

Growing Baldock

Environmental Statement Volume 2: Figures & Appendices

Chapter 5: Noise

Appendix 5.2 Baseline Noise Data and Detailed Methodology

APPENDIX 5.2 – BASELINE

Introduction

- 5.2.1 This appendix sets out the details of the baseline noise surveys which have been undertaken at the development site.
- 5.2.2 Two separate noise surveys have been undertaken and these are identified as:
- A site-wide predominantly long-term noise survey undertaken in March/April 2024. This survey forms the basis of the EIA.
 - A detailed noise measurement campaign undertaken across the BA3 land parcel in June 2025. The results of this survey have been used to assess the propagation of noise across the BA3 development site, as presented in Appendix 5.4.

Site Description

- 5.2.1 The proposed development is located on land in the town of Baldock, North Hertfordshire.
- 5.2.2 The land is currently used as farmland with public footpaths passing through it. It is currently soil/grass covered and surrounded by trees and vegetation.
- 5.2.3 To the south of the proposed development is the A505 dual carriageway. Clothall Road (A507) runs between BA2 and BA3 Royston Road (B656) to the south of BA4 and Bygrave Road/Ashwell Road runs through the BA1 land parcel.
- 5.2.4 On the western boundary of the proposed development, running north to south of site and approximately 15 m from the proposed development, is Longwater Road (B3016). North Road (A507) can be found on the northwest boundary of the development site.
- 5.2.5 Residential dwellings are located on and surrounding Clothall Road (A507), Royston Road(B656), North Road (A507) and Bygrave Road.
- 5.2.6 The London-Cambridge railway line dissects the BA1 land parcel and is a source of noise during train passes.
- 5.2.7 Figure 5.1 in Appendix 5.5 illustrates the measurement locations used within the baseline sound survey.

Methodology & Instrumentation

- 5.2.8 An unattended baseline sound survey was undertaken at the site to quantify the existing local sound climate. The survey commenced at 10:00 hours on Wednesday 27th March and concluded at 12:30 hours on Tuesday 2nd April 2024.
- 5.2.9 Continuous noise measurements were undertaken at five locations, identified as 'LT1' to 'LT5' and described as follows:
- LT1 – Free-field measurement position at a height of 1.5m, on soft ground, on the western boundary of the proposed development, approximately 10m from the centre of North Road (A507).

- LT2 – Free-field measurement position at a height of 1.5 m, on soft ground, located within the proposed development site, approximately 10 m from the local railway network.
- LT3 – Free-field measurement position at a height of 1.5 m, on soft ground, approximately 20m north from the centre of Royston Road (B656).
- LT4 – Free-field measurement position at a height of 1.5 m, on soft ground, approximately 10m southwest from the centre of Clothall Road (A507).
- LT5 – Free-field measurement position at a height of 1.5 m, on soft ground, on the western boundary of the proposed development, approximately 20m from the centre of A505 dual carriage way.

5.2.10 Short-term noise measurements were undertaken at two locations, identified as 'ST1' and 'ST2' described as follows:

- ST1 - Free-field measurement position at a height of 1.5 m, on soft ground, approximately 20m west from the edge of A1(M) motorway, for the purpose of capturing RTN of A1(M).
- ST2 - Free-field measurement position at a height of 1.5 m, on soft ground, approximately 7.5m from the edge of Ashwell Road, for the purpose of capturing background noise levels in the area for use in construction noise calculations.

5.2.11 All sound level measurements were made using 'Class 1' Rion NL-52 sound level meters (SLM). The SLMs were set up to log the A-weighted broadband sound pressure level (SPL) in 100 ms periods. Measurements of the L_{Aeq} , L_{Amax} , and L_{A90} were undertaken at 100 ms intervals and averaged over 15-minute periods for the duration of the survey.

