria Achieved	COMPLIANT

Plot 22 Bedroom 1

Time Period	Plot 22 Bedroom 1
Daytime (07:00 – 23:00)	24.5
Night Time (23:00 – 07:00)	19.9
Criteria Achieved	COMPLIANT

4.3 Discussion of Results

4.3.1 Weekend Testing Justification

Measurements were captured on a typical Saturday & Sunday as the site is operational during the week and 24 hour measurements would not be possible. Therefore, worst case scenario has been assessed.

4.4 Measurement Location Plan

4.4.1 Plot 18 & Plot 22



5 CONCLUSION

Sound Advice Acoustics Ltd has been instructed by Elivia Homes Southern Ltd to undertake post construction compliance tests at Plot 18 and Plot 22, Grange Road, Netley, Hampshire, SO31 5FF in order to ascertain if the site achieves compliance with the requirements of Planning Condition 9 & 10 against British Standard 8233: 2014 for internal noise levels.

Internal noise levels were recorded within the ground and first floor of Plot 18 and Plot 22 facing the main road as a worst case scenario. Levels were recorded within the living room and bedroom.

Based on the assessments made within this report, it is the professional opinion of Sound Advice Acoustics Ltd that planning conditions 9 & 10 can be discharged for this site.

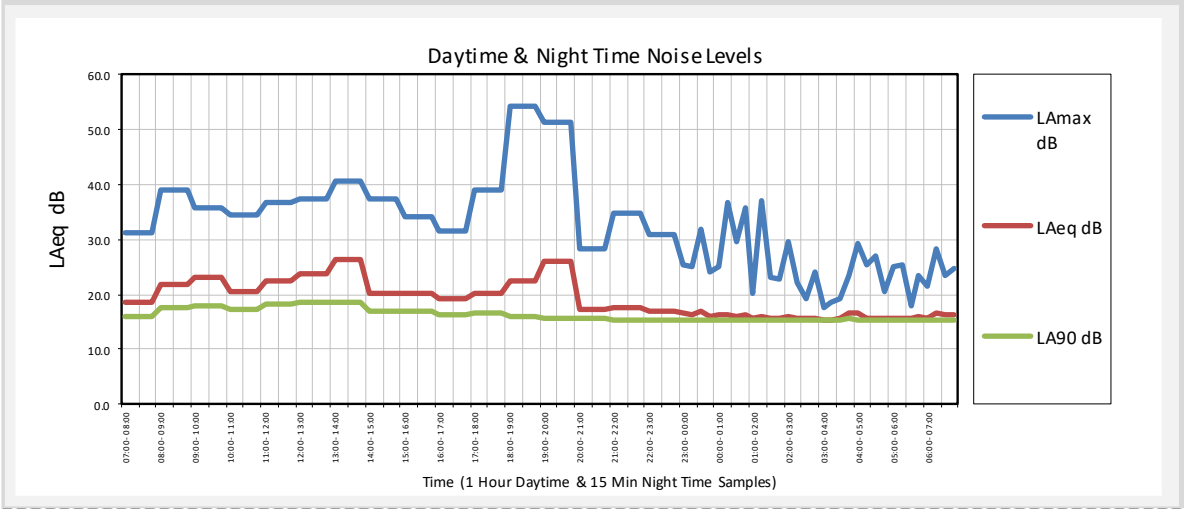
6 RESULTS

6.1 Plot 18 Lounge

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmaz 16 HOUR	22.0	54.2	17.0	33.0	24.8	21.0	16.6	15.1	15.3	12.3	10.1	9.4
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	16.0	37.1	15.0	21.8	15.0	10.6	5.3	6.7	8.5	9.6	10.0	9.3

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	18.7	31.1	16.0	27.8	19.9	16.4	11.2	11.8	11.6	10.8	10.0	9.3
08:00 - 09:00	21.8	38.8	17.0	32.8	23.7	19.6	16.1	15.7	14.7	12.5	10.1	9.3
09:00 - 10:00	23.0	35.6	18.0	34.5	24.7	19.0	14.2	15.0	17.1	16.0	10.2	9.3
10:00 - 11:00	20.4	34.3	17.0	32.8	23.3	18.9	13.4	13.6	13.8	11.0	10.1	9.4
11:00 - 12:00	22.4	36.5	18.0	40.0	28.7	20.5	14.3	13.9	15.5	11.3	10.1	9.4
12:00 - 13:00	23.9	37.2	18.0	34.8	26.9	23.8	17.4	15.9	18.7	12.5	10.1	9.4
13:00 - 14:00	26.4	40.7	19.0	33.9	26.6	24.1	20.6	20.0	20.6	17.2	10.4	9.4
14:00 - 15:00	20.2	37.4	17.0	30.3	22.3	18.9	13.3	13.7	13.9	11.0	10.1	9.4
15:00 - 16:00	20.1	34.1	17.0	30.9	23.1	19.7	13.6	13.4	13.0	10.4	10.0	9.4
16:00 - 17:00	19.2	31.5	16.0	30.9	22.5	17.9	11.8	12.6	12.2	10.1	10.0	9.4
17:00 - 18:00	20.2	38.8	17.0	31.6	23.5	20.3	15.1	13.3	12.6	10.1	10.0	9.4
18:00 - 19:00	22.5	54.2	16.0	29.6	21.9	19.6	17.7	17.4	15.3	12.9	10.1	9.4
19:00 - 20:00	25.9	51.3	16.0	32.8	30.0	27.5	24.1	18.9	17.5	11.4	10.0	9.4
20:00 - 21:00	17.4	28.2	15.0	26.4	19.4	14.0	8.9	9.8	10.4	9.8	10.0	9.4
21:00 - 22:00	17.7	34.8	15.0	29.5	22.1	15.6	9.7	10.3	9.8	9.7	10.0	9.4
22:00 - 23:00	16.9	30.8	15.0	24.6	18.1	14.4	8.7	9.2	9.2	9.7	10.0	9.3

