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ROAD TRAFFIC NOISE ASSESSMENT

Land East of Clitheroe Road, Whalley
Clitheroe BB7 9AD

Client:
Pringle Homes

Report Date:	31st March 2025
Revised:	19th May 2025 [Layout – 24-124/0001/C]
	20th May 2025 [typo in Intro]
	17th July 2025 [Layout - 24-124/0001/E]
Ref:	20250717 9713 Whalley ProPG-4
Site Visit by:	M A Kenyon
Site Visit:	Thu 16th Jan & Sat 18th Jan 2025

Prepared by: M A Kenyon MSc BSc MIOA

[redacted]

Checked by: D A B Kenyon BSc CIEH MIOA

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ANC ACOUSTICS & NOISE CONSULTANTS

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1.0 INTRODUCTION

At the request of Maybern Planning, acting on behalf of Pringle Homes, Martec Environmental Consultants Ltd. undertook an assessment of road traffic noise affecting a development site on land East of Clitheroe Road, Whalley, Clitheroe BB7 9AD. It is understood that an application will be made for residential development of the site.

This report considers the impact of road traffic noise on the site and details the measurements taken, the requirements of current government guidance and makes recommendations for mitigation, as necessary.

Acoustic Terminology is set out at Appendix 1 with the consultants' qualifications at Appendix 2, References at Appendix 3, full measurements are at Appendix 4 and weather data at Appendix 5.

2.0 BACKGROUND TO ASSESSMENT

The site is shown in Figure 1 below, it can be seen that the only significant source of noise is road traffic, firstly on the elevated A59, which runs along the northern boundary of the site and secondly on Clitheroe Road which runs along the western boundary of the site.

Figure 1: Proposed Site Layout Plan

3.0 CRITERIA

3.1 Noise - ProPG: Planning & Noise

This document was jointly issued in June 2017 by the professional bodies of both environmental health officers [CIEH] and noise consultants [IoA & ANC]. It draws together the recommendations on assessing the noise impact on new residential developments from various documents including NPPF, NPSE and PPG-Noise, BS8233 and WHO.

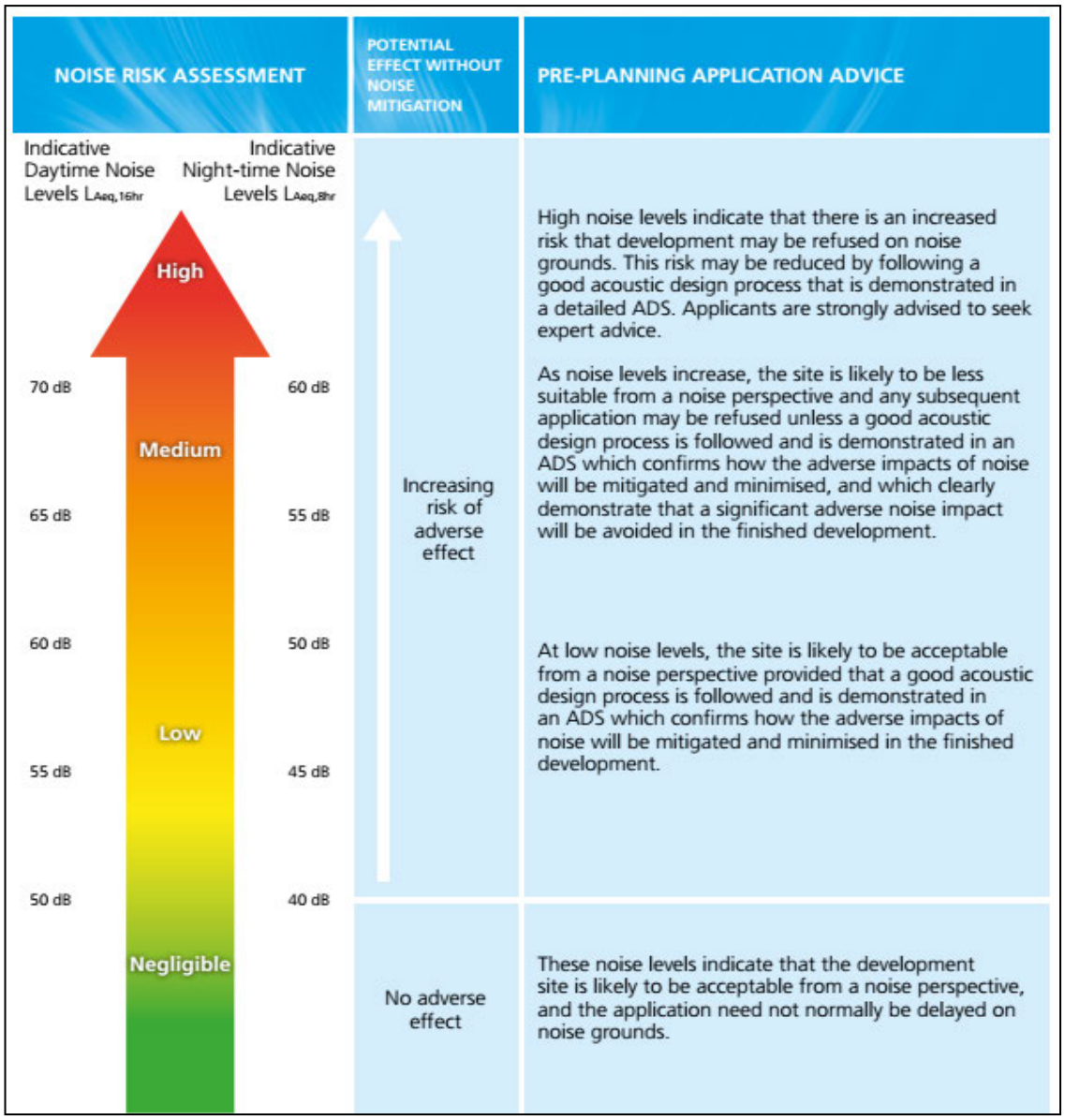


Table 1: ProPG - Noise Risk in terms of Day [LAeq,16hr] & Night [LAeq,8hr] Levels

The first step in the process is to assess the noise risk of the site, based on indicative measured/predicted noise levels for both Day [dB LAeq,16hr] and Night [dB LAeq,8hr] as shown in Table 1 above.

The figures in Table 1 are free-field noise levels and include all forms of

transportation noise as well as industrial/commercial noise provided that it is not dominant.

A footnote to the table in the ProPG states that a site cannot fall into the "Negligible" category, where noise has no adverse effect, if there are 10 nighttime events that exceed 60 dB LAmax,F.

The risk category and size of the scheme effectively control the extent of the noise assessment and of the Acoustic Design Statement [ADS].

3.1.1 Internal Noise Levels

The ProPG's target noise levels are broadly as set out in BS8233:2014 [see below] with additional guidance on nighttime noise events based on World Health Organisation advice.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 LAeq,16hr	--
Dining	Dining Room/Area	40 LAeq,16hr	--
Sleeping (daytime resting)	Bedroom	35 LAeq,16hr	30 Aeq,8hr 45 LAmax,F [1]

Table 2: ProPG - Target Internal Noise Levels

[1] Added from WHO and applies to 10th highest nighttime event.

The footnotes to this table make it clear that the guidance is based on the current WHO recommendations and that the above internal levels can be relaxed by 5dB to achieve "reasonable" internal conditions. The footnotes also make it clear that planning consent can be granted when external levels exceed the WHO guidance targets provided that appropriate internal noise levels are achieved.

The ProPG makes it clear that, where possible, the target internal noise levels in Table 2, should be achieved with windows open.

Following on from the above, the question then arises as to what attenuation should be assumed for an open window. Section 2.33 of the ProPG states

"It should be noted that the acoustic performance of the building envelope will be reduced in the event windows are opened for ventilation or cooling purposes, typically reducing the insulation to no more than 10 to 15 dB(A)."

In addition, it will be recalled that the ProPG states that if nighttime **external** noise events are 60 LAmax,F or less, then there is negligible risk of noise and no adverse **effect**; given that the corresponding **internal** target noise level is 45 LAmax,F, it can be seen that the ProPG is assuming that the difference between external and internal levels, i.e. the attenuation of a façade with an open window, is 15 dBA [60-45=15].

Similarly, daytime external noise levels of 50 LAeq,16hr fall into the negligible risk category, i.e. open windows must be capable of achieving the internal noise target of 35 LAeq,16hr with no special measures; again, implying that the attenuation of a façade with an open window, is 15 dBA [50 - 35=15].

In addition to the above, the Defra research report NANR116 tested a variety of open windows and concluded that the difference between external and internal road traffic noise levels, ranged from 12 dBA [wide open outward opening side-hung casement] to 18 dBA [top hung opening light of single casement window]. The distribution of performance from NANR116 is as shown in Chart 1.

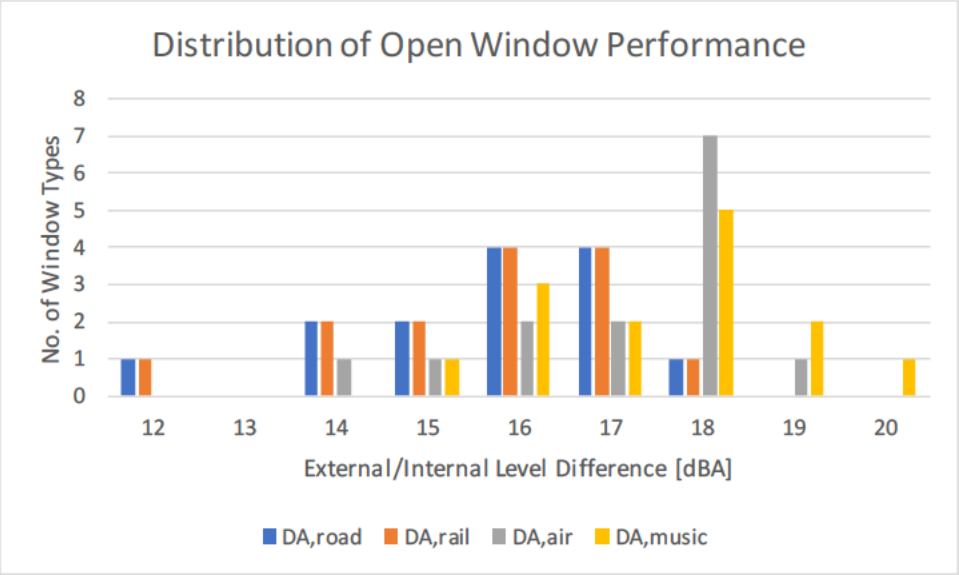


Chart 1: NANR116 test data

Given the above, for road traffic noise it is considered reasonable to assume a "global" figure of 15 dBA as the difference between external and internal levels for a façade with an open window.

NANR116 also reports details of research carried out by Ford and Kerry who found that secondary glazing with staggered openings permits through "fresh air" ventilation and "*It was concluded that, in general, open double windows are about 10 dBA better than open single windows."* The ProPG refers to this window type as "plenum" windows. Therefore, it is considered reasonable to assume a "global" figure of 25 dBA as the difference between external and road traffic noise internal levels for a façade with an open "plenum" window.

