

Appendix 12.2

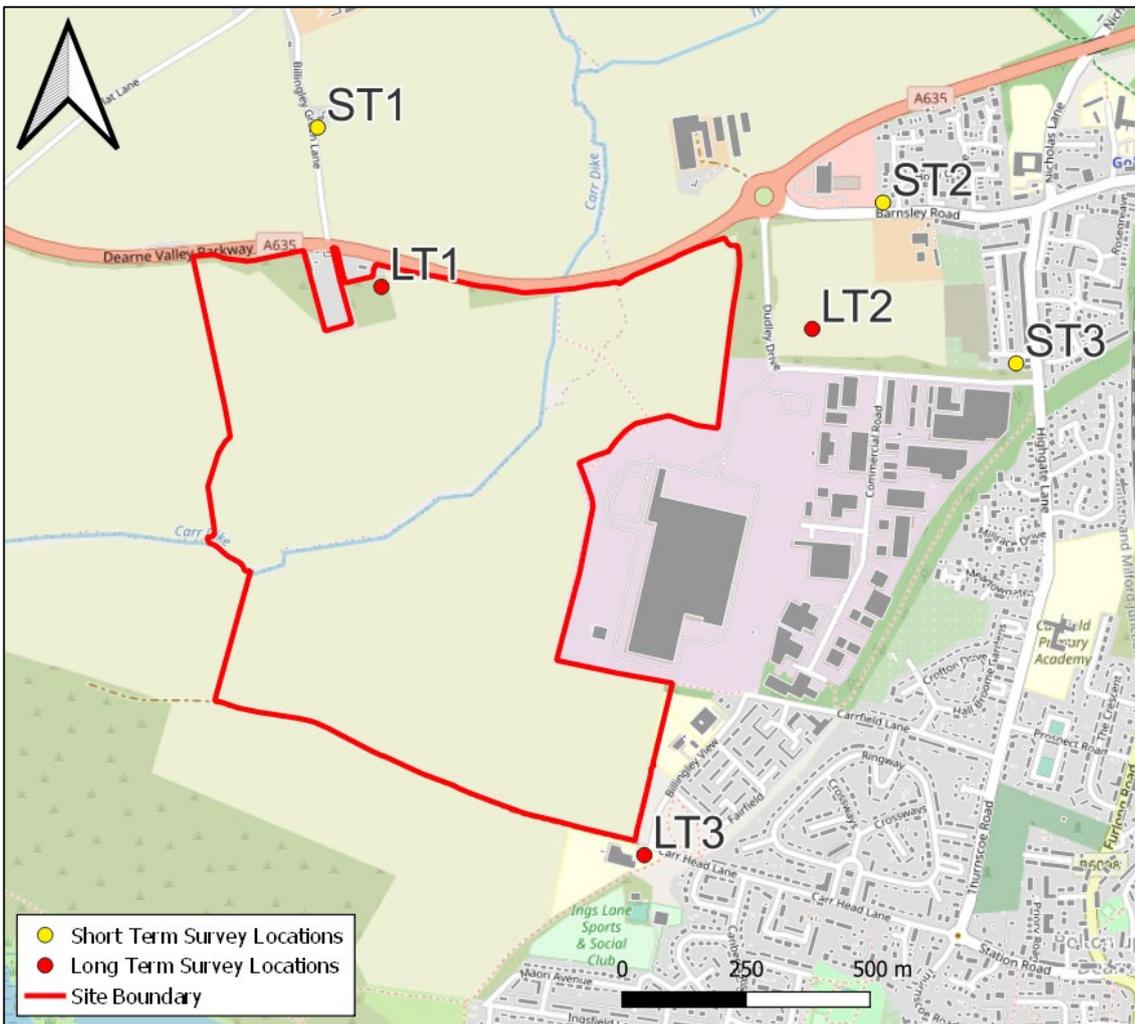
Noise Survey Details & Results

Baseline Survey Details

To characterise and quantify the existing noise environment around the Site, a baseline noise survey was undertaken at locations selected to be representative of the identified noise sensitive receptors; survey locations are shown in Figure 1.

The noise survey was conducted primarily between 13th and 22nd June 2022 and comprised three locations where long-term unattended monitoring was undertaken (LT1-LT3), supplemented by positions where short-term attended monitoring was carried out (ST1-ST3) on 14th June 2022. Following a review of the measured data, LT1 was redeployed at a position closer to the A635 between 21st July and 1st August 2022 to represent the prevailing noise environment at the adjacent receptors more accurately (the originally captured data was not used).