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	16.5	25.2	15.0	22.9	14.9	11.0	6.6	9.1	8.9	9.6	10.0	9.3
23:15 - 23:30	16.4	25.1	15.0	21.6	14.6	10.4	6.3	8.6	8.9	9.6	10.0	9.4
23:30 - 23:45	16.8	31.8	15.0	24.0	16.4	12.2	7.1	9.8	9.3	9.7	10.0	9.4
23:45 - 00:00	16.0	24.1	15.0	21.2	14.5	10.3	5.7	7.1	8.4	9.7	10.0	9.4
00:00 - 00:15	16.2	25.1	15.0	23.4	15.5	12.1	6.1	7.5	8.6	9.6	10.0	9.4
00:15 - 00:30	16.2	36.8	15.0	19.7	16.2	16.8	5.2	6.6	8.2	9.6	10.0	9.3
00:30 - 00:45	16.0	29.6	15.0	23.6	16.9	11.9	5.5	6.7	8.2	9.6	10.0	9.3
00:45 - 01:00	16.2	35.8	15.0	26.1	20.9	12.5	6.3	6.2	8.0	9.6	10.0	9.3
01:00 - 01:15	15.6	20.1	15.0	20.4	13.8	9.2	4.6	6.0	7.9	9.6	10.0	9.3
01:15 - 01:30	16.0	37.1	15.0	25.0	17.3	10.4	4.5	5.8	8.3	9.9	10.0	9.3
01:30 - 01:45	15.7	23.2	15.0	21.1	14.2	9.4	4.8	6.4	8.0	9.6	10.0	9.3
01:45 - 02:00	15.7	22.6	15.0	20.3	13.4	9.2	4.7	6.4	8.0	9.6	10.0	9.3
02:00 - 02:15	15.8	29.7	15.0	17.7	15.9	9.3	5.5	6.0	8.3	9.7	10.0	9.4
02:15 - 02:30	15.7	22.0	15.0	21.1	14.8	10.2	4.9	6.0	8.0	9.6	10.0	9.4
02:30 - 02:45	15.5	19.3	15.0	21.7	14.7	9.8	4.2	5.4	7.7	9.6	10.0	9.3
02:45 - 03:00	15.5	23.9	15.0	20.9	13.9	9.2	4.2	5.5	7.8	9.6	10.0	9.3
03:00 - 03:15	15.4	17.5	15.0	20.2	13.4	8.7	3.8	5.1	7.6	9.6	10.0	9.3
03:15 - 03:30	15.4	18.6	15.0	20.4	13.7	9.0	3.8	5.1	7.6	9.6	10.0	9.3
03:30 - 03:45	15.5	19.3	15.0	19.8	13.3	8.4	3.8	5.3	8.0	9.6	10.0	9.3
03:45 - 04:00	16.5	23.3	16.0	20.1	14.0	9.7	4.0	5.4	10.9	9.7	10.0	9.3
04:00 - 04:15	16.7	29.2	15.0	19.6	13.5	9.0	4.6	7.0	11.0	9.8	10.0	9.3
04:15 - 04:30	15.7	25.2	15.0	18.1	11.5	7.2	4.1	6.0	8.6	9.6	10.0	9.3
04:30 - 04:45	15.7	26.8	15.0	17.8	11.2	8.4	4.7	6.7	8.3	9.6	10.0	9.3
04:45 - 05:00	15.5	20.5	15.0	19.7	11.6	7.0	4.1	5.4	7.9	9.6	10.0	9.3
05:00 - 05:15	15.7	25.0	15.0	20.6	13.3	8.8	4.4	5.9	8.5	9.6	10.0	9.3
05:15 - 05:30	15.7	25.2	15.0	20.0	13.2	8.9	4.7	6.3	8.3	9.6	10.0	9.3
05:30 - 05:45	15.5	17.8	15.0	18.6	12.6	7.8	4.2	5.2	7.8	9.6	10.0	9.3
05:45 - 06:00	15.8	23.5	15.0	21.1	14.1	10.5	4.9	6.1	8.2	9.6	10.0	9.3
06:00 - 06:15	15.7	21.6	15.0	20.6	12.5	8.2	4.6	6.2	8.2	9.6	10.0	9.3
06:15 - 06:30	16.6	28.2	15.0	26.1	17.8	14.6	9.0	7.1	8.6	9.7	10.0	9.3
06:30 - 06:45	16.3	23.3	15.0	22.9	15.3	11.1	6.1	7.9	8.9	9.7	10.0	9.3
06:45 - 07:00	16.3	24.6	15.0	23.6	15.0	10.2	6.8	8.2	8.9	9.7	10.0	9.3