Should it not be possible to meet the internal noise targets with openable windows, the ProPG sets out a variety of options that should be considered in an endeavour to avoid the need for windows to be closed, but if this is the only reasonable method by which the internal noise targets can be met, the ProPG requires that the approach should be justified and

"Where the local authority accepts that there is a justification that the internal target noise levels can only practically be achieved with windows closed, which may be the case in urban areas and at sites adjacent to transportation noise sources, special care may be taken to design the accommodation…"

If closed glazing is required to achieve suitable internal noise targets, some local authorities require the glazing to be sealed; however, the ProPG explicitly states at Sn.2.22:

"*Using fixed unopenable glazing for sound insulation purposes is generally unsatisfactory and should be avoided;"*

Consequently, the ProPG confirms that windows should be well sealed but not be sealed shut, i.e. they can still be opened.

3.1.2 **External Noise Levels**

Section 3(ii) of the ProPG states:

"The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$*."* The standard continues… *"These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces but should not be prohibited."*

And at Section 2.49

"Developers are particularly encouraged to enter into pre-application discussions with the LPA where noise levels in proposed amenity spaces

are likely to be above 55 dB $L_{Aeq,16hr}$."

Therefore, noise levels up to 55 dB $L_{Aeq,16hr}$ are within the "ideal" range for external amenity areas. It is only when levels in these areas exceed 55 $L_{Aeq,16hr}$ that the ProPG recommends other methods to avoid significant adverse impact, and to have discussions with the LPA.

The wording of the ProPG [and BS8233] make it clear that the guideline noise levels for gardens, patios, larger balconies etc., are not overriding planning considerations in any event.

4.0 MEASUREMENTS

Noise measurements were made using the instrumentation in Table 3 below from the morning of Thursday 16th until the morning of Saturday 18th January 2025 when the instrument was collected.

The monitoring locations were as shown in Figure 3 towards the end of the report. The meters were located in free-field conditions, with meter 'A' in Table 3 located on the northern boundary and 'C' on the western boundary of the site.

For each meter, the microphone was pole mounted at an approximate height of 1.4m above the local ground height and was fitted with RION WS02 "all weather" wind muff.

Model	Instrument	Serial No.	Lab Cal Certificate	Re-Calibration Due
A - Svan 957	Sound Level Meter	12308	1501102-1	13/11/2025
Svan SV12L	Preamp	13471	1501102-1	13/11/2025
GRAS 40AE Mic	Microphone	75146	1501102-1	13/11/2025
C Svan 957	Sound Level Meter	23201	1504880-2	20/3/2025
Svan SV12L	Preamp	24265	1504880-2	20/3/2025
PCB 377B02	Microphone	LW136090	1504880-2	20/3/2025

Table 3: Instrumentation

All the instrumentation had had been laboratory calibrated as shown above and the correctly 'field calibrated' for noise before and after the measurements.

5.0 RESULTS

5.1 Noise

The dBA results appear in full at the rear of this report, and in summary in Table 4 below.

Period		Western Boundary		Northern Boundary	
Day	Date	Day LAeq,16hr	Night LAeq,8hr	Day LAeq,16hr	Night LAeq,8hr
Thu	16-Jan	68.2	60.0	54.8	47.1
Fri	17-Jan	69.1	58.8	53.6	45.1
Sat	18-Jan	69.3	--	53.2	--

Table 4: Period Results [dBA free-field]

The spectral weekday results appear at Table 5 below.

Location	Octave Band Centre Frequency [Hz]							
	63	125	250	500	1k	2k	4k	8k
Western	65.8	62.1	58.9	61.6	66.9	58.5	45.6	36.1
Northern	62.7	56.7	50.1	47.7	61.4	47.5	37.8	32.1

Table 5: Spectrum Results [dB free-field logarithmic average]

The LAmax,F,1s readings for the Thursday night have been plotted in Figure 2 below.

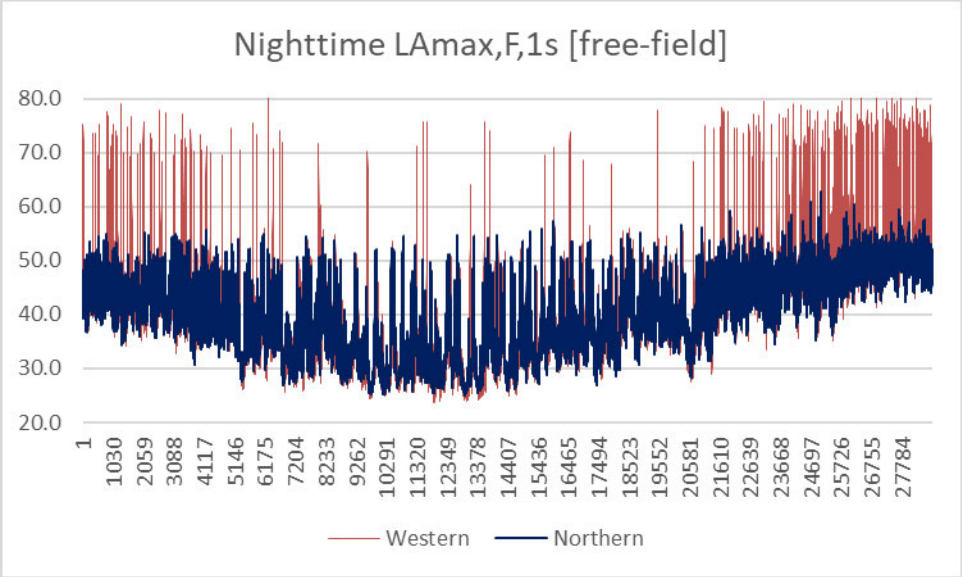


Figure 2: Nighttime LAmax,F,1s readings [free-field]

The 10th highest noise events for the Thursday night were 79.6 and 57.9 dB LAmax,F,1s [free-field] respectively for the western and northern monitoring locations.

5.2 Weather

The data from a nearby weather station reporting its results on Wunderground.com is shown in Appendix 5.

In relation to noise monitoring when the source is close to the monitoring position, as here, weather conditions are less likely to influence results; however, it can be seen that winds were generally from the east and below 5 kph. As regards rain, it was dry during the monitoring.

In conclusion, it is not considered that the prevailing weather conditions are likely to have significantly affected the conclusions to the report.

6.0 ASSESSMENT OF MEASURED LEVELS

From Table 4, on the western boundary the typical noise levels were 69 LAeq,16hr [free-field] for daytime and 60 LAeq,8hr [free-field] for nighttime, and the corresponding figures for the northern boundary are 54 LAeq,16hr and 47 LAeq,8hr; this would place the site into the “Medium Risk” category for both daytime and nighttime from ProPG; therefore, a good acoustic design process will need to be followed and demonstrated in an acoustic design statement for the noise impact to be considered acceptable.

7.0 ACOUSTIC DESIGN

7.1 Noise Modelling Methodology

To assist with the design of the development, a 3D model of the site and surrounding area has been created using SoundPLANv6.0, which has been based the information and assumptions shown in Table 6 below.

Parameter	Source	Details
Horizontal distances	--	Ordnance Survey & Google Earth
Ground levels – around site	Bluesky	LIDAR terrain data
Clitheroe Rd Traffic Data	DfT Count	On Site measurements on western boundary
A59 Road Traffic	Martec	On site measurements on northern boundary
Building heights	Martec Observations	6m height for two storey residential properties. 4m for single/garage.
Barrier heights	Martec	1.0m for existing stone boundary walls
Rail, road and buildings	Open Street Map & Martec	Digitised from Architects Plans and Google Earth
Absorbent Ground	--	As Calculation of Road Traffic noise from DTp
Plans	--	Proposed Site Plans

Table 6: Modelling Parameters Sources and Assumptions

To validate the model, the source levels of the A59 and Clitheroe Road were set and then adjusted such that the predicted levels at the monitoring positions matched the measured noise levels. Using the validated model, predictions were then performed for the proposals; the predicted noise levels [daytime & nighttime] and ground floor daytime noise contours are as shown in Figures 3 and 4 respectively towards the end of this report.

The nighttime first floor [4m above local ground height] contours have been plotted in Figure 5, towards the end of this report.

7.2 External Noise Levels

From Figure 4 it can be seen that the ground floor noise contours in all the outside amenity spaces are predicted be <55 LAeq,16hr for almost all parts of the designated amenity spaces, i.e. within the recommended levels from ProPG 'Planning and Noise'. The predictions assume that acoustic barriers 2.5m high are installed as shown in Figures 3, 4 and 5; a suitable specification is shown in Appendix 6.

7.3 Internal Noise Levels

British Standard 8233:2014 and several other similar documents all indicate that when glazing is open 'for ventilation' the difference between internal and external noise levels should be taken as 15dBA no matter the room size or window area; similarly, Reference 5 indicates that the attenuation of closed thermal glazing is 33dB for road traffic.

Taking the predicted first floor noise levels for the nearest proposed dwellings in various locations [not shown here], internal noise levels can be predicted as shown in Table 7 below. The LAmax levels have been predicted on the assumption that they are point noise sources.

Condition	Western			Northern			Southern		
	Day LAeq,16hr	Night LAeq,8hr	Night LAmax,F	Day LAeq,16hr	Night LAeq,8hr	Night LAmax,F	Day LAeq,16hr	Night LAeq,8hr	Night LAmax,F
External Level	62.4	53.8	66.2	56.8	49.2	61.5	52.5	44.9	52.9
Open Glazing		-15			-15			-15	
Internal Level	47.4	38.8	51.2	41.8	34.2	46.5	37.5	29.9	37.9
Criteria	35	30	45	35	30	45	35	30	45
Exceedance	12.4	8.8	6.2	6.8	4.2	1.5	2.5	-0.1	-7.1
Criteria Met?	No	No	No	No	No	No	No	Yes	Yes
Closed Thermal Glazing		-33			-33			-33	
Internal Level	29.4	20.8	33.2	23.8	16.2	28.5	19.5	11.9	19.9
Criteria	35	30	45	35	30	45	35	30	45
Exceedance	-5.6	-9.2	-11.8	-11.2	-13.8	-16.5	-15.5	-18.1	-25.1
Criteria Met?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Predicted Internal Noise Levels [dBA]

It can be seen that across the site, with open glazing, the criteria are **not** met, whereas with closed thermal glazing the criterion are met. Therefore, closed **thermal** glazing will be necessary for all habitable rooms; some form of mechanical ventilation will need to be provided for all such rooms; so that residents can sleep protected from the noise without the need to open windows to achieve good ventilation.

These conclusions would hold true including the allowance of 1.2dB for traffic increase in 15 years' time. NB L_{Amax} not affected by increased flows.