Figure 1 Baseline noise survey monitoring locations



Measurements were undertaken using Class 1 monitoring equipment at a height of 1.5 m above local ground level under free field conditions. The sound level meters were field calibrated prior to and following the measurements using a Class 1 acoustic calibrator. A drift of no more than 0.1 dB was noted.

The weather conditions throughout both survey periods were generally settled with some periods of rain and low wind speeds; further weather information is provided at the end of this appendix. Any data identified as being contaminated by poor weather conditions as removed from the data set and excluded from further analysis.

Equipment Information

The monitoring equipment used for the unattended measurements is detailed in Table 1, while the equipment used for the short-term measurements is set out in Table 2.

Table 1 Monitoring equipment used at unattended noise survey locations

Survey Location	Dates of Survey	Class 1 Sound Level Meter type	Sound Level Meter Serial No.	Class 1 Field Calibrator type and Serial No.
LT1	13/06/2022 – 22/06/2022	Rion NL-52	00620870	Rion NC-74 34536108
	21/07/2022 – 01/08/2022	Larson Davies LxT	5600	LD Cal 200 12197
L2	13/06/2022 – 22/06/2022	Rion NL-52	0821105	Rion NC-74 34536108
L3	13/06/2022 – 22/06/2022	Rion NL-52	00620868	Rion NC-74 34536108

Table 2 Monitoring equipment used at attended noise survey locations

Survey Location	Date of Survey	Class 1 Sound Level Meter type	Sound Level Meter Serial No.	Class 1 Field Calibrator type and Serial No.
S1	14/06/2022	Rion NL-52	00510142	Rion NC-74 34536108
S2	14/06/2022	Rion NL-52	00510142	Rion NC-74 34536108
S3	14/06/2022	Rion NL-52	00510142	Rion NC-74 34536108

Observations

The noise at each monitoring location was dominated by road traffic noise from the local road network, particularly, the A635 which runs along the northern boundary of the Site, as well as occasional contributions from aircraft flyover. At LT2, localised contributions to the noise environment from HGV noise pulling away and approaching the nearby warehousing units were noted.

Results: Characterisation of Measured Sound Levels Used for the Assessment

The methodology used for the assessment of operational sound from the Development (as described in BS 4142:2014+A1:2019) requires that a typical background sound level be selected for each assessment location.

After filtering out any data affected by adverse weather conditions, the data gathered during the baseline noise survey has been analysed to determine the modal (i.e., most frequently occurring) background sound level measured during the survey. The relevant values have been identified for the day and night-time periods using statistical analysis. These are considered to be a good indicator of the typical background sound level within these periods.

However, in some situations the background sound level is not evenly spread about the modal value and there can be a substantial number of occasions where a lower background noise level occurs.

To assess the distribution of the measured background sound levels, the lower quartile value (25th percentile) was calculated and compared to the modal value for both the day and night-time periods. The lower quartile is the value which is exceeded 75% of the time. When the lower quartile was at least 3 dB(A) below the modal value, this was considered to indicate an unevenness in the distribution of the background sound level. In those cases, the lower quartile value was used as a sensitivity test in the operational sound assessment, in addition to the modal value. This means that a robust approach to the consideration of the typical background sound levels in the assessment has been followed.

The typical modal and sensitivity test background sound levels at each long-term monitoring location are shown in Table 3 below.

Table 3 Typical and sensitivity test background sound levels at long-term monitoring locations

Monitoring Location	Period Day: 07:00-23:00 Night: 23:00-07:00	Modal Background Sound Level (dB LA90,15mins)	Sensitivity Test ¹ Background Sound Level (dB LA90,15mins)	Difference (dB)	Sensitivity Test Required?
LT1	Day	55	51	-4	Yes
	Night	38	37	-1	No
LT2	Day	38	37	-1	No
	Night	40	37	-3	Yes
LT3	Day	35	35	0	No
	Night	34	33	-1	No

¹ Sensitivity test value is the 25th percentile of the background sound levels for that period.