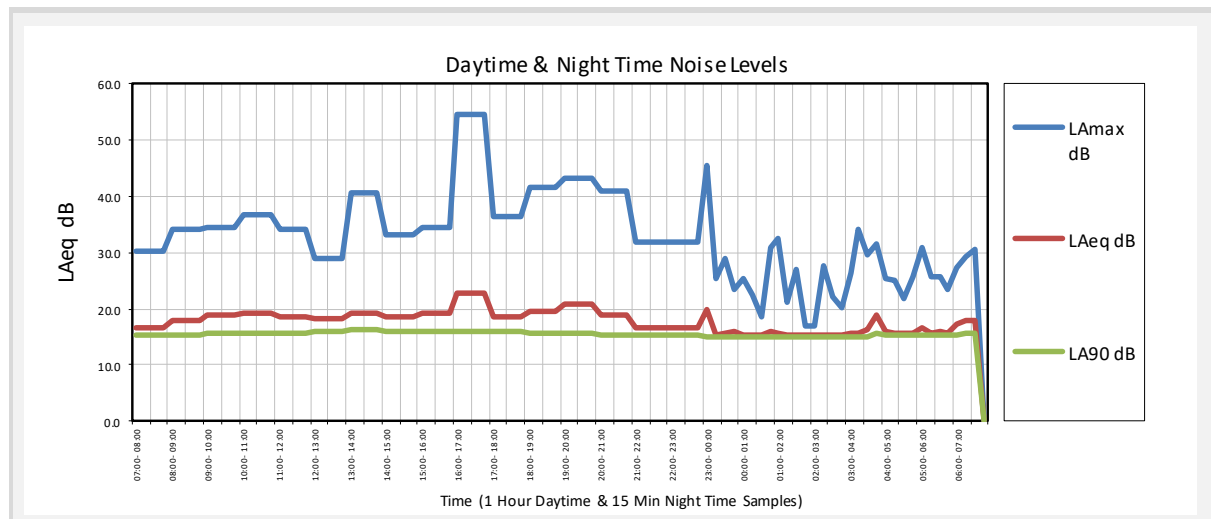


6.2 Plot 18 Bedroom

NOISE LEVEL SUMMARY ASSESSMENT						Octave Band Centre Frequency (Hz)						
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmaz 16 HOUR	19.0	54.5	16.0	29.5	22.6	18.2	12.3	12.2	11.4	10.2	10.0	9.4
NIGHTTIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmaz 8 HOUR	16.1	45.4	15.0	20.8	13.8	10.4	7.0	6.8	9.0	9.6	9.9	9.3

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	16.7	30.1	15.0	23.6	16.2	12.3	7.6	8.9	9.3	9.7	10.0	9.3
08:00 - 09:00	17.8	34.2	15.0	25.7	18.3	17.8	11.9	9.8	9.5	9.7	10.0	9.4
09:00 - 10:00	18.7	34.4	16.0	28.2	21.3	18.9	12.4	11.7	10.7	9.8	10.0	9.4
10:00 - 11:00	19.0	36.7	16.0	30.6	24.2	19.5	11.0	11.7	11.4	10.0	10.0	9.4
11:00 - 12:00	18.6	34.1	15.0	30.2	23.4	17.1	10.4	11.7	11.0	9.9	10.0	9.4
12:00 - 13:00	18.4	29.0	16.0	30.4	21.2	16.0	10.3	11.8	10.9	9.8	10.0	9.4
13:00 - 14:00	19.3	40.6	16.0	31.4	23.6	18.0	11.7	12.4	12.1	10.2	10.0	9.4
14:00 - 15:00	18.5	33.0	16.0	29.6	22.0	17.3	11.1	11.7	11.0	9.9	10.0	9.4
15:00 - 16:00	19.1	34.3	16.0	29.7	22.6	18.6	13.0	12.3	11.2	9.9	10.0	9.4
16:00 - 17:00	22.7	54.5	16.0	29.6	22.7	20.1	18.3	17.6	14.9	13.5	10.2	9.4
17:00 - 18:00	18.6	36.5	16.0	31.6	23.9	17.3	10.8	11.3	10.8	9.8	10.0	9.4
18:00 - 19:00	19.6	41.5	16.0	31.3	26.3	21.2	11.8	11.8	11.3	9.9	10.0	9.4
19:00 - 20:00	21.0	43.0	16.0	31.9	24.0	21.5	15.1	14.3	13.8	10.4	10.1	9.4
20:00 - 21:00	18.7	40.9	15.0	27.5	23.7	18.0	11.5	11.4	11.4	9.9	10.0	9.4
21:00 - 22:00	16.6	31.8	15.0	25.0	18.5	13.9	7.4	8.1	9.0	9.7	10.0	9.4
22:00 - 23:00	16.5	31.8	15.0	25.1	16.4	11.5	6.7	8.6	8.8	9.7	10.0	9.4