5.2.12 The equipment listed in Table 5.2.1 was used to undertake the survey.

Table 5.2.1 – Noise Monitoring Equipment

Measurement Location	Make / Model	Serial Number	Calibration Ref / Start / End	Last Calibration Date
LT1	Rion-NL-52	943366	94.0 / 94.1 / 94.1	12/10/2023
LT2	Rion-NL-52	998566	94.0 / 93.9 / 93.9	15/03/2024
LT3	Rion-NL-52	164422	94.0 / 94.0 / 94.0	06/02/2024
LT4	Rion-NL-52	998567	94.0 / 94.0 / 94.0	18/03/2024
LT5	Rion-NL-52	998563	94.0 / 94.0 / 94.0	18/03/2024
ST1 / ST2	Rion-NL-52	998566	94.0 / 93.9 / 93.9	15/03/2024

Meteorological Conditions

5.2.13 Meteorological conditions were monitored for the duration of the survey period using an RPS weather station, deployed at position LT4.

5.2.14 On collection it was noted that the weather station had been moved, and as such the orientation for wind measurements has been affected.

5.2.15 Due to the weather station data being thus compromised, weather data from an alternative source has been used for this survey.

5.2.16 Weather Underground offers historic and real-time weather information around the world.

5.2.17 The weather station used for this assessment is detailed below:

- Weather Station ID: IBALDO11
- Station Name: Frostie Weather
- Latitude / Longitude: 51.991° N, 0.172° W
- Elevation: 236
- City: Baldock
- Hardware: Other

5.2.18 During the survey period there were seven rain events, with wind speeds remaining less than 3 m/s throughout the survey period. Therefore, noise data captured during periods of rain have been removed from the assessment.

5.2.19 The weather data is presented alongside the time history graphs in Annex A.

Results and Discussion

5.2.20 The day and night-time levels measured at each position are presented in Table 5.2.2 below.

Table 5.2.2: Summary of Baseline Sound Level Data

Monitoring Location	Daytime (07:00 – 23:00)		Night-time (23:00 – 07:00)		
	Ambient Sound Level, dB L_{Aeq}	Background Sound Levels, dB L_{A90}	Ambient Sound Level, dB $L_{Aeq,T}$	10th Highest Per Night dB L_{AFmax}	Background Sound Levels, dB L_{A90}
LT1	63	53	57	84	39
LT2	65	49	59	81	38
LT3	62	50	55	75	39
LT4	72	50	65	89	38
LT5	76	67	70	87	37
ST1	70	67	N/A	N/A	N/A
ST2	57	43	N/A	N/A	N/A

5.2.21 The results of the unattended sound survey are presented graphically in Appendix A.

5.2.22 The measured data was post-processed into 15-minute periods for all locations.

5.2.23 The measured L_{Amax} levels were processed to 1-minute periods to allow for assessment of individual noise night-time noise events.

Subjective Noise Climate

5.2.24 Table 5.2.3 below details the subjective noise climate assessed at each measurement location used within the assessment when deploying and collecting the SLMs:

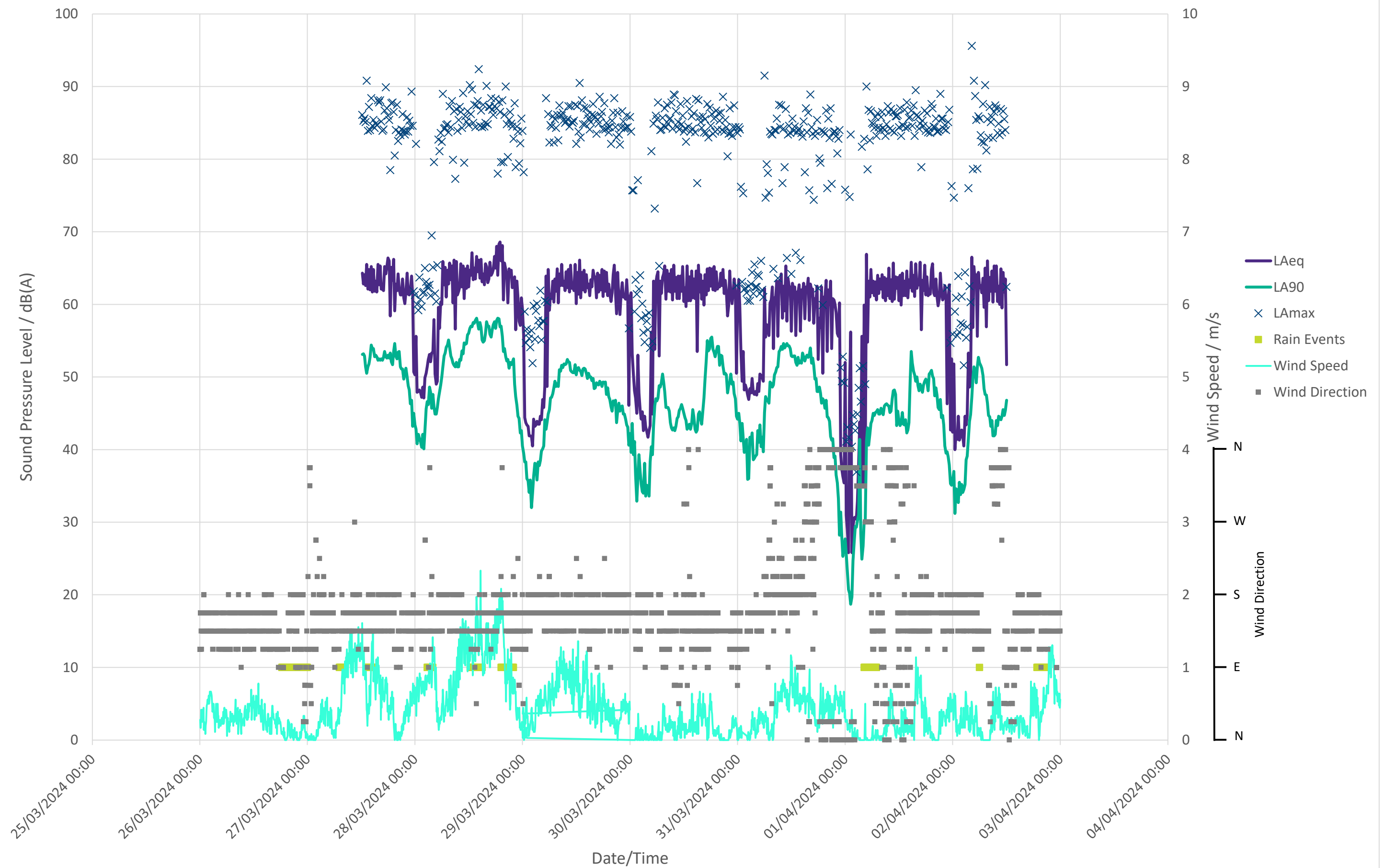
Table 5.2.3: Noise Observations

Monitoring Location	Deployment	Collection
LT1	Main noise source in the area was road traffic noise (RTN) from North Road. Dog walkers using the field. Other sources included natural sound (birds, trees, etc.).	Main noise source in the area was RTN from North Road. Dog walkers using the field. 1 lane of North Road closed, therefore traffic was reduced. Other sources included natural sound (birds, trees, etc.).
LT2	Main noise source in the area was railway noise. RTN was also observed in this location. Other sources included natural sound (birds, trees, etc.).	Main noise source in the area was railway noise. RTN was also observed in this location. Other sources included natural sound (birds, trees, etc.).
LT3	Main noise source at this location was RTN of Royston Road. Railway noise was also observed in this location. Other sources included natural sound (birds, trees, etc.).	Main noise source at this location was RTN of Royston Road. Railway noise was also observed in this location. Other sources included natural sound (birds, trees, etc.).
LT4	Main noise source at this location was RTN of Clothall Road. Other sources included natural sound (birds, trees, etc.).	Main noise source at this location was RTN of Clothall Road. On collection it was noted that the weather station had been moved. Other sources included natural sound (birds, trees, etc.).
LT5	Main noise source at this location was RTN of A505. Dog walkers using the field. Other sources included natural sound (birds, trees, etc.).	Main noise source at this location was RTN of A505. Dog walkers using the field. Other sources included natural sound (birds, trees, etc.).
ST1	Main noise source at this location was RTN of A1(M). Dog walkers and hikers using the footpath. Other sources included natural sound (birds, trees, etc.).	Main noise source at this location was RTN of A1(M). Horse riders and hikers using the footpath. Other sources included natural sound (birds, trees, etc.).
ST2	Main noise source at this location was distant RTN and railway movements. Cyclists passed while taking measurements. Other sources included natural sound (birds, trees, etc.).	Main noise source at this location was distant RTN and railway movements. Cyclists passed while taking measurements. Other sources included natural sound (birds, trees, etc.).