The background sound levels from the short-term monitoring are presented as follows for reference:

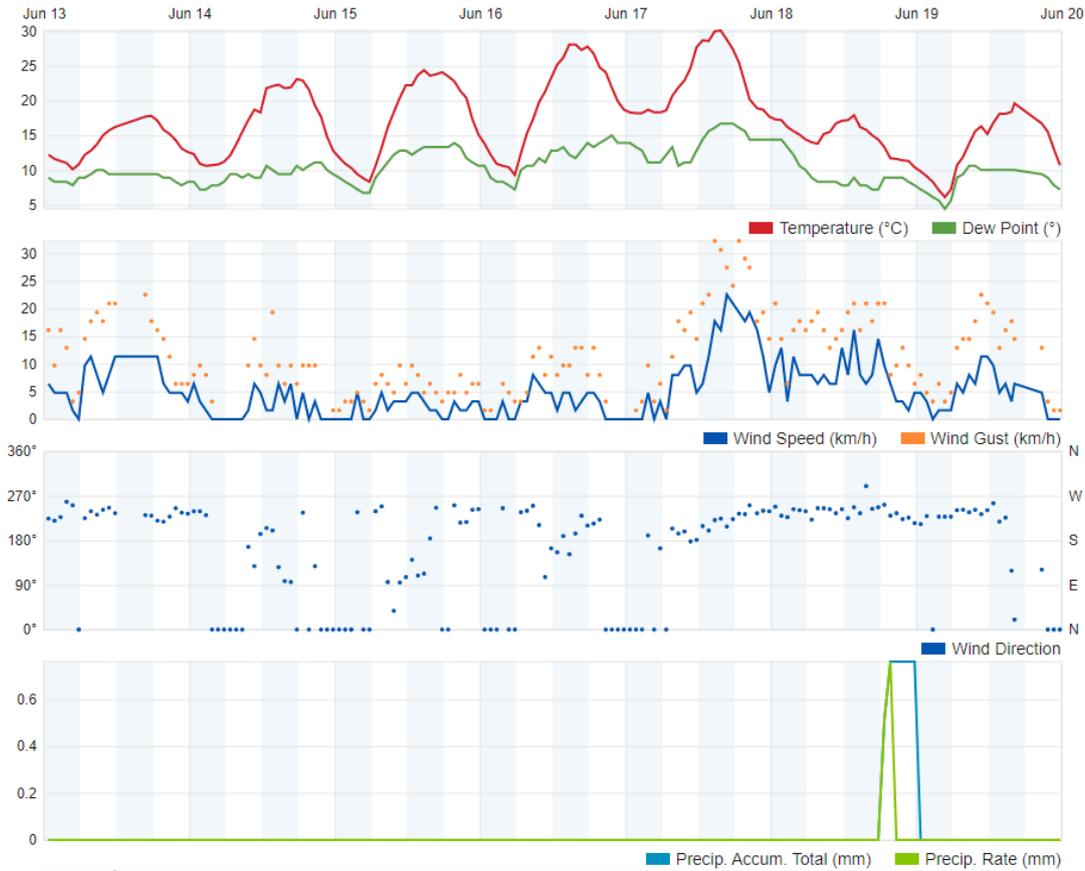
Table 4 Background sound levels from short-term monitoring (14th June 2022)

Monitoring Location	Start Time	Background Sound Level (dB LA90,15min)
ST1	09:30	47
	10:15	48
	10:30	48
ST2	11:00	43
	11:15	41
	11:30	42
ST3	12:00	42
	12:15	42
	12:30	42