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	19.9	45.4	15.0	20.0	22.3	20.2	17.9	11.7	10.9	9.9	10.1	9.4
23:15 - 23:30	15.3	25.2	15.0	15.0	9.1	4.8	3.3	5.3	7.7	9.6	10.0	9.4
23:30 - 23:45	15.7	28.8	15.0	16.9	10.2	7.1	4.5	6.8	8.3	9.6	10.0	9.4
23:45 - 00:00	15.9	23.4	15.0	22.5	12.0	8.2	5.0	7.4	8.2	9.6	10.0	9.4
00:00 - 00:15	15.3	25.2	15.0	15.6	8.3	4.8	3.5	5.3	7.7	9.6	10.0	9.4
00:15 - 00:30	15.4	22.5	15.0	14.1	8.3	5.8	3.4	5.8	7.9	9.6	10.0	9.4
00:30 - 00:45	15.3	18.4	15.0	14.7	7.0	4.9	2.9	5.2	7.6	9.6	10.0	9.4
00:45 - 01:00	15.9	30.7	15.0	23.4	15.6	8.1	4.5	7.0	8.1	9.6	10.0	9.4
01:00 - 01:15	15.5	32.5	15.0	9.6	6.5	4.3	3.4	5.5	8.0	9.7	10.1	9.4
01:15 - 01:30	15.2	21.1	15.0	9.5	3.9	2.4	2.7	5.0	7.6	9.6	10.0	9.4
01:30 - 01:45	15.3	27.1	15.0	19.3	10.8	6.3	3.6	5.2	7.7	9.6	10.0	9.3
01:45 - 02:00	15.2	16.8	15.0	14.4	7.3	4.3	3.0	5.1	7.6	9.6	10.0	9.4
02:00 - 02:15	15.2	17.0	15.0	11.6	5.3	2.7	2.9	5.1	7.6	9.6	10.0	9.4
02:15 - 02:30	15.3	27.7	15.0	11.6	5.3	3.2	3.2	5.5	7.7	9.6	10.0	9.4
02:30 - 02:45	15.2	22.1	15.0	9.5	5.0	2.8	2.8	5.0	7.6	9.6	10.0	9.4
02:45 - 03:00	15.3	20.1	15.0	15.3	7.8	3.8	3.3	5.5	7.7	9.6	10.0	9.4
03:00 - 03:15	15.7	26.2	15.0	16.2	9.1	5.5	4.1	7.1	8.1	9.6	10.0	9.4
03:15 - 03:30	15.6	34.1	15.0	19.4	9.8	5.2	4.0	6.0	8.0	9.9	10.1	9.4
03:30 - 03:45	16.2	29.7	15.0	16.5	8.6	6.1	4.5	7.5	9.6	9.8	10.0	9.4
03:45 - 04:00	18.9	31.4	16.0	15.3	9.3	6.9	3.8	5.8	15.7	10.5	10.1	9.4
04:00 - 04:15	15.8	25.4	15.0	15.1	6.6	3.9	3.4	5.5	9.3	9.7	10.0	9.4
04:15 - 04:30	15.7	24.9	15.0	14.7	8.0	6.2	4.0	6.0	8.8	9.7	10.0	9.4
04:30 - 04:45	15.5	21.9	15.0	16.1	7.2	5.1	4.6	5.7	8.0	9.6	10.0	9.4
04:45 - 05:00	15.7	25.6	15.0	20.6	12.3	7.9	6.2	5.8	8.0	9.6	10.0	9.4
05:00 - 05:15	16.5	31.0	15.0	22.0	13.2	10.0	6.9	7.5	9.8	9.7	10.0	9.4
05:15 - 05:30	15.6	25.6	15.0	20.6	12.3	7.9	6.2	5.8	8.0	9.6	10.0	9.4
05:30 - 05:45	15.9	25.8	15.0	23.8	14.8	9.3	5.1	6.3	8.3	9.6	10.0	9.4
05:45 - 06:00	15.7	23.3	15.0	22.2	13.3	8.1	5.0	6.3	8.3	9.6	10.0	9.4
06:00 - 06:15	17.1	27.2	15.0	26.9	18.9	13.6	8.2	9.5	9.5	9.7	10.0	9.4
06:15 - 06:30	18.0	29.1	16.0	29.2	21.3	18.3	10.0	10.3	10.1	9.8	10.0	9.3
06:30 - 06:45	18.0	30.5	16.0	27.7	19.7	16.3	10.1	10.8	10.6	9.9	10.0	9.4
06:45 - 07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