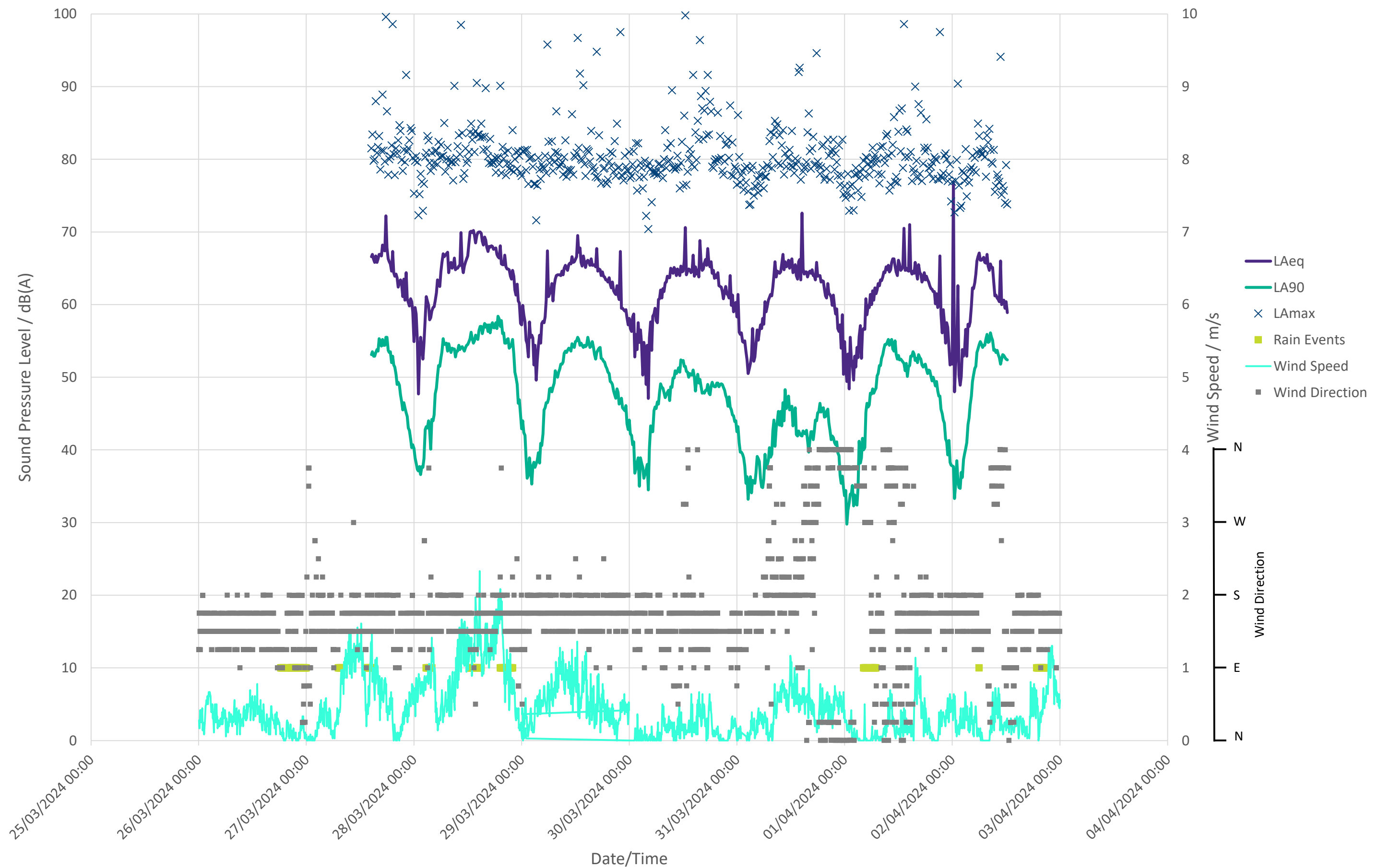
ANNEX A

Time History Graphs