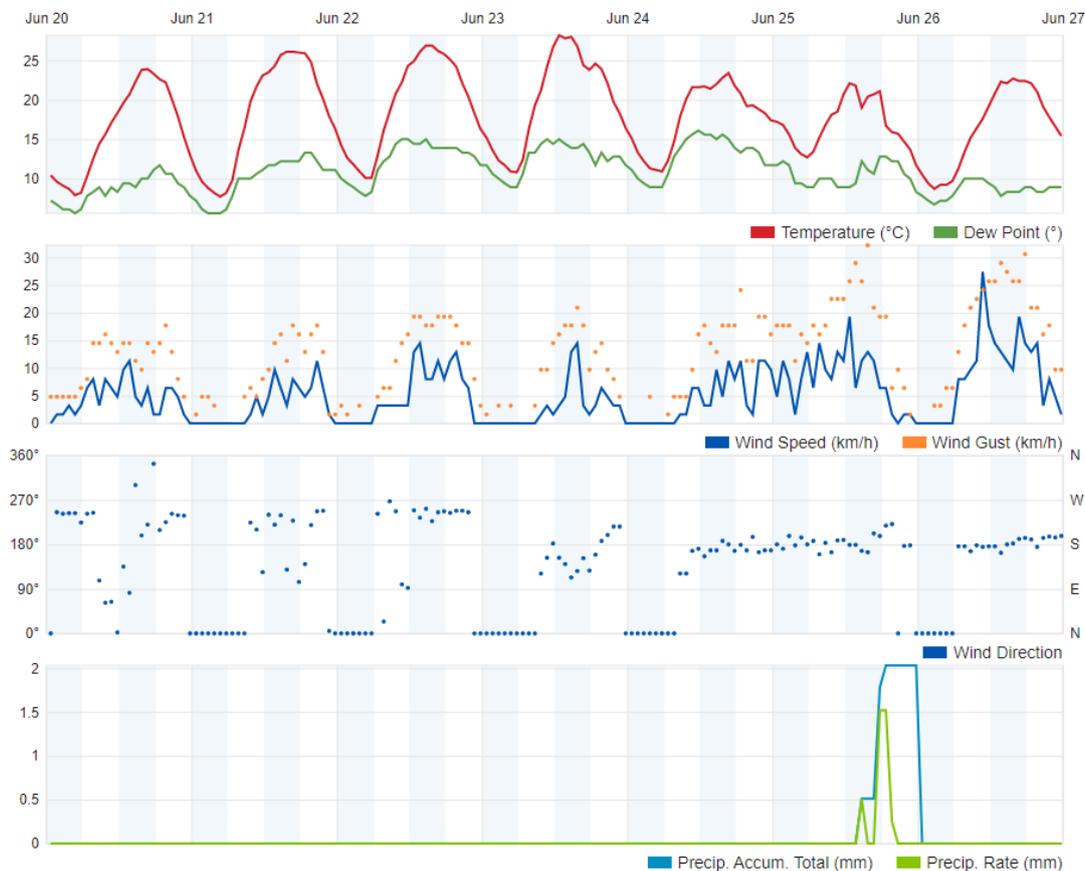
For the assessment of operational sound at each noise sensitive receptor, the typical background sound levels at the long-term monitoring locations were modified, if required, based on factors including the results of the supplementary short-term attended noise monitoring as well as their distance from major noise sources, such as roads, when compared with the monitoring positions. The final typical background sound levels used for the assessment are presented in Table 12.8 of the ES Noise Chapter.

Weather conditions during monitoring (weather station ref. IBARNS17)