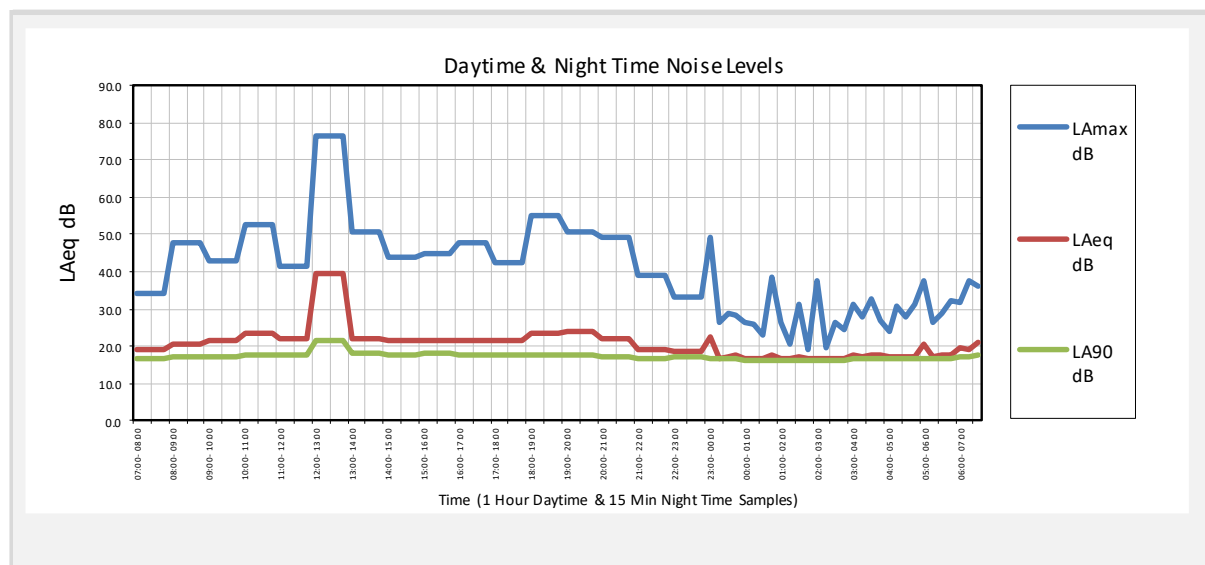


6.3 Plot 22 Lounge

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmaz 16 HOUR	28.2	76.4	18.0	37.8	31.5	28.3	25.0	23.6	19.0	16.1	13.2	8.4
NIGHTTIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmaz 8 HOUR	18.0	49.0	16.0	29.7	21.4	15.5	11.2	10.4	10.6	11.7	12.0	8.2

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	19.1	34.2	16.9	31.8	23.7	17.9	11.6	12.3	11.4	11.8	12.0	8.2
08:00 - 09:00	20.4	47.6	16.9	34.7	26.2	21.5	14.8	13.7	11.4	11.7	12.0	8.2
09:00 - 10:00	21.6	42.8	17.3	36.8	28.7	23.6	15.0	15.1	11.4	11.7	12.0	8.2
10:00 - 11:00	23.4	52.5	17.6	38.9	32.3	28.8	14.1	15.0	11.4	11.7	12.0	8.3
11:00 - 12:00	21.8	41.5	17.5	38.6	31.1	22.5	13.6	15.2	11.3	11.7	12.0	8.3
12:00 - 13:00	39.3	76.4	21.3	42.2	38.6	38.4	36.7	35.1	30.3	26.3	19.9	10.7
13:00 - 14:00	22.1	50.5	17.9	38.7	30.4	23.6	14.8	16.0	11.8	11.7	12.0	8.3
14:00 - 15:00	21.7	43.7	17.8	38.6	30.0	23.6	14.0	15.0	11.4	11.7	12.0	8.2
15:00 - 16:00	21.7	44.8	17.9	37.3	29.3	24.7	14.6	15.1	11.4	11.7	12.0	8.2
16:00 - 17:00	21.6	47.8	17.7	37.5	30.2	23.1	15.2	14.5	11.2	11.7	12.0	8.2
17:00 - 18:00	21.5	42.3	17.8	38.7	30.8	22.3	13.5	14.4	11.2	11.7	12.0	8.2
18:00 - 19:00	23.6	55.1	17.5	38.5	33.3	29.3	14.2	14.5	11.3	11.7	12.0	8.2
19:00 - 20:00	23.7	50.7	17.5	38.0	32.2	26.7	16.8	17.4	12.9	11.9	12.0	8.2
20:00 - 21:00	21.8	49.4	17.0	35.1	31.1	21.4	14.6	14.9	12.8	11.8	12.0	8.2
21:00 - 22:00	18.9	39.1	16.9	33.6	27.3	18.5	10.8	11.0	10.2	11.6	12.0	8.2
22:00 - 23:00	18.7	33.3	16.9	34.4	23.5	17.3	10.7	11.9	10.3	11.6	12.0	8.2