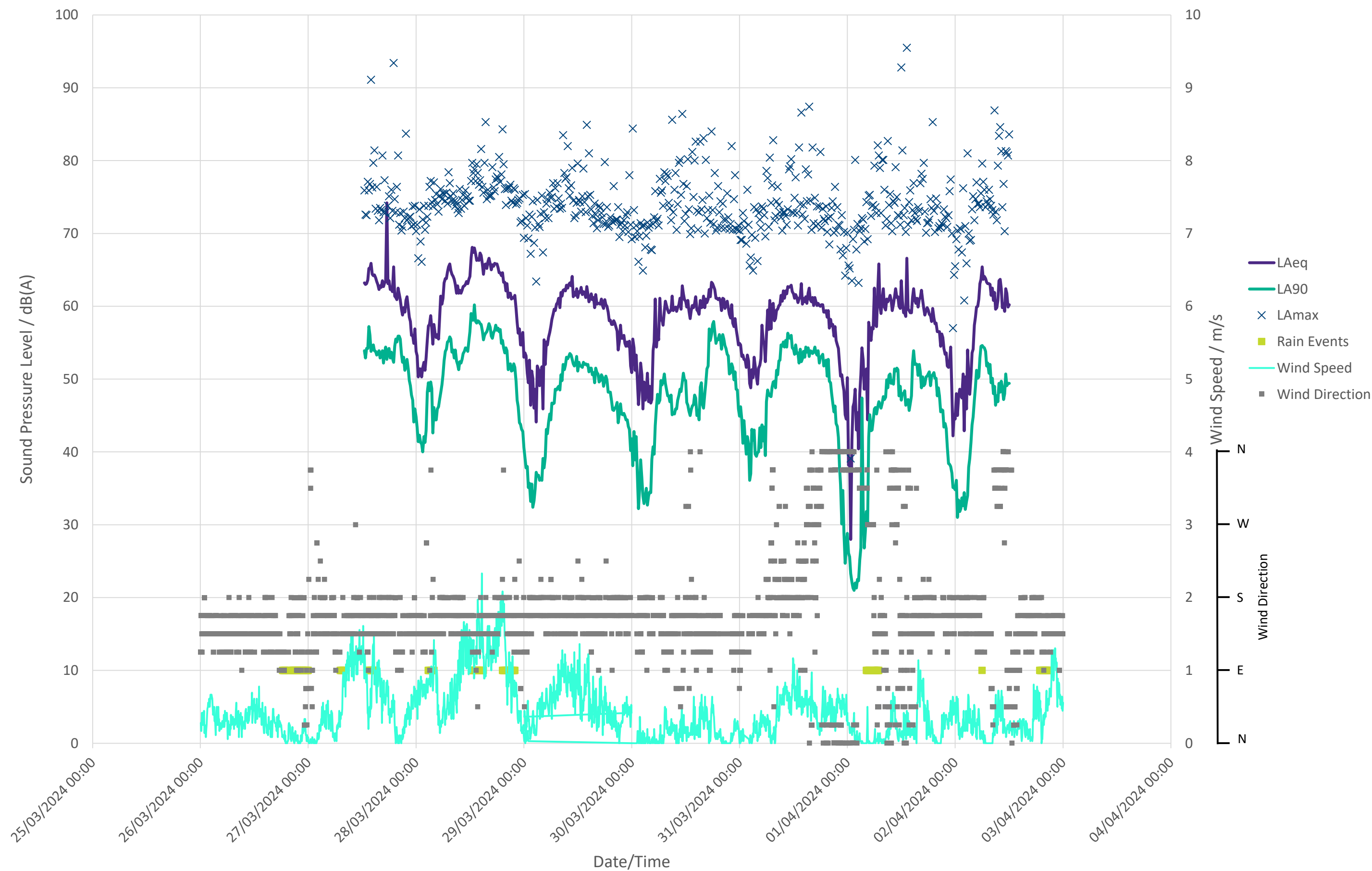
LT1 Time History



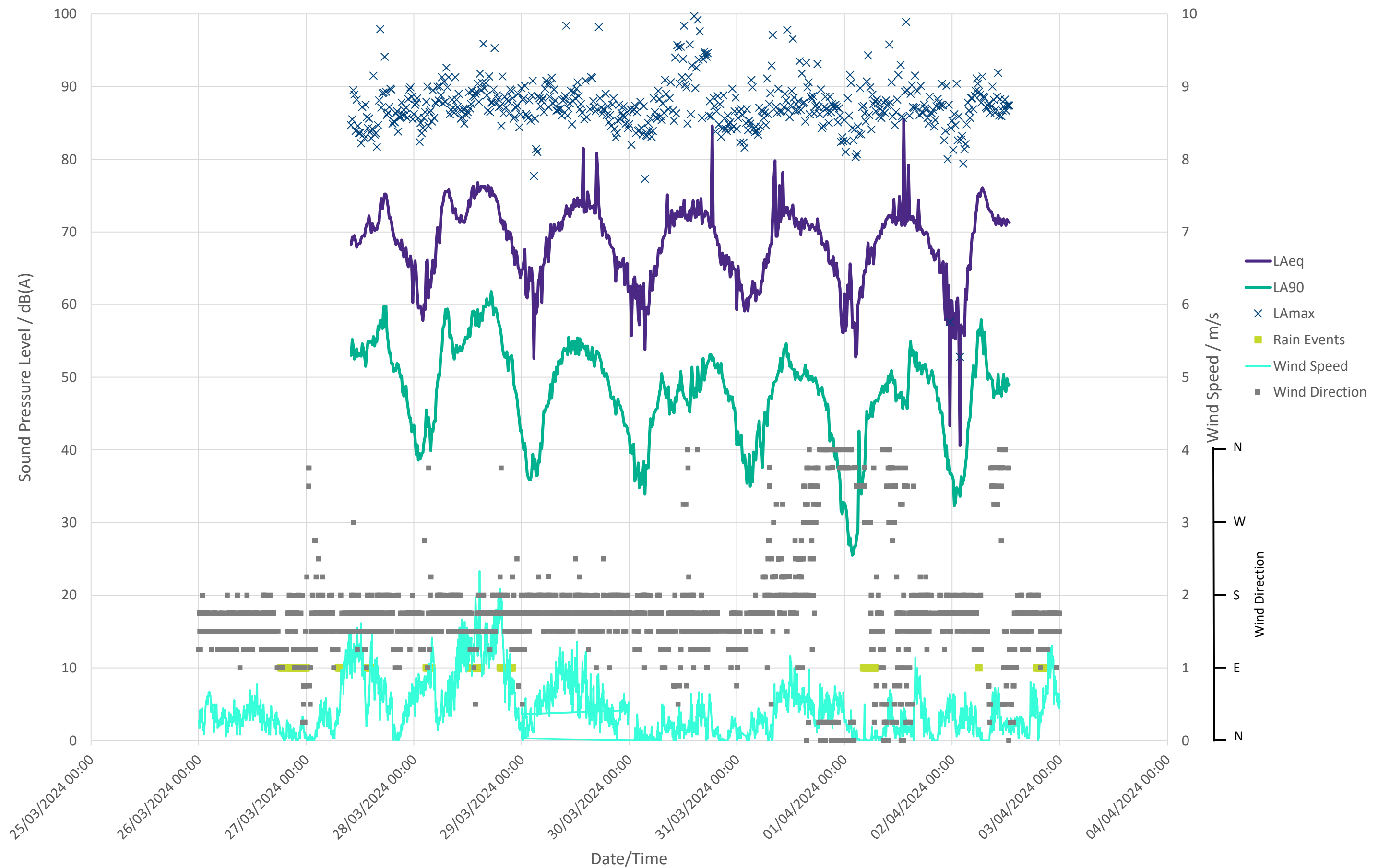
LT2 Time History



LT3 Time History



LT4 Time History



LT5 Time History