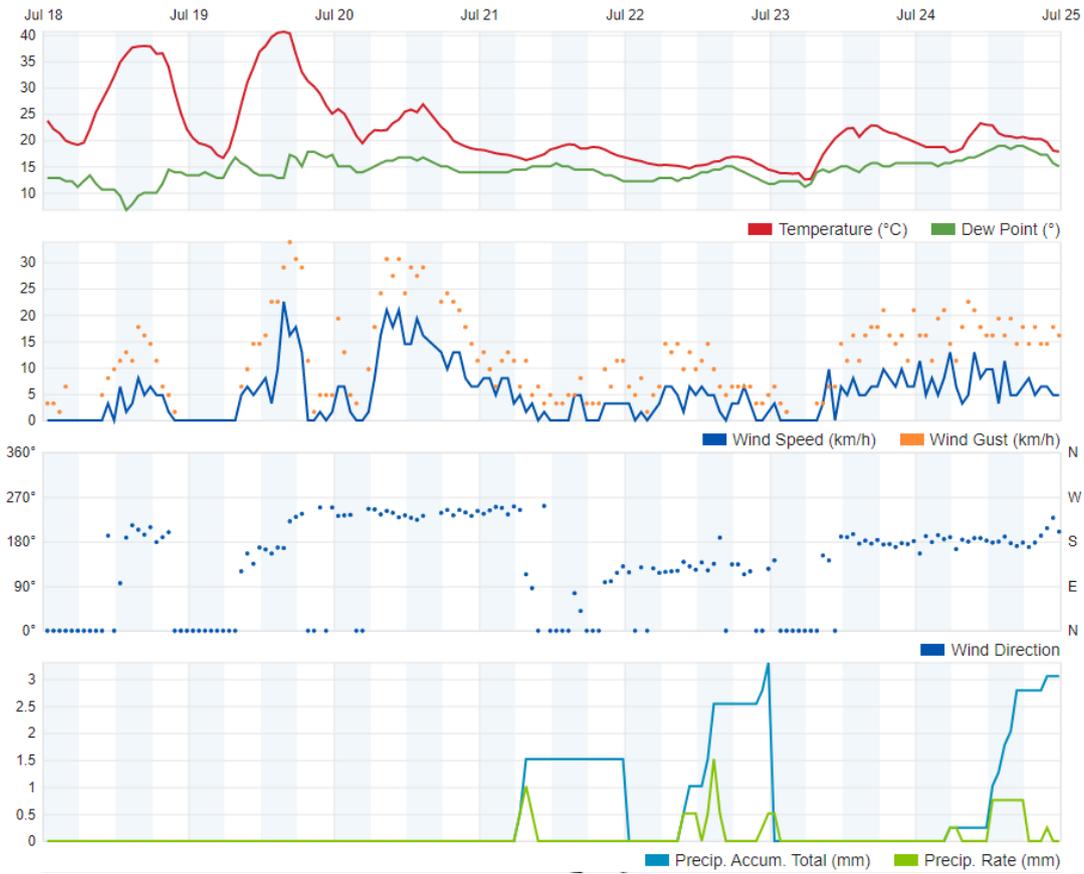
June 13, 2022 - June 19, 2022



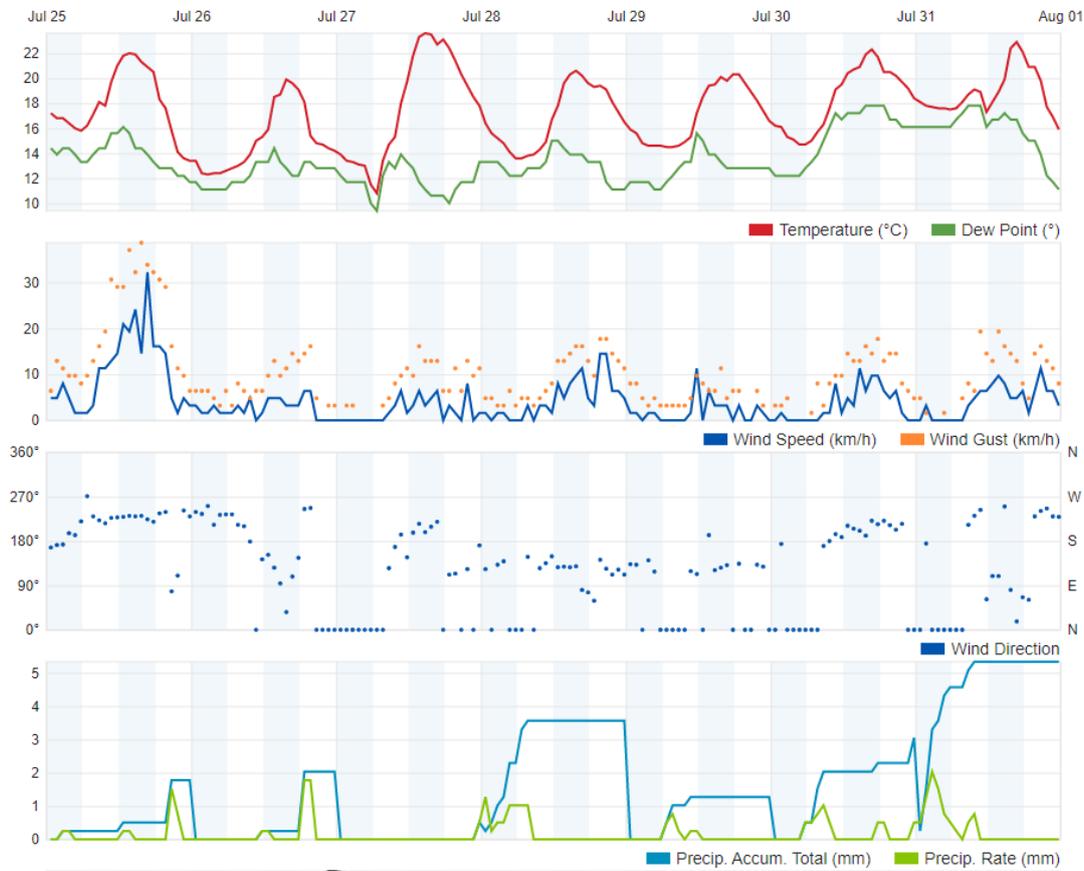
June 20, 2022 - June 26, 2022



July 18, 2022 - July 24, 2022



July 25, 2022 - July 31, 2022



August 1, 2022 - August 7, 2022