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	22.3	49.0	16.5	27.9	30.1	20.4	21.4	14.3	10.5	11.6	12.0	8.2
23:15 - 23:30	16.8	26.3	16.4	23.3	17.5	11.9	8.6	8.9	9.7	11.6	12.0	8.2
23:30 - 23:45	17.3	28.9	16.4	26.3	19.3	13.3	9.1	10.2	10.0	11.6	12.0	8.2
23:45 - 00:00	17.5	28.1	16.5	29.5	19.1	13.9	9.3	10.6	10.0	11.6	12.0	8.2
00:00 - 00:15	16.8	26.5	16.4	23.5	15.5	11.7	8.5	8.8	9.7	11.6	12.0	8.2
00:15 - 00:30	16.8	25.9	16.4	21.3	15.6	11.5	8.5	9.2	9.7	11.6	12.0	8.2
00:30 - 00:45	16.6	23.1	16.3	23.5	14.6	11.0	8.2	8.4	9.6	11.6	12.0	8.2
00:45 - 01:00	17.7	38.5	16.3	30.7	21.6	14.5	9.4	10.5	9.9	11.6	12.0	8.2
01:00 - 01:15	16.6	26.2	16.3	19.5	13.5	10.1	8.3	8.5	9.7	11.6	12.0	8.2
01:15 - 01:30	16.5	20.4	16.3	19.6	12.3	9.8	8.2	8.2	9.6	11.6	12.0	8.2
01:30 - 01:45	17.0	31.2	16.3	27.4	16.9	12.1	8.8	9.4	9.8	11.6	12.0	8.2
01:45 - 02:00	16.6	19.0	16.4	21.0	14.3	10.8	8.5	8.2	9.6	11.6	12.0	8.2
02:00 - 02:15	16.8	37.3	16.4	23.0	14.1	10.8	8.7	8.4	10.0	11.8	12.0	8.2
02:15 - 02:30	16.5	19.8	16.3	19.8	12.2	9.7	8.1	8.2	9.6	11.6	12.0	8.2
02:30 - 02:45	16.6	26.5	16.3	20.4	13.9	10.6	8.3	8.6	9.7	11.6	12.0	8.2
02:45 - 03:00	16.6	24.6	16.4	22.2	13.6	10.1	8.2	8.4	9.6	11.6	12.0	8.2
03:00 - 03:15	17.4	31.4	16.5	25.6	17.4	13.2	9.2	10.7	10.0	11.6	12.0	8.2
03:15 - 03:30	17.0	27.9	16.5	25.8	17.4	11.8	8.7	9.1	9.7	11.6	12.0	8.2
03:30 - 03:45	17.6	32.7	16.5	25.5	18.2	12.9	9.4	11.3	10.2	11.6	12.0	8.2
03:45 - 04:00	17.7	26.9	16.8	22.2	15.7	12.7	8.6	9.0	12.2	11.7	12.0	8.2
04:00 - 04:15	17.1	24.0	16.6	23.2	14.1	10.8	8.7	8.6	10.7	11.7	12.0	8.2
04:15 - 04:30	16.9	30.5	16.6	23.2	16.0	12.0	8.9	8.6	10.2	11.6	12.0	8.2
04:30 - 04:45	17.2	27.9	16.6	25.4	17.3	12.4	9.5	9.6	10.0	11.6	12.0	8.2
04:45 - 05:00	17.3	31.0	16.7	27.4	19.4	14.0	10.0	9.0	9.8	11.6	12.0	8.2
05:00 - 05:15	20.4	37.4	16.7	29.1	20.7	16.2	11.0	12.3	16.0	12.2	12.0	8.2
05:15 - 05:30	17.2	26.3	16.7	28.0	18.9	13.6	9.3	9.1	9.8	11.6	12.0	8.2
05:30 - 05:45	17.6	28.8	16.7	30.3	20.9	14.5	9.4	9.5	10.4	11.6	12.0	8.2
05:45 - 06:00	17.8	32.0	16.7	31.8	20.6	13.6	10.4	9.7	10.5	11.7	12.0	8.2
06:00 - 06:15	19.3	31.5	17.0	33.8	25.4	19.0	11.6	12.9	10.7	11.6	12.0	8.2
06:15 - 06:30	19.2	37.3	17.1	36.6	23.8	18.5	11.4	12.1	10.6	11.6	12.0	8.2
06:30 - 06:45	21.2	36.3	17.8	38.0	28.6	24.1	12.6	13.5	11.2	11.7	12.0	8.2
06:45 - 07:00	20.9	33.0	17.8	36.5	27.7	21.5	13.5	14.3	12.4	11.9	12.0	8.2