8.0 ACOUSTIC DESIGN STATEMENT

Typical Issues	Statement
Relevant noise sources	Road Traffic on Clitheroe Rd and A59
Assess extent noise risk 15 years ahead	1.2dB increase considered above
Alternative Site Layouts Considered	An earlier site layout was considered with some dwellings closer to the A59 and those closest to Clitheroe Backing on to the road; following a preliminary analysis the layout was altered to minimise noise impact.
Adequate non-sensitive use for screening	Given and the extent of the noise levels this is not considered necessary
Mitigation of noise within site	Closest properties to Clitheroe Rd orientated to face noise and screen site and amenity spaces.
Mitigation of noise without site	Not considered practicable
Maximise separation	Separation has been maximised as far as practicable.
Existing Topographical advantages. Change site level	Not considered practicable.
Noise Barriers	Acoustic Barriers have been recommended where appropriate
Building layout to self-screen sensitive rooms	Not practicable
Orientation of Noise Exposure, i.e. quite facades	Not required
Window location & size on affected facades	Given measured levels, it will be necessary for closed glazing and ventilation will be required and changing location and size of the windows on these facades would not alter these requirements.
Ventilation – natural, from quiet facade	If using a ducted system this could be to and from the quieter eastern or southern façades.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The noise measurements place the site within the “Medium Risk” category of ProPG for both daytime and nighttime noise.

As set out in Stage 3 of the ProPG, the recommendation to the decision maker is that planning consent can be granted subject to suitable noise conditions. These conditions will ensure that a significant adverse impact will be avoided in the finished development.

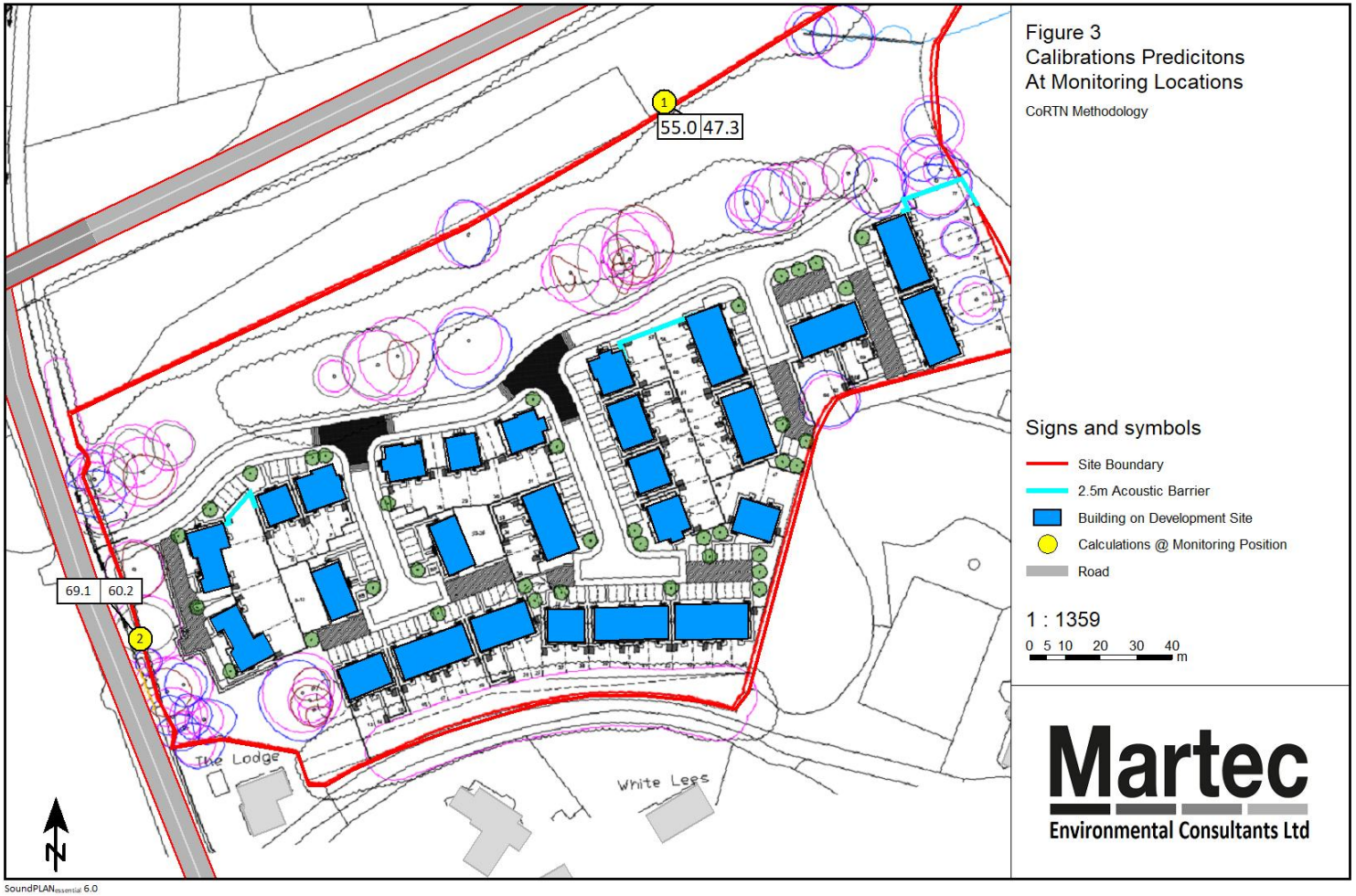
Predictions indicate that external noise levels in amenity areas would be within the ‘ideal’ range if 2.5m high acoustic barriers are constructed in the locations shown in Figures 3, 4 & 5.

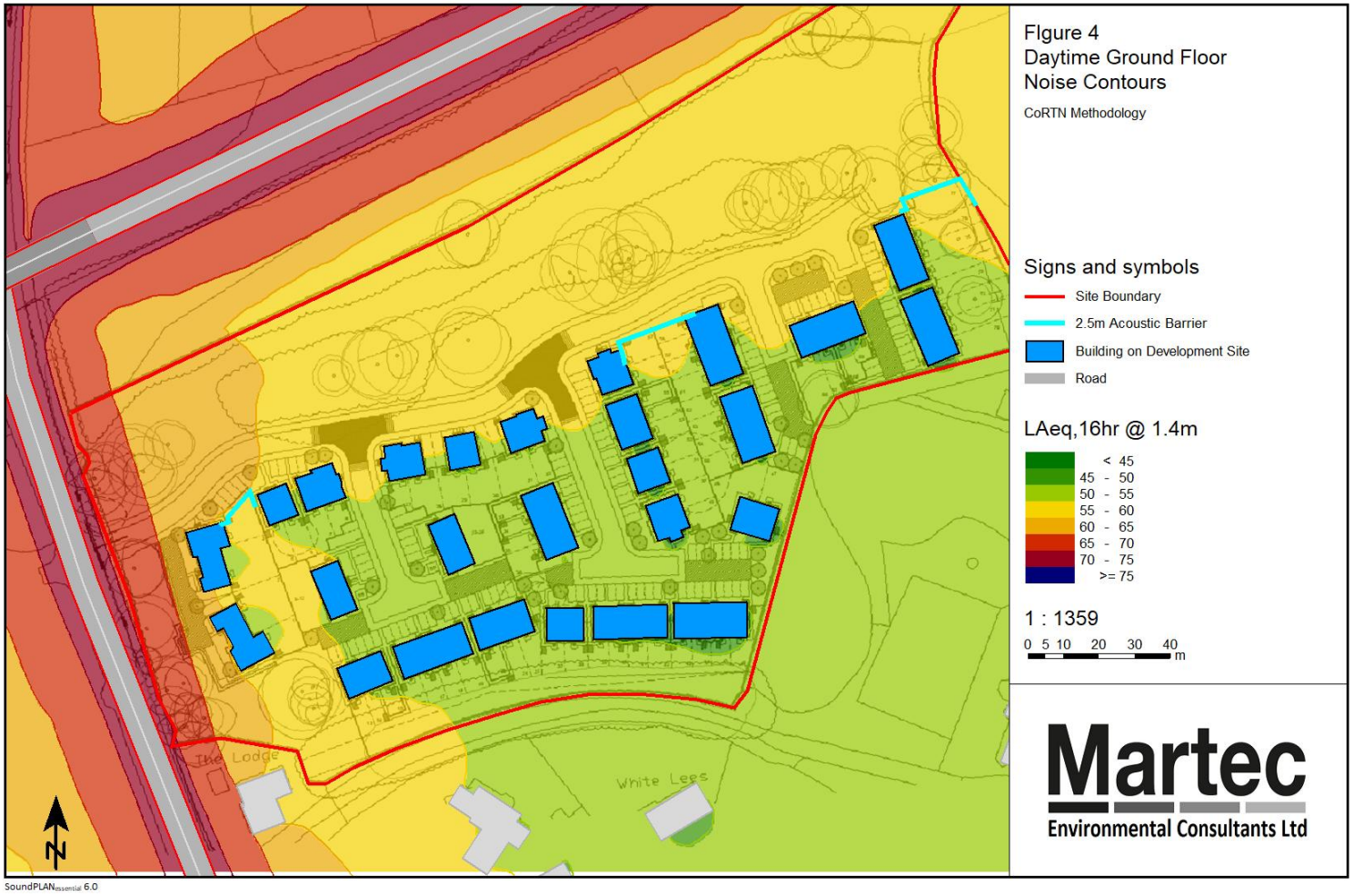
The predictions indicate that the internal noise criteria can be achieved by the fitting of appropriate glazing and ventilation:

1. Closed thermal glazing will be required for all habitable rooms.
2. All rooms with a requirement for closed glazing [above] will need to be provided with either a Mechanical Extract Ventilation (MEV) or a Positive Input Ventilation (PIV) system which extracts/supplies air from the habitable rooms, but which does not allow significant noise to enter from the outside, either because of the system's attenuation or because it vents to/from a quieter façade of the building.

The proposed mitigation measures ensure compliance with the recommendations of the ProPG and therefore, it is considered that the noise impact of the nearby roads on future residents would be acceptable.

In summary it is considered that the noise impact should not bar the grant of planning consent for the site.