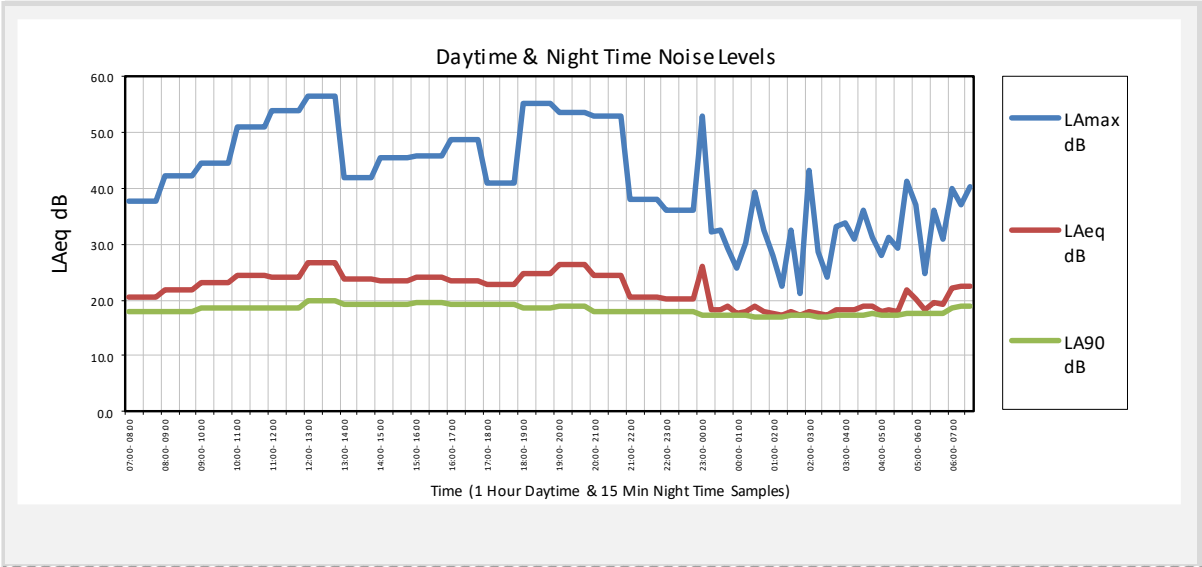


6.4 Plot 22 Bedroom

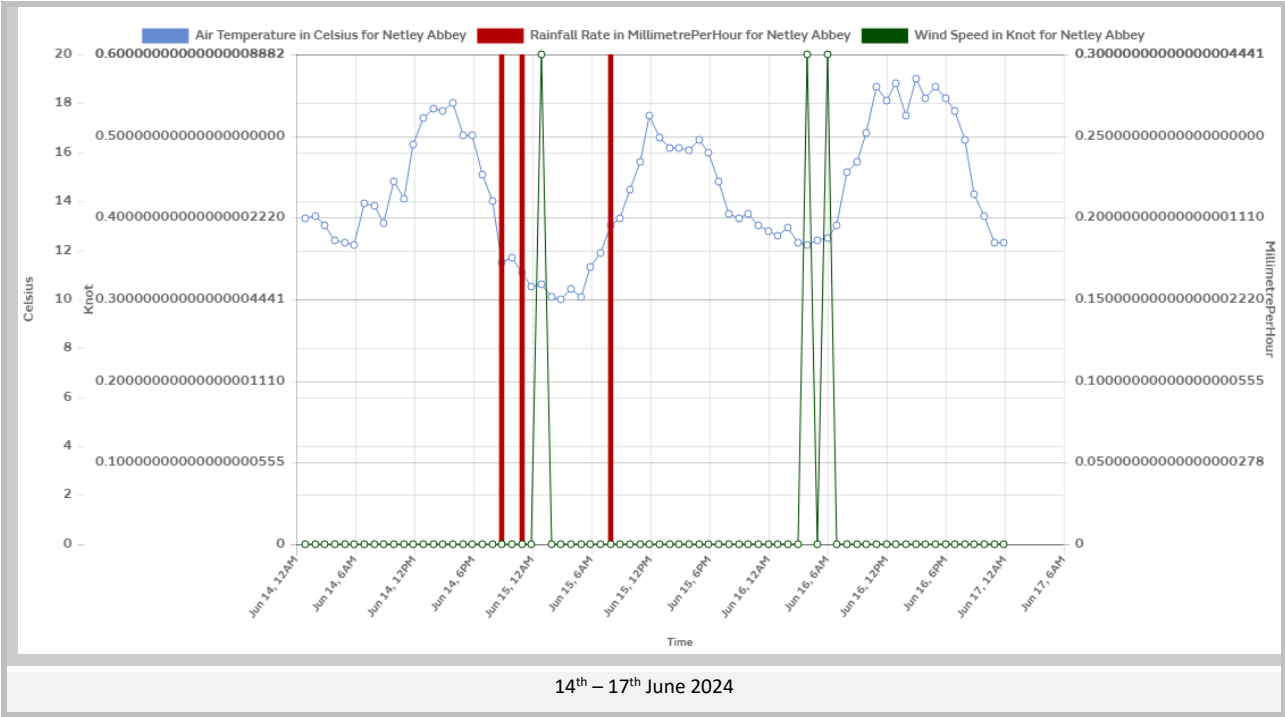
NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmaz 16 HOUR	23.8	56.3	19.0	34.7	32.6	25.0	19.4	16.6	14.6	12.3	15.2	18.3
NIGHTTIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmaz 8 HOUR	19.8	52.8	17.0	27.8	24.5	18.5	15.1	11.6	12.3	12.1	15.1	18.3

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	20.6	37.6	17.8	30.0	26.8	20.1	14.5	13.5	13.1	12.2	15.2	18.3
08:00 - 09:00	21.8	42.3	17.9	31.9	28.7	23.9	17.4	14.2	12.7	12.1	15.2	18.3
09:00 - 10:00	23.1	44.4	18.5	34.5	30.8	25.6	18.5	16.0	13.8	12.1	15.1	18.3
10:00 - 11:00	24.3	50.8	18.6	35.6	34.4	26.8	19.1	16.3	14.1	12.1	15.1	18.3
11:00 - 12:00	23.9	53.8	18.5	36.0	33.7	23.1	18.9	17.3	14.4	12.2	15.2	18.3
12:00 - 13:00	26.6	56.3	19.8	35.1	31.7	26.1	24.2	21.1	17.3	14.7	15.4	18.3
13:00 - 14:00	23.7	41.7	19.3	35.9	32.9	24.6	19.3	16.6	14.5	12.2	15.2	18.3
14:00 - 15:00	23.4	45.3	19.2	35.1	32.1	25.2	18.4	16.2	14.6	12.2	15.2	18.3
15:00 - 16:00	24.1	45.7	19.4	35.3	33.6	25.7	20.3	16.8	14.7	12.1	15.2	18.3
16:00 - 17:00	23.5	48.8	19.2	35.7	33.2	24.3	19.3	15.6	13.9	12.2	15.2	18.3
17:00 - 18:00	22.9	41.0	19.1	35.3	32.2	23.7	17.6	15.9	14.2	12.2	15.2	18.3
18:00 - 19:00	24.7	55.1	18.7	35.2	36.3	26.6	19.0	16.1	14.6	12.1	15.2	18.3
19:00 - 20:00	26.4	53.6	18.8	36.0	34.7	29.0	22.3	19.6	16.9	12.3	15.1	18.3
20:00 - 21:00	24.4	52.8	18.0	35.8	32.4	25.0	20.4	16.2	16.7	12.2	15.1	18.3
21:00 - 22:00	20.4	37.9	17.8	31.2	28.8	20.9	13.8	12.5	12.3	12.0	15.1	18.3
22:00 - 23:00	20.1	36.0	17.8	30.9	25.5	19.3	13.8	13.0	12.5	12.0	15.1	18.3