1
55.0 47.3
69.1 60.2
2
The Lodge
White Lees
N
SoundPLAN essential 6.0
Figure 3
Calibrations Predicitons
At Monitoring Locations
CoRTN Methodology
Signs and symbols
Site Boundary
2.5m Acoustic Barrier
Building on Development Site
Calculations @ Monitoring Position
Road
1 : 1359
0 5 10 20 30 40
m
Martec
Environmental Consultants Ltd


The Lodge
White Lees
N
SoundPLAN essential 6.0
Figure 4
Daytime Ground Floor
Noise Contours
CoRTN Methodology
Signs and symbols
Site Boundary
2.5m Acoustic Barrier
Building on Development Site
Road
LAeq,16hr @ 1.4m
< 45
45 - 50
50 - 55
55 - 60
60 - 65
65 - 70
70 - 75
>= 75
1 : 1359
0 5 10 20 30 40
m
Martec
Environmental Consultants Ltd

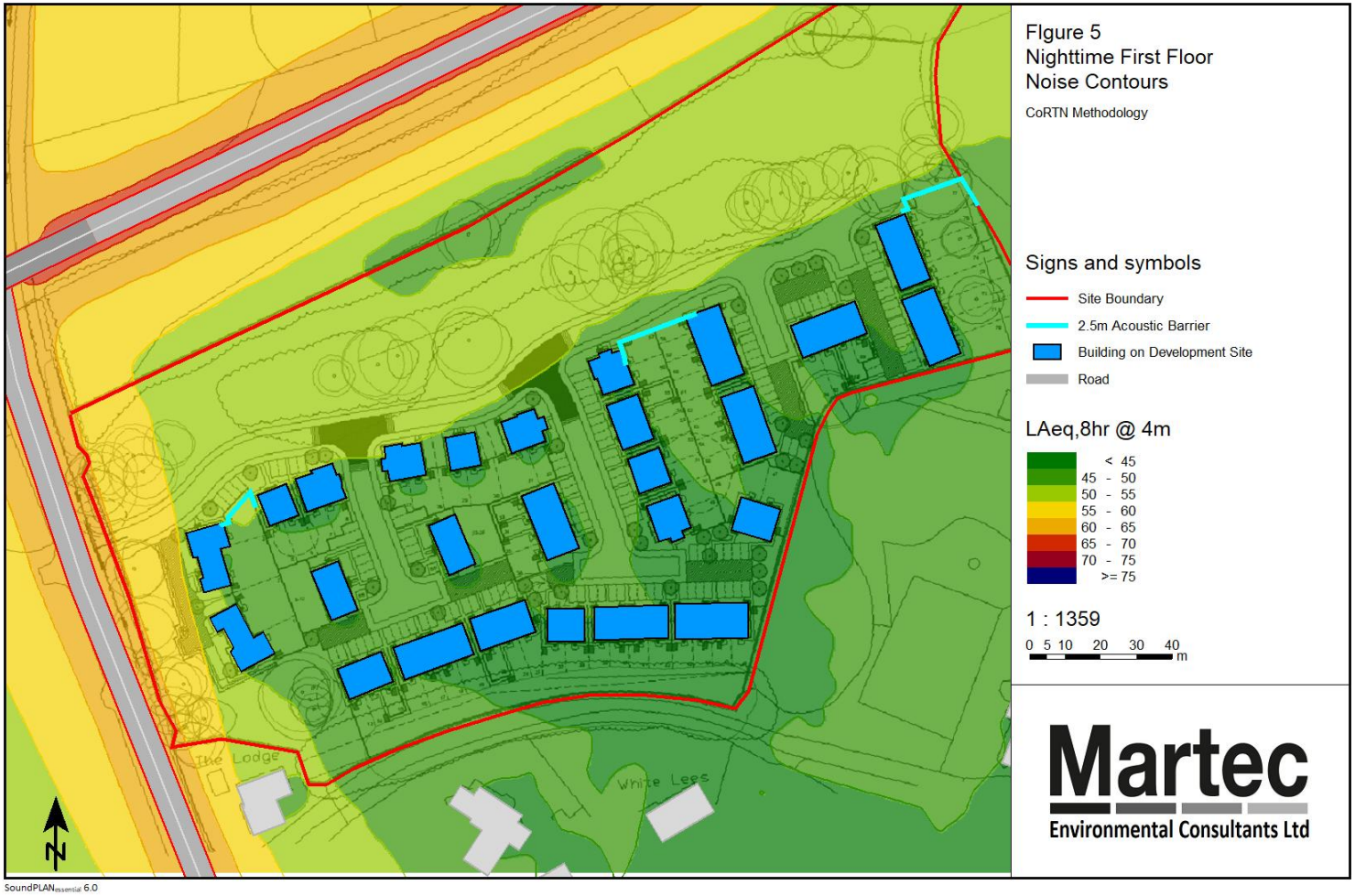


Figure 5
Nighttime First Floor
Noise Contours

CoRTN Methodology

Signs and symbols

- Site Boundary
- 2.5m Acoustic Barrier
- Building on Development Site
- Road

LAeq,8hr @ 4m

< 45
45 - 50
50 - 55
55 - 60
60 - 65
65 - 70
70 - 75
>= 75

1 : 1359

0 5 10 20 30 40 m

Martec Environmental Consultants Ltd

APPENDIX 1

EXPLANATION OF ACOUSTIC TERMS

The dB or the decibel, is the unit of noise. The number of decibels or the level, is measured using a sound level meter. It is common for the sound level meter to filter or 'weight' the incoming sound so as to mimic the frequency response of the human ear. Such measurements are designated **dB(A)**.

A doubling of the sound is perceived, by most people, when the level has increased by 10 dB(A). The least discernible difference is 2 dB(A). Thus, most people cannot distinguish between, say 30 and 31 dB(A).

The Background level of noise is most commonly represented by the level which is exceeded for 90% of the time i.e. the LA90.

If a noise varies over time, then the **equivalent continuous level, or LAeq**, is the notional constant level of noise which would contain the same amount of acoustic energy as the time varying noise.

The following table gives an approximate indication of the comparative loudness of various noises expressed in terms of the A weighted scale:

Source of noise	dB(A)	Nature of Noise
Inside Quiet bedroom at night	25-30	Very Quiet
Quiet office	40-45	
Rural background noise	35-45	
Normal conversational level	55-65	
Busy restaurant	65-75	
Inside suburban electric train	70-80	
Hand clap @ 1m	75-85	
HGV accelerating @ 5m away	85-90	Very Loud

APPENDIX 2

QUALIFICATIONS AND EXPERIENCE OF M. A. KENYON

My full name is Melville Alexander Kenyon. I am the principal of the firm of Martec Environmental Consultants Ltd, a consultancy company that specialises in environmental noise assessment and control. I graduated in 1982 with a bachelor's degree in engineering and subsequently a Master's degree in Environmental Acoustics. I have been a corporate member of the professional body for noise and vibration specialists, the Institute of Acoustics, since 1988, and have sat on the British Standards Committee dealing with noise in buildings [BS.8233:1999].

I have lectured at Liverpool John Moores University on the Diploma of Acoustics course and at Manchester Metropolitan University on their Environmental Health degree course.

The firm of Martec Environmental Engineering was formed in the 1970's and joined The Association of Noise Consultants in 1996. It is now known as Martec Environmental Consultants Ltd.

Since its formation, Martec has advised many groups of both residents and developers about the problems of noise and vibration in the environment.

APPENDIX 3
REFERENCES

1 ProPG: Planning and Noise. – June 2017 – IoA, ANC & CIEH

2 BS.8233:1999 “Sound Insulation and noise reduction for buildings – Code of practice.”

3 Calculation of Road Traffic Noise (CRTN) – Department of Transport and the Welsh Office, HMSO, 1988, ISBN 0-11-550847-3

4 Method for Converting the UK Road Traffic Noise Index $L_{A10,18h}$ to the EU Noise Indices for Road Noise Mapping – TRL/Casella Stanger

www.defra.gov.uk/environment/quality/noise/research/crtn/documents/noise-crtn-update2006.pdf

5 “Planning Policy Guidance 24: Planning and Noise” Annex 6 – Table 1

6 BS EN 12354-3:2000 *Building Acoustics-Estimation of Acoustic Performance in buildings from the performance of elements. Part 3 Airborne sound Insulation against outdoor sound.*

7 Road Traffic Forecasts 2015 - DTp March 2015.

8 ANC Guidelines "Measurement and Assessment of Groundborne Noise & Vibration – 3rd Edition" - The Association of Noise Consultants 2020

9 BS 6472-1:2008 "Guide to evaluation of human exposure to vibration in buildings - Part 1: Vibration sources other than blasting".

10 “ProPG: Planning and Noise - May 2017” Association of Noise Consultants, Institute of Acoustics & Chartered Institute of Environmental Health.

APPENDIX 4

A4.1 DETAILS OF NOISE MEASUREMENTS

Western Monitoring Location [free-field levels]

Date & time	Duration	LAmax,F	LAmin	LAeq	LA01	LA10	LA50	LA90
16/01/2025 16:32:18	00:15:00	83	52.8	70.6	78.7	75.2	65.5	58.7
16/01/2025 16:47:18	00:15:00	83.1	54.6	70.3	78.5	74.6	65.8	58.4
16/01/2025 17:02:18	00:15:00	81.9	52.8	70.6	78.7	75	66.2	57.6
16/01/2025 17:17:18	00:15:00	82.4	50.9	70.2	78.6	74.4	66	56.1
16/01/2025 17:32:18	00:15:00	82.2	52.2	70.5	79.4	75.1	64.5	56.2
16/01/2025 17:47:18	00:15:00	84.2	51.2	71	79.5	75.4	65.8	57.4
16/01/2025 18:02:18	00:15:00	81.9	53.2	70.6	78.9	75.2	65.1	57.6
16/01/2025 18:17:18	00:15:00	83.7	51.8	70	79.1	74.6	63.5	55.8
16/01/2025 18:32:18	00:15:00	81.4	50.7	69.2	78.3	74.2	61.2	55.8
16/01/2025 18:47:18	00:15:00	84	50.1	70	79.6	74.6	62.3	55
16/01/2025 19:02:18	00:15:00	82.7	49.6	69.3	79.1	74	61.7	54.3
16/01/2025 19:17:18	00:15:00	84.2	46.6	67.9	78.3	72.6	59.2	52.4
16/01/2025 19:32:18	00:15:00	82.1	46.2	68.9	78.6	74	60.3	52.5
16/01/2025 19:47:18	00:15:00	82	49.1	68.6	79.1	73.7	59.7	53.3
16/01/2025 20:02:18	00:15:00	84.8	45.9	66.8	77.2	71.8	57.4	50.6
16/01/2025 20:17:18	00:15:00	82.6	42.4	67	77.9	71.6	57	49.9
16/01/2025 20:32:18	00:15:00	85.3	39.6	66.1	76.9	70.9	55.2	47.5
16/01/2025 20:47:18	00:15:00	79	40.1	64.9	75.9	70.5	53.5	45.9
16/01/2025 21:02:18	00:15:00	83.2	44.2	66.3	77.5	71	55.7	49.2
16/01/2025 21:17:18	00:15:00	80.6	44.2	65.8	76.9	70.8	55.1	50
16/01/2025 21:32:18	00:15:00	81	40.6	65.6	77.6	70.4	53.5	46.4
16/01/2025 21:47:18	00:15:00	80.7	41.3	64.3	76.1	68.8	52.3	46.1
16/01/2025 22:02:18	00:15:00	82.4	40.9	64.5	76.5	68.7	51.8	45.1
16/01/2025 22:17:18	00:15:00	81	36.4	63.3	76.6	64.5	50.7	42
16/01/2025 22:32:18	00:15:00	78.5	36.3	60.5	74.6	58.6	46.3	40
16/01/2025 22:47:18	00:15:00	83	36.8	62.9	76.8	61.1	48	41.5
16/01/2025 23:02:18	00:15:00	80.1	39.3	59.8	74.3	56.8	47.1	42.4
16/01/2025 23:17:18	00:15:00	80.8	38.4	61	75	58.5	47.1	42.3
16/01/2025 23:32:18	00:15:00	82.1	36.1	60.1	73.7	57	45.7	39.5
16/01/2025 23:47:18	00:15:00	80.9	37.2	60.2	74.7	54.7	44.8	40.3
17/01/2025 00:02:18	00:15:00	80.2	33.8	58.3	73.4	53.5	43.5	38.6
17/01/2025 00:17:18	00:15:00	76.3	32.3	55.6	70.8	52.6	43	37.8
17/01/2025 00:32:18	00:15:00	77.7	28.2	53.9	68.7	50.2	40.7	30.8
17/01/2025 00:47:18	00:15:00	84.1	29.7	57.1	66.7	50.9	39.1	33.4
17/01/2025 01:02:18	00:15:00	77.1	27.4	53.5	67.6	48.2	35.6	30.1
17/01/2025 01:17:18	00:15:00	74.8	27.9	49.1	57.7	49.5	39.3	31.2
17/01/2025 01:32:18	00:15:00	57.8	28.2	42.1	52.9	45.5	34.9	30.4
17/01/2025 01:47:18	00:15:00	73.4	26.5	50.1	60.1	45	31.9	28.4
17/01/2025 02:02:18	00:15:00	57.9	26.7	40.6	54.8	41.4	31	28.3

17/01/2025 02:17:18	00:15:00	78.9	27.5	54.1	65.6	45.7	32.8	29.5
17/01/2025 02:32:18	00:15:00	56.5	25.5	40.5	52.7	43.4	31.8	27.6
17/01/2025 02:47:18	00:15:00	78.8	26	51.4	60.5	42.6	29.7	27.1
17/01/2025 03:02:18	00:15:00	77.1	27.1	50.6	57.3	45.1	34.2	28.9
17/01/2025 03:17:18	00:15:00	56.9	27	41.6	54	42.9	34.8	30.6
17/01/2025 03:32:18	00:15:00	74.1	29.6	50.7	61.1	47.6	37.2	33.3
17/01/2025 03:47:18	00:15:00	76.8	31.3	51	59.5	48.9	38.2	34.2
17/01/2025 04:02:18	00:15:00	70.9	29.9	47.1	55.5	45.5	36.6	32.5
17/01/2025 04:17:18	00:15:00	59.1	31.7	45.4	55.5	49.6	40.2	34.9
17/01/2025 04:32:18	00:15:00	80.9	34.9	53.4	56.6	49.2	40.9	37.6
17/01/2025 04:47:18	00:15:00	71.3	29.5	47.1	56.9	47	38.2	32.8
17/01/2025 05:02:18	00:15:00	81.5	30.8	57.5	69.4	51.8	42.3	36
17/01/2025 05:17:18	00:15:00	80.7	36.1	59.2	74.8	54.6	45.7	39.9
17/01/2025 05:32:18	00:15:00	82.6	35.2	60.6	74.8	56.7	47.6	40.3
17/01/2025 05:47:18	00:15:00	82.1	37.7	63.2	77.7	61.2	50.6	43.5
17/01/2025 06:02:18	00:15:00	81	37.6	63.4	77.3	62.6	51.9	45.1
17/01/2025 06:17:18	00:15:00	83.2	36.9	63.7	77.1	63.1	52	43.7
17/01/2025 06:32:18	00:15:00	84.9	43.5	66.3	78.9	67.3	53.7	47.2
17/01/2025 06:47:18	00:15:00	84.7	45.7	67.7	79.6	71.7	56.2	50.7
17/01/2025 07:02:18	00:15:00	83.6	45	67.5	78.8	72.3	56.2	51.5
17/01/2025 07:17:18	00:15:00	84.8	47.9	68.8	79.7	73.9	58	53.2
17/01/2025 07:32:18	00:15:00	82.7	48.1	68.2	78.9	73.6	57.8	53.4
17/01/2025 07:47:18	00:15:00	85.9	49.8	70.4	80.6	75.5	61.3	55.2
17/01/2025 08:02:18	00:15:00	87.9	47.8	70.5	79.7	75.5	62.5	55.5
17/01/2025 08:17:18	00:15:00	85.1	49.9	70.2	79.8	74.9	61.7	55
17/01/2025 08:32:18	00:15:00	82.1	52.9	70.5	79.5	75	64.4	56.9
17/01/2025 08:47:18	00:15:00	82.8	53.4	70.7	79.8	75.5	63.3	55.9
17/01/2025 09:02:18	00:15:00	84.3	51.4	71	79.9	75.9	63.7	56.3
17/01/2025 09:17:18	00:15:00	81.6	52.1	69.1	78.3	73.9	61.8	55.8
17/01/2025 09:32:18	00:15:00	84.9	48.5	69.1	79.8	73.8	59.8	53
17/01/2025 09:47:18	00:15:00	83.9	50.3	69.9	79.6	74.8	61.3	54.8
17/01/2025 10:02:18	00:15:00	81	48.7	69.5	78.3	74.5	61.9	53.5
17/01/2025 10:17:18	00:15:00	82.3	47.6	70.3	79.4	75.4	62.9	55.3
17/01/2025 10:32:18	00:15:00	83.3	49.3	69.2	78.8	74.3	60.9	53.3
17/01/2025 10:47:18	00:15:00	82.9	48.3	68.6	78.4	73.8	59.9	52.6
17/01/2025 11:02:18	00:15:00	81.4	51.5	69.2	78.7	74.2	61.2	54.5
17/01/2025 11:17:18	00:15:00	83.9	50.6	69.4	78.9	74.2	60.8	53.8
17/01/2025 11:32:18	00:15:00	82.8	49.6	69.4	78.7	74.1	61.8	54.5
17/01/2025 11:47:18	00:15:00	82.5	48.4	69.3	78.3	74	62.5	54.2
17/01/2025 12:02:18	00:15:00	84.3	48.3	69.4	78.5	74.4	61.8	54
17/01/2025 12:17:18	00:15:00	82.8	46.5	69.8	79	74.8	62.2	53.5
17/01/2025 12:32:18	00:15:00	81.4	46.9	68.7	78.5	73.8	60.1	52.5
17/01/2025 12:47:18	00:15:00	82	50.5	70.6	79.4	75.2	66.2	56.5
17/01/2025 13:02:18	00:15:00	82.6	47.3	70.4	79.4	74.2	67.7	58.5
17/01/2025 13:17:18	00:15:00	81.5	51.1	69.4	78.4	74.2	63.1	54.7

17/01/2025 13:32:18	00:15:00	82.6	48.9	69.7	78.6	74.6	61.8	54.6
17/01/2025 13:47:18	00:15:00	82.6	50.2	69.1	78.6	73.8	61.7	54.4
17/01/2025 14:02:18	00:15:00	83.4	46	69.3	78.3	74.1	62	56.2
17/01/2025 14:17:18	00:15:00	81.8	52.5	69.9	78.6	74.6	63.9	56.4
17/01/2025 14:32:18	00:15:00	82.8	48.8	69.4	78.2	74.3	61.8	54.2
17/01/2025 14:47:18	00:15:00	81.2	46.9	69.9	78.6	74.8	63.1	55.1
17/01/2025 15:02:18	00:15:00	83.8	50.5	70.1	78.7	74.4	65.3	56
17/01/2025 15:17:18	00:15:00	84.2	49.4	70.5	79.8	75	63.2	54.9
17/01/2025 15:32:18	00:15:00	84.1	48.7	70.2	79.4	74.9	63.4	55.2
17/01/2025 15:47:18	00:15:00	84.1	51.6	70.2	78.9	74.6	64.9	56.3
17/01/2025 16:02:18	00:15:00	82.2	52.3	70	79.1	74.4	64.4	56.3
17/01/2025 16:17:18	00:15:00	83.3	54.5	70.4	78.7	74.8	65.4	57.4
17/01/2025 16:32:18	00:15:00	82.6	50.7	70.4	79.5	74.9	64.4	55.4
17/01/2025 16:47:18	00:15:00	81.3	54	70.4	78.5	75	66.1	57.4
17/01/2025 17:02:18	00:15:00	82.9	49	70.1	78.3	74.4	65.6	55.7
17/01/2025 17:17:18	00:15:00	88.4	53.9	70.9	78.6	75.1	66.9	57
17/01/2025 17:32:18	00:15:00	81.2	49.4	69.8	77.9	74.1	66.4	56.5
17/01/2025 17:47:18	00:15:00	85.4	52.1	70.5	78.8	74.8	65.8	56.3
17/01/2025 18:02:18	00:15:00	82.4	49.7	70.4	78.8	74.7	66.1	56.7
17/01/2025 18:17:18	00:15:00	80.8	50.6	69.6	77.9	74.3	64.2	55.4
17/01/2025 18:32:18	00:15:00	82.7	50	69.8	78.9	74.6	62.9	55.2
17/01/2025 18:47:18	00:15:00	83.2	48.6	69.2	78.4	74.1	61.6	54.4
17/01/2025 19:02:18	00:15:00	83.7	44.9	68.4	78.2	73.1	60.2	53.1
17/01/2025 19:17:18	00:15:00	80.9	44.7	67.5	77.7	72.8	57.6	50.8
17/01/2025 19:32:18	00:15:00	81.9	43.8	66.9	77.6	72.2	56.1	50.3
17/01/2025 19:47:18	00:15:00	86.1	41.4	67.5	77.9	72.4	56.5	49.8
17/01/2025 20:02:18	00:15:00	80.2	41.9	66.6	76.8	71.9	56.3	48.5
17/01/2025 20:17:18	00:15:00	81.8	41.2	66.2	78.1	71	54	48.1
17/01/2025 20:32:18	00:15:00	85.3	40	65.8	77.2	70.5	53.9	47.2
17/01/2025 20:47:18	00:15:00	81.2	41.2	65	76.5	69.8	53	45.4
17/01/2025 21:02:18	00:15:00	82	38.3	64.8	76.7	68.7	52.9	45.4
17/01/2025 21:17:18	00:15:00	80.6	39.9	64.7	76.8	68.7	51.8	44.2
17/01/2025 21:32:18	00:15:00	82.4	38.3	64.8	77.4	68.1	52.1	44
17/01/2025 21:47:18	00:15:00	81.7	39.8	64.1	76.9	65.9	51.3	43.7
17/01/2025 22:02:18	00:15:00	81.6	38	64.5	77.2	67.4	51.2	43.7
17/01/2025 22:17:18	00:15:00	81.5	37	64	76.1	68.2	51.9	43
17/01/2025 22:32:18	00:15:00	82.3	39.7	65.2	76.8	69.9	52.4	44.1
17/01/2025 22:47:18	00:15:00	85.7	38.5	64.2	76.8	67.1	50.9	43.1
17/01/2025 23:02:18	00:15:00	80.8	37.3	62.6	75.1	64.8	49	41.6
17/01/2025 23:17:18	00:15:00	83.3	37	63.9	76.1	66.9	51.1	42.6
17/01/2025 23:32:18	00:15:00	81.5	36.5	63.3	75.9	65.4	49.6	42
17/01/2025 23:47:18	00:15:00	81.8	32.5	61.9	75.2	60.8	48	39.1
18/01/2025 00:02:18	00:15:00	78.8	34.2	60.5	74	58.5	47.5	39.6
18/01/2025 00:17:18	00:15:00	80.4	32.9	61.4	75.2	60.4	45.1	37
18/01/2025 00:32:18	00:15:00	78.4	31.5	61	74.8	59.5	46.2	37.3