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	26.0	52.8	17.4	25.9	32.9	25.1	27.1	16.3	12.9	12.1	15.2	18.3
23:15 - 23:30	18.3	32.3	17.1	23.3	19.5	14.0	10.5	10.6	11.2	12.0	15.1	18.3
23:30 - 23:45	18.2	32.5	17.2	25.7	21.1	15.2	10.5	10.1	10.8	12.0	15.1	18.3
23:45 - 00:00	18.8	29.1	17.3	27.5	21.9	16.2	11.7	11.7	11.4	12.0	15.1	18.3
00:00 - 00:15	17.5	25.6	17.1	21.3	17.6	13.3	8.9	8.6	9.9	12.0	15.1	18.3
00:15 - 00:30	17.8	30.1	17.1	20.3	17.5	13.5	9.5	9.8	10.6	12.0	15.1	18.3
00:30 - 00:45	18.8	39.4	17.0	24.7	21.0	15.0	11.8	11.7	11.3	12.0	15.1	18.3
00:45 - 01:00	17.8	32.6	17.0	27.5	21.3	13.7	9.0	8.9	10.0	12.0	15.1	18.3
01:00 - 01:15	17.4	28.0	17.1	18.9	15.1	11.2	8.9	8.9	10.0	12.0	15.1	18.3
01:15 - 01:30	17.3	22.5	17.1	20.5	15.4	12.2	8.6	8.4	9.8	12.0	15.1	18.3
01:30 - 01:45	18.0	32.5	17.1	23.7	18.8	13.5	10.1	10.2	10.6	12.0	15.1	18.3
01:45 - 02:00	17.4	21.1	17.2	21.6	17.9	13.7	8.6	8.4	9.7	12.0	15.1	18.3
02:00 - 02:15	18.0	43.0	17.1	19.8	15.9	11.9	9.0	8.8	10.9	12.8	15.2	18.3
02:15 - 02:30	17.4	28.5	17.0	19.7	15.7	11.7	9.1	8.8	9.9	12.0	15.1	18.3
02:30 - 02:45	17.2	23.9	17.0	18.6	14.2	10.7	8.4	8.3	9.7	12.0	15.1	18.3
02:45 - 03:00	18.2	33.1	17.2	24.3	19.2	13.8	10.4	10.7	10.9	12.0	15.1	18.3
03:00 - 03:15	18.2	33.9	17.1	22.8	18.9	14.4	10.5	10.7	10.8	12.0	15.1	18.3
03:15 - 03:30	18.2	30.7	17.1	24.3	19.2	13.6	10.7	10.6	11.0	12.0	15.1	18.3
03:30 - 03:45	18.9	36.1	17.3	23.6	19.9	14.4	11.1	11.9	12.3	12.0	15.1	18.3
03:45 - 04:00	18.8	31.1	17.6	22.0	18.9	15.3	9.6	9.5	13.4	12.0	15.1	18.3
04:00 - 04:15	17.9	27.8	17.3	24.5	17.5	13.0	9.4	8.9	11.4	12.0	15.1	18.3
04:15 - 04:30	18.2	31.1	17.2	23.6	19.0	13.8	10.8	10.2	11.0	12.0	15.1	18.3
04:30 - 04:45	17.9	29.1	17.3	22.2	18.3	13.9	10.9	9.3	10.5	12.0	15.1	18.3
04:45 - 05:00	21.7	41.1	17.7	26.6	22.1	16.9	12.1	11.6	18.3	12.2	15.1	18.3
05:00 - 05:15	20.2	36.9	17.5	28.5	23.7	18.9	14.3	12.6	13.6	12.1	15.1	18.3
05:15 - 05:30	18.2	24.7	17.6	25.4	21.9	16.4	10.3	9.1	10.7	12.0	15.1	18.3
05:30 - 05:45	19.4	36.1	17.6	29.2	24.7	17.5	12.4	11.0	12.6	12.1	15.1	18.3
05:45 - 06:00	19.1	31.0	17.7	28.3	24.2	17.5	12.9	11.0	11.7	12.0	15.1	18.3
06:00 - 06:15	22.3	39.9	18.4	34.4	29.0	22.7	16.9	15.3	15.0	12.1	15.1	18.3
06:15 - 06:30	22.3	36.9	18.9	33.4	29.6	25.5	16.8	14.2	13.8	12.0	15.1	18.3
06:30 - 06:45	22.3	40.3	18.8	35.0	29.4	22.8	16.7	14.9	14.9	12.2	15.1	18.3
06:45 - 07:00	23.7	37.8	19.3	34.7	32.0	26.2	18.6	16.4	15.4	12.2	15.2	18.3



7 ENVIRONMENTAL CONDITIONS



#END OF REPORT#