18/01/2025 00:47:18	00:15:00	79.9	32.2	58.8	73.6	54.6	41.7	36.1
18/01/2025 01:02:18	00:15:00	83.5	30.4	58.8	71.6	54.6	40.3	34.8
18/01/2025 01:17:18	00:15:00	82.5	30.6	58.1	71.6	52.2	38.6	34.4
18/01/2025 01:32:18	00:15:00	79.8	27.2	56.3	71.2	49.8	38.2	30.3
18/01/2025 01:47:18	00:15:00	80.4	29.3	59.7	74.9	54.4	39.6	32.9
18/01/2025 02:02:18	00:15:00	81.7	28.5	56	67.4	50.4	37.7	32.5
18/01/2025 02:17:18	00:15:00	81.5	25.7	54.4	60.8	47.4	34.8	29
18/01/2025 02:32:18	00:15:00	81.9	25.7	57.7	71.2	52.2	38.1	29.9
18/01/2025 02:47:18	00:15:00	79.8	26.7	51.9	55.9	45.7	36.6	29.3
18/01/2025 03:02:18	00:15:00	70.9	25.4	45.7	53.6	43.1	30.8	27.3
18/01/2025 03:17:18	00:15:00	78.3	26.3	51.9	59.8	49	35.1	29.2
18/01/2025 03:32:18	00:15:00	80.4	25.5	54.3	62.4	42.3	32.2	28.3
18/01/2025 03:47:18	00:15:00	80.7	26.8	57.5	69	47.1	34.4	30.1
18/01/2025 04:02:18	00:15:00	59.9	26.3	42.9	55.1	46.5	34.6	30.1
18/01/2025 04:17:18	00:15:00	77.2	26.5	50	56.2	47.2	36.1	30.7
18/01/2025 04:32:18	00:15:00	56.1	23.3	40.2	52.9	41.7	33.3	26.2
18/01/2025 04:47:18	00:15:00	57.5	22.9	40.4	53	41.6	28.8	24.2
18/01/2025 05:02:18	00:15:00	56.9	21.2	41.5	54.1	44.4	31.7	23.9
18/01/2025 05:17:18	00:15:00	77.2	25.8	50.4	55.9	47.9	35.9	29.5
18/01/2025 05:32:18	00:15:00	80.4	26.3	54.2	66	51.4	41.7	34
18/01/2025 05:47:18	00:15:00	83.3	28.7	59.8	74.1	54.9	42.1	35
18/01/2025 06:02:18	00:15:00	79.6	28	58.8	74.3	52.9	41.2	32
18/01/2025 06:17:18	00:15:00	80.7	32.9	60.7	75.5	57.6	46.9	38
18/01/2025 06:32:18	00:15:00	80.7	30.9	61.2	76	57.3	48	39.1
18/01/2025 06:47:18	00:15:00	80.6	30	60.3	74.6	57.2	47.7	39
18/01/2025 07:02:18	00:15:00	83.7	37.2	63.9	78	60.9	49.1	40.9
18/01/2025 07:17:18	00:15:00	84.5	36.6	63.8	77.6	62.9	49.7	42.2
18/01/2025 07:32:18	00:15:00	87.9	37.5	65.3	78.2	66.4	51	43.2
18/01/2025 07:47:18	00:15:00	82.2	36	65.3	77.6	69	52.7	43.2
18/01/2025 08:02:18	00:15:00	82.8	40.6	66.8	78.6	71.2	54.9	48.1
18/01/2025 08:17:18	00:15:00	82.6	44.2	66.4	78	71.2	54.8	49.6
18/01/2025 08:32:18	00:15:00	82	42.8	66.9	78.6	71.5	55.5	49.8
18/01/2025 08:47:18	00:15:00	82.9	45.5	69	79.6	74.3	58.1	51.7
18/01/2025 09:02:18	00:15:00	82	45.5	68.7	78.8	73.8	58.8	50.9
18/01/2025 09:17:18	00:15:00	83.3	46.9	68.9	79.4	73.7	59.1	51.3
18/01/2025 09:32:18	00:15:00	82.5	44.7	68.2	78.8	73.1	57.8	51.8
18/01/2025 09:47:18	00:15:00	84	46.3	70.2	80.2	75	60.8	53.3
18/01/2025 10:02:18	00:15:00	84.8	47.6	69.5	79.4	74.5	60.1	52.6
18/01/2025 10:17:18	00:15:00	83.3	47.6	70	80.1	75.1	60.8	53.2
18/01/2025 10:32:18	00:15:00	86.8	49.8	70.2	80.2	75.1	60.7	54.2
18/01/2025 10:47:18	00:15:00	82.1	51.6	70.3	78.7	75.1	63.8	55.8
18/01/2025 11:02:18	00:15:00	81.8	47.4	70.5	79.1	75.2	63.9	54
18/01/2025 11:17:18	00:15:00	83.3	47.2	69.3	78.8	74.2	61.1	54.6
18/01/2025 11:32:18	00:15:00	85	49.4	70	78.9	74.8	62.6	54.6
18/01/2025 11:47:18	00:15:00	83.1	46.5	69.8	78.9	74.8	61.9	54.8

18/01/2025 12:02:18	00:15:00	82.3	51	69.7	79	74.6	62.1	55.2
18/01/2025 12:17:18	00:15:00	83.2	48.9	69.7	79.4	74.4	61.9	53.9
18/01/2025 12:32:18	00:15:00	81.9	51.9	70.6	79.8	75.4	63.8	55.5
18/01/2025 12:47:18	00:15:00	82.3	48.6	70.1	79.3	75.1	62.3	54.7
18/01/2025 13:02:18	00:15:00	83.3	50.4	70.2	79.7	75.1	61.9	54.8
18/01/2025 13:17:18	00:15:00	82.9	49.2	69.9	79.1	74.4	63.4	54.8
18/01/2025 13:32:18	00:15:00	84.6	50.7	70	79.1	75	62.1	55.1
18/01/2025 13:47:18	00:15:00	82.3	47.2	69.6	79.3	74.2	62.2	54.3
18/01/2025 14:02:18	00:15:00	83.6	47.1	69.7	79.7	74.4	60.6	53.1
18/01/2025 14:17:18	00:15:00	82.5	44.5	70.2	79.7	74.9	62	54.1
18/01/2025 14:32:18	00:15:00	83.7	47.2	69.4	78.7	74.4	61.3	54.5
18/01/2025 14:47:18	00:15:00	82.3	48.2	69.4	78.6	74.2	61.9	54.5
18/01/2025 15:02:18	00:15:00	81.7	51.6	69.9	79.3	74.7	62.3	55.3
18/01/2025 15:17:18	00:15:00	83.4	47.2	69.5	79	74.2	61.5	54.1
18/01/2025 15:32:18	00:15:00	82	45.8	69.1	79	74.1	60.2	53.6
18/01/2025 15:47:18	00:15:00	82.4	45.7	69.1	78.4	73.8	61.4	53.5
18/01/2025 16:02:18	00:15:00	84.6	46.9	69.9	78.8	74.4	63.5	55.3
18/01/2025 16:17:18	00:15:00	81.3	48	69.2	78.5	74.3	60.8	53.3
18/01/2025 16:32:18	00:15:00	81.5	46.4	69.1	77.9	74	61.5	54.3
18/01/2025 16:47:18	00:15:00	82.2	48.1	69.5	79.3	74.5	61	54.3
18/01/2025 17:02:18	00:15:00	82.7	49	69.1	78	74	60.5	53.7
18/01/2025 17:17:18	00:15:00	83.6	45.3	69.3	78.5	74.4	60.7	52

Northern Monitoring Location [free-field levels]

Date & time	Duration	LAmax,F	LAmin	LAeq	LA01	LA10	LA50	LA90
16/01/2025 16:15:04	00:15:00	65.6	51.4	57.6	60.6	59.2	57.4	55.2
16/01/2025 16:30:04	00:15:00	61.9	51.8	58.3	60.9	59.9	58.1	55.7
16/01/2025 16:45:04	00:15:00	62.2	51.5	58	60.9	59.7	58	55.3
16/01/2025 17:00:04	00:15:00	66	50.4	57.6	60.9	59.2	57.5	54.8
16/01/2025 17:15:04	00:15:00	63.4	48.5	56.8	59.9	58.6	56.7	54
16/01/2025 17:30:04	00:15:00	62.4	51.6	57.7	60.9	59.2	57.5	55.5
16/01/2025 17:45:04	00:15:00	62.4	51.2	56.8	59.9	58.6	56.6	54.3
16/01/2025 18:00:04	00:15:00	62.4	50	57	60.4	58.7	56.9	54.7
16/01/2025 18:15:04	00:15:00	62.5	50.2	56.3	59.7	58.1	56.2	53.4
16/01/2025 18:30:04	00:15:00	66.7	51.1	56	59.3	57.8	55.9	53.5
16/01/2025 18:45:04	00:15:00	60.8	48.4	55	58.6	56.9	54.8	52.1
16/01/2025 19:00:04	00:15:00	62.2	46.9	54.9	59.3	57.2	54.4	51
16/01/2025 19:15:04	00:15:00	65.5	44.9	54.5	59.7	56.7	53.9	50.4
16/01/2025 19:30:04	00:15:00	61.9	43.2	54.9	59.4	57.6	54.5	50.2
16/01/2025 19:45:04	00:15:00	67.4	46.6	53.9	58	56.3	53.4	49.7
16/01/2025 20:00:04	00:15:00	59.9	45.4	53.6	58.1	56.2	53	49.1

16/01/2025 20:15:04	00:15:00	61.7	43.6	53.6	58.8	56.5	53.1	47.2
16/01/2025 20:30:04	00:15:00	61.2	40.3	52.2	57.8	55.3	51.5	45.7
16/01/2025 20:45:04	00:15:00	59.3	41.1	51.4	57.5	54.6	50.1	45.1
16/01/2025 21:00:04	00:15:00	59.4	41.7	51.4	57.4	54.3	50.4	45.6
16/01/2025 21:15:04	00:15:00	64.4	42.8	52.7	58	55.4	51.8	48.6
16/01/2025 21:30:04	00:15:00	59.2	43.1	51.2	57	54.5	49.9	45.8
16/01/2025 21:45:04	00:15:00	58.3	42.2	50	55.6	53	48.9	45
16/01/2025 22:00:04	00:15:00	58.8	38.8	49.5	56.3	52.8	47.6	42.9
16/01/2025 22:15:04	00:15:00	58.6	37.1	49.1	56.6	53	46.7	41
16/01/2025 22:30:04	00:15:00	56.8	37.2	47.7	55.1	51.8	44.5	40.7
16/01/2025 22:45:04	00:15:00	61.9	36.8	47.8	55	51.1	45.5	41
16/01/2025 23:00:04	00:15:00	58.6	39.5	48.1	55.5	51.4	46.3	42.8
16/01/2025 23:15:04	00:15:00	57.9	38.6	48.1	55.7	51.9	45.6	42.2
16/01/2025 23:30:04	00:15:00	56.4	36.2	46.4	54.2	49.8	44.6	39.7
16/01/2025 23:45:04	00:15:00	58.3	37.8	46.6	54	49.9	44.5	40.6
17/01/2025 00:00:04	00:15:00	57.9	36.7	46.8	55.6	50.4	43.8	39.9
17/01/2025 00:15:04	00:15:00	58.6	32.3	45.1	55.1	48.9	41.1	37.1
17/01/2025 00:30:04	00:15:00	57	29.4	44.7	54.3	49.1	40.1	34.9
17/01/2025 00:45:04	00:15:00	58	29.6	43.8	55	47.8	37.2	33
17/01/2025 01:00:04	00:15:00	54.2	28.8	41.7	51.7	46	37.2	31.1
17/01/2025 01:15:04	00:15:00	57.5	29.1	42.5	53.5	45.7	37.4	31.9
17/01/2025 01:30:04	00:15:00	57.3	29.2	43.4	53.6	47.6	38	31.8
17/01/2025 01:45:04	00:15:00	54.9	27	39.3	51.9	40.8	33.1	28.8
17/01/2025 02:00:04	00:15:00	55.3	27.1	40.3	53	42.6	32.3	29
17/01/2025 02:15:04	00:15:00	57.6	27.5	40.9	53.5	43.5	34.3	30.1
17/01/2025 02:30:04	00:15:00	54.2	27.5	39.7	51.7	43.2	32.9	29.1
17/01/2025 02:45:04	00:15:00	57.8	27.1	40.5	53.6	42.5	31.4	28.8
17/01/2025 03:00:04	00:15:00	57.7	28.3	41.8	52.9	44.8	35.4	30.7
17/01/2025 03:15:04	00:15:00	58.4	27.9	41.2	53	42.5	35	30.5
17/01/2025 03:30:04	00:15:00	60.3	29.4	42.5	54.6	44	37	32
17/01/2025 03:45:04	00:15:00	56.5	31.1	42.8	53.5	46.2	38	34.4
17/01/2025 04:00:04	00:15:00	56.7	29.2	42.2	53.4	45	38.4	32.4
17/01/2025 04:15:04	00:15:00	58.1	30.7	45	55.2	48.6	40.2	34
17/01/2025 04:30:04	00:15:00	56.2	34.3	44.8	54.4	48.1	42	38.3
17/01/2025 04:45:04	00:15:00	59.7	30.2	43.7	55.3	45.7	39.6	34.5
17/01/2025 05:00:04	00:15:00	59.2	32.9	45.1	53.9	49	41.3	36.5
17/01/2025 05:15:04	00:15:00	62.3	36.5	48.4	56.9	52.3	45	40.6
17/01/2025 05:30:04	00:15:00	59	37.9	49	56.4	52.8	46.6	41.5
17/01/2025 05:45:04	00:15:00	61.5	36.2	49.2	56.8	52.8	47.1	41.5
17/01/2025 06:00:04	00:15:00	65.9	37.5	50.5	57.4	54	48.5	43.2
17/01/2025 06:15:04	00:15:00	62	37.6	50.4	56.9	53.7	48.9	42.7
17/01/2025 06:30:04	00:15:00	63.5	43.9	52.3	58.1	55.2	51.2	47.2
17/01/2025 06:45:04	00:15:00	62.6	44	53.3	58.8	56	52.6	48.6
17/01/2025 07:00:04	00:15:00	60.5	44.2	53.1	57.8	55.7	52.6	47.9
17/01/2025 07:15:04	00:15:00	61.8	45.5	53.9	58.9	56.2	53.5	49.5

17/01/2025 07:30:04	00:15:00	65.9	47.2	54.2	58.7	56.5	53.7	50.5
17/01/2025 07:45:04	00:15:00	63.9	47.2	54.8	59.2	56.7	54.5	51.3
17/01/2025 08:00:04	00:15:00	69.7	47.8	55.2	60.3	57	54.8	51.3
17/01/2025 08:15:04	00:15:00	63.2	47.4	55	59.3	57.1	54.6	51.8
17/01/2025 08:30:04	00:15:00	66.4	50.3	55.9	60.1	57.7	55.7	53.1
17/01/2025 08:45:04	00:15:00	69.2	50.3	56.1	60.8	57.7	55.7	53.2
17/01/2025 09:00:04	00:15:00	64.5	49.5	56	59.9	57.7	55.7	53.4
17/01/2025 09:15:04	00:15:00	66.8	49.1	55.1	60.3	56.9	54.6	51.7
17/01/2025 09:30:04	00:15:00	62.6	47.9	54.5	58.7	56.7	54.1	51
17/01/2025 09:45:04	00:15:00	61.2	48.6	54.6	58.8	56.7	54.3	51.6
17/01/2025 10:00:04	00:15:00	62.7	48.3	54.4	59.7	56.5	53.7	51.1
17/01/2025 10:15:04	00:15:00	68.8	46.8	54.5	59.7	56.8	53.9	51.2
17/01/2025 10:30:04	00:15:00	66.4	47.1	53.9	59.1	55.9	53.3	50.2
17/01/2025 10:45:04	00:15:00	63.7	48.2	54.2	59.6	56.1	53.6	51.2
17/01/2025 11:00:04	00:15:00	64.9	48.4	54.5	59.5	56.5	54	51.3
17/01/2025 11:15:04	00:15:00	60.3	48.3	53.9	58.1	55.9	53.4	51
17/01/2025 11:30:04	00:15:00	65	47.8	54.3	59.4	56.2	53.9	51.3
17/01/2025 11:45:04	00:15:00	62.6	48.2	54.3	59.1	56.1	53.9	51.4
17/01/2025 12:00:04	00:15:00	63.9	46.5	54.2	59	56.4	53.8	50.7
17/01/2025 12:15:04	00:15:00	63.6	46.3	53.8	58.7	55.9	53.4	49.9
17/01/2025 12:30:04	00:15:00	71.5	45.8	54	59.5	56.1	53.4	49.5
17/01/2025 12:45:04	00:15:00	64.3	43.8	55.3	60.2	57.6	54.7	51.5
17/01/2025 13:00:04	00:15:00	63.3	47.4	55.4	59.5	57.7	55.1	51.9
17/01/2025 13:15:04	00:15:00	65.9	44.9	53.4	58.6	55.7	52.9	49.2
17/01/2025 13:30:04	00:15:00	65.8	45.1	53.6	58	55.8	53.2	49
17/01/2025 13:45:04	00:15:00	62.5	45.9	53.2	58.7	55.3	52.7	49.1
17/01/2025 14:00:04	00:15:00	73.3	46.6	56.3	66.8	57.2	54.1	50.8
17/01/2025 14:15:04	00:15:00	63	44.9	54.5	58.9	56.8	54.1	50.5
17/01/2025 14:30:04	00:15:00	59.9	43.9	53.7	57.8	55.9	53.4	49.5
17/01/2025 14:45:04	00:15:00	63	45	53.8	58	55.9	53.5	49.5
17/01/2025 15:00:04	00:15:00	69.3	46.5	54.7	60.6	56.5	54.2	51.6
17/01/2025 15:15:04	00:15:00	65	47.5	54.4	59.2	56.3	54	51.2
17/01/2025 15:30:04	00:15:00	60.4	46.2	53.8	57.6	55.8	53.5	50.1
17/01/2025 15:45:04	00:15:00	63.6	45.6	54.1	58.7	55.8	54	50.6
17/01/2025 16:00:04	00:15:00	63.7	48.2	54.4	59.1	56.4	54.1	51.2
17/01/2025 16:15:04	00:15:00	65.2	46.7	55.1	60.9	56.8	54.6	51.5
17/01/2025 16:30:04	00:15:00	64.4	48.9	54.1	57.7	55.8	53.8	51.5
17/01/2025 16:45:04	00:15:00	59.5	46.5	54.3	57.8	56	54.2	51.6
17/01/2025 17:00:04	00:15:00	62.4	47.5	53.8	58.3	55.8	53.4	50.6
17/01/2025 17:15:04	00:15:00	65.2	47.7	54.1	57.9	55.8	53.8	51.3
17/01/2025 17:30:04	00:15:00	59.5	45.8	53.9	57.8	55.9	53.7	51.1
17/01/2025 17:45:04	00:15:00	59.1	46.5	53.6	57.3	55.7	53.3	50.3
17/01/2025 18:00:04	00:15:00	58.9	46.8	53.3	57.5	55.5	52.8	50.1
17/01/2025 18:15:04	00:15:00	59.7	46.2	53.2	56.9	55.4	52.8	50
17/01/2025 18:30:04	00:15:00	60.8	47.6	53.8	58.4	55.7	53.4	50.9

17/01/2025 18:45:04	00:15:00	62.4	46.5	53.3	57	55.5	53.1	49.9
17/01/2025 19:00:04	00:15:00	59.1	45.3	51.9	56.2	54.1	51.4	48.4
17/01/2025 19:15:04	00:15:00	58.4	43.8	51.6	56.2	54.2	51.1	47.2
17/01/2025 19:30:04	00:15:00	66.6	42.9	52.2	59.7	54.5	51	46.6
17/01/2025 19:45:04	00:15:00	59.4	42	51.4	56.9	54.3	50.6	46
17/01/2025 20:00:04	00:15:00	57.9	41.7	50.3	56.2	53.5	49.1	44.8
17/01/2025 20:15:04	00:15:00	57.2	41.2	50.7	55.8	53.5	50	45.5
17/01/2025 20:30:04	00:15:00	56.4	40.7	49.8	55.4	52.8	48.8	44
17/01/2025 20:45:04	00:15:00	58.1	41.4	49.8	55.5	52.8	48.7	44.9
17/01/2025 21:00:04	00:15:00	59.5	38.1	49.1	56.7	52.3	47.1	42.9
17/01/2025 21:15:04	00:15:00	59.4	38.9	49.1	55.8	52.6	47.3	42.5
17/01/2025 21:30:04	00:15:00	57.1	38.2	48.9	55.2	52.6	47.2	42.7
17/01/2025 21:45:04	00:15:00	62	39.7	49.2	56	52.6	46.8	43.4
17/01/2025 22:00:04	00:15:00	57.3	38.4	48.4	54.9	51.7	46.9	43
17/01/2025 22:15:04	00:15:00	57	38.4	48.4	54.4	51.8	46.8	42.2
17/01/2025 22:30:04	00:15:00	56.8	38	48.4	55.1	51.7	47	42.7
17/01/2025 22:45:04	00:15:00	63.4	38.2	49.1	56.1	52.6	46.9	42.2
17/01/2025 23:00:04	00:15:00	58.2	38	48.1	55.8	51.9	45.7	42.2
17/01/2025 23:15:04	00:15:00	59.1	37.8	48	54.9	51.6	45.8	41.4
17/01/2025 23:30:04	00:15:00	58.1	36.1	47.5	54.8	51.1	45.5	41.1
17/01/2025 23:45:04	00:15:00	70.6	36.9	50.3	61.8	52.4	46	41.1
18/01/2025 00:00:04	00:15:00	58.1	33.9	47	54.9	50.8	44.7	38.7
18/01/2025 00:15:04	00:15:00	66.4	32.9	45.5	55.3	48	41.9	37.4
18/01/2025 00:30:04	00:15:00	56.1	33.1	45.4	54.4	49.2	42.2	37.8
18/01/2025 00:45:04	00:15:00	57.3	31.1	44.5	53.3	48.7	41	35.8
18/01/2025 01:00:04	00:15:00	75.2	30.7	50.5	61.3	48.2	40.2	35.1
18/01/2025 01:15:04	00:15:00	55.8	31.1	43.2	52.6	46.9	39.6	35.4
18/01/2025 01:30:04	00:15:00	56	27.1	41.9	52.6	45.1	38.1	31.3
18/01/2025 01:45:04	00:15:00	57	28.3	42.4	50.9	45.9	39	33.4
18/01/2025 02:00:04	00:15:00	55.7	29.3	43.1	53.6	46.9	38.4	32.5
18/01/2025 02:15:04	00:15:00	56.5	27.8	41	52.3	43.9	35.7	30.1
18/01/2025 02:30:04	00:15:00	58.9	28.6	43.2	54.7	47.1	37.3	32.1
18/01/2025 02:45:04	00:15:00	54.9	28.4	41.6	52.3	45.3	36.6	31.5
18/01/2025 03:00:04	00:15:00	54.7	26.6	38.3	51.8	39.9	31	28.2
18/01/2025 03:15:04	00:15:00	61.5	27.5	43	54.6	45.9	35.5	30.4
18/01/2025 03:30:04	00:15:00	58.8	27.9	41	53	43.5	33.5	29.8
18/01/2025 03:45:04	00:15:00	57.3	28.3	39.5	50.9	41.3	34.4	31.1
18/01/2025 04:00:04	00:15:00	60.1	26.9	42.4	54.2	44.8	35.3	30.9
18/01/2025 04:15:04	00:15:00	58.2	27	42.5	54.1	45.2	37.4	30.4
18/01/2025 04:30:04	00:15:00	62.6	25.9	41.9	54.9	42.8	35.3	29.4
18/01/2025 04:45:04	00:15:00	56.8	23.4	40.2	52.8	42.4	31.5	25.1
18/01/2025 05:00:04	00:15:00	58.5	23.5	39.7	52.6	40.9	30.7	25
18/01/2025 05:15:04	00:15:00	56	27	42.1	52.9	45.9	36.3	30.3
18/01/2025 05:30:04	00:15:00	60.5	28	45	54.7	48.9	40.5	34.4
18/01/2025 05:45:04	00:15:00	56.3	27.6	44.1	53.7	47.9	40	35.2

18/01/2025 06:00:04	00:15:00	56.3	29.3	44.4	53.7	48.9	40	33.7
18/01/2025 06:15:04	00:15:00	63.4	32.7	47.4	56.8	51.2	43.3	37.6
18/01/2025 06:30:04	00:15:00	56.5	30.9	46.7	54.6	50.7	43.9	38.1
18/01/2025 06:45:04	00:15:00	56.8	31.1	46.6	54	50.6	43.8	38.6
18/01/2025 07:00:04	00:15:00	58.2	37.1	47.8	55.6	51.6	45	41.1
18/01/2025 07:15:04	00:15:00	56.1	35.8	47.7	54.6	51.4	45.5	41.3
18/01/2025 07:30:04	00:15:00	60.9	37.6	49.1	55.6	52.4	47.7	42.4
18/01/2025 07:45:04	00:15:00	58.9	37.5	49.8	56.3	53.1	48.3	43.2
18/01/2025 08:00:04	00:15:00	65.7	40.9	51.6	57.6	54.7	50.3	45
18/01/2025 08:15:04	00:15:00	60.3	42	51.4	56.7	54.2	50.6	45.8
18/01/2025 08:30:04	00:15:00	59.1	43.2	51.6	56.8	54.4	50.8	46.5
18/01/2025 08:45:04	00:15:00	59.2	43.7	52.2	56.8	54.8	51.7	47.5
18/01/2025 09:00:04	00:15:00	59.1	43.8	52	56.6	54.5	51.6	47.1
18/01/2025 09:15:04	00:15:00	63.9	44.7	52.8	59.8	55.1	52	48
18/01/2025 09:30:04	00:15:00	62.1	45	52.7	56.8	55.2	52.4	48.4
18/01/2025 09:45:04	00:15:00	61.1	45.2	53.4	57.9	55.7	53	50
18/01/2025 10:00:04	00:15:00	64.3	46.3	53.2	57.6	55.6	52.8	49.1
18/01/2025 10:15:04	00:15:00	62.7	45.9	53.4	57.8	55.7	53	49.4
18/01/2025 10:30:04	00:15:00	59.4	44.8	54	57.9	56.2	53.8	50.4
18/01/2025 10:45:04	00:15:00	64.4	48.1	54.5	57.9	56.4	54.2	51.2
18/01/2025 11:00:04	00:15:00	72.5	45.4	54.4	57.9	55.8	53.5	50.1
18/01/2025 11:15:04	00:15:00	66	46.3	53.9	59.1	55.7	53.4	50.2
18/01/2025 11:30:04	00:15:00	63.5	45.9	54.3	58.4	56.4	53.9	50.8
18/01/2025 11:45:04	00:15:00	69.7	45.5	54.4	58	56.3	54	50.5
18/01/2025 12:00:04	00:15:00	58.5	47.6	54.4	57.8	56.4	54.2	51
18/01/2025 12:15:04	00:15:00	65.5	46.4	54.4	58	56.5	54.1	50.7
18/01/2025 12:30:04	00:15:00	71.6	48.3	55.4	59.3	57	54.9	52.2
18/01/2025 12:45:04	00:15:00	59.8	46.6	54.3	57.9	56.5	54.1	50.2
18/01/2025 13:00:04	00:15:00	59.3	46	53.6	57.5	55.8	53.3	49.8
18/01/2025 13:15:04	00:15:00	60.8	45.6	53.7	57.6	55.9	53.4	49.9
18/01/2025 13:30:04	00:15:00	67	45.5	53.8	58.2	55.8	53.5	49.6
18/01/2025 13:45:04	00:15:00	59.2	43.5	52.9	57.2	55.2	52.6	48
18/01/2025 14:00:04	00:15:00	74.1	45.1	53.8	57.6	55.6	52.9	49
18/01/2025 14:15:04	00:15:00	62.6	44.9	53.5	57.7	55.5	53.2	49.8
18/01/2025 14:30:04	00:15:00	69.4	45.5	53.5	57.7	55.7	53.1	49.2
18/01/2025 14:45:04	00:15:00	65.3	43.2	53.6	58.7	55.8	53.1	49
18/01/2025 15:00:04	00:15:00	62.2	45.1	53.3	57.7	55.8	52.9	48.6
18/01/2025 15:15:04	00:15:00	59.3	42.3	52.7	57.3	55.3	52.3	47.9
18/01/2025 15:30:04	00:15:00	58.7	44.3	53.2	57.2	55.6	53	48.3
18/01/2025 15:45:04	00:15:00	69.8	42.7	53.4	59	55.3	52.7	48
18/01/2025 16:00:04	00:15:00	60.6	46.1	53.5	57.7	55.8	53.2	49.9
18/01/2025 16:15:04	00:15:00	61.1	45.9	53.6	57.7	55.9	53.3	49.7
18/01/2025 16:30:04	00:15:00	58	44.8	53	57.2	55.3	52.7	48.9
18/01/2025 16:45:04	00:15:00	60.3	46.9	53.4	57.5	55.6	53	49.7
18/01/2025 17:00:04	00:15:00	58.6	45.8	53.2	56.8	55.4	53.1	49.4

18/01/2025 17:15:04	00:15:00	58.1	45.9	52.7	56.8	54.9	52.4	48.8
18/01/2025 17:28:31	00:13:27	84.8	47.2	54.6	60.1	55.5	52.9	49.9

APPENDIX 5
Weather Data

Weather History for ICLITH5

Previous | Weekly Mode | January | 19 | 2025 | View | Next

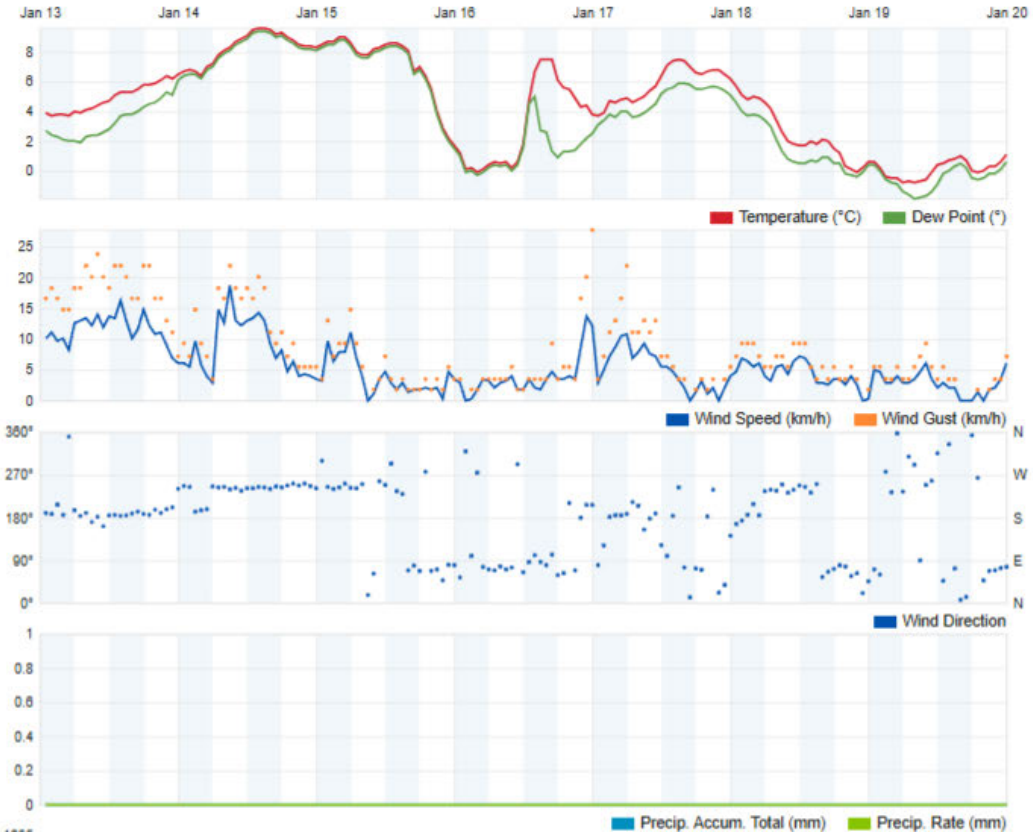
Summary
January 13, 2025 - January 19, 2025

	High	Low	Average
Temperature	9.6 °C	-1.0 °C	4.3 °C
Dew Point	9.4 °C	-2.0 °C	3.3 °C
Humidity	99 %	55 %	94 %
Precipitation	0.00 mm	--	--

	High	Low	Average
Wind Speed	18.7 km/h	0.0 km/h	1.7 km/h
Wind Gust	27.7 km/h	--	2.6 km/h
Wind Direction	--	--	South
Pressure	1,035.02 hPa	1,016.53 hPa	--

Graph | Table

January 13, 2025 - January 19, 2025



APPENDIX 6
Example Acoustic Barrier Detail