Technical Appendix 9.2: Baseline noise survey

1.1 Baseline Survey

1.1.1 The baseline noise survey was carried out between Monday 13th June to Sunday 19th June 2016 by Ramboll Environ to establish the existing conditions around the proposed development and at nearby NSRs (cf. Figure 9.1). The baseline noise survey comprised a combination of long-term unattended logging, at two locations (LT1 and LT2) and short-term attended measurements at six locations (ST1 to ST6). The locations are shown on Figure 6.2.

1.1.2 The area surrounding the application site contains three safeguarded wharves. These wharves include Riverside Wharf, Angerstein Wharf and Murphy's Wharf. Although Murphy's Wharf and Angerstein Wharf are safeguarded, these wharves are a considerable distance from the application site and are screened by multiple properties. Therefore, Riverside Wharf is the only safeguarded wharf that has been considered in the assessment.

1.1.3 Measurements were undertaken at location ST3 to quantify noise levels of the Riverside Wharf.

1.1.4 The baseline noise survey was carried out using the following equipment:

- Norsonic NOR140 Sound Level Analyser with windshield
- Norsonic NOR1251 Precision Microphone Calibrator

1.1.5 All measurement equipment owned or hired and operated by Ramboll Environ has annual calibration checks carried out by external companies traceable to UKAS or national standards. Copies of all calibration records are kept and can be provided upon request.

1.1.6 Attended noise measurements were taken at an approximate height of 1.5m from the ground and a minimum of 1.5m from the façade of any surrounding buildings. These measurements are, therefore, considered representative of free field measurements. The calibration of the SLM was checked before and after measurements was taken. No significant drift was observed.

1.1.7 The results of the attended measurements at location ST1 are presented in Table 1. During the survey, the acoustic climate was dominated by plant noise from the adjacent industrial facility during daytime hours. During night-time hours the noise climate was dominated by surrounding industrial facilities.

Table 1 Results of baseline noise survey at ST1

Time	Duration	dBL_{A90}	dBL_{Aeq}	dBL_{AFmax}
13:17	15 min	55	56	68
14:28	15 min	54	56	74
07:00	15 min	53	60	78

1.1.8 Results of attended measurements at location ST2 are presented in Table 2. During the survey, the acoustic climate was dominated by plant noise from the adjacent industrial facility.

Table 2 Results of baseline noise survey at ST2				
Time	**Duration**	**dBL$_{A90}$**	**dBL$_{Aeq}$**	**dBL$_{AFmax}$**
13:41	15 min	69	70	81
13:57	15 min	69	71	90

1.1.9 Results of attended measurements at location ST3 are presented in Table 3. Noise from the site comprised HGV noise, plant noise from tower and impulsive and tonal alarm sounds emanating from the asphalt moving machinery.

Table 3 Results of baseline noise survey at ST3				
Time	**Duration**	**dBL$_{A90}$**	**dBL$_{Aeq}$**	**dBL$_{AFmax}$**
06:40	15 min	60	67	87

1.1.10 Results of attended measurements at location ST4 are presented in Table 4. No activity noise was observed during the measurement which would affect the southern boundary of the larger parcel of land of the application site (ST2). The dominant noise source was road traffic noise from Anchor and Hope Lane.

Table 4 Results of baseline noise survey at ST4				
Time	**Duration**	**dBL$_{A90}$**	**dBL$_{Aeq}$**	**dBL$_{AFmax}$**
06:05	15 min	48	53	74

1.1.11 Results of attended measurements at location ST5 are presented in Table 5. The dominant noise source was birdsong and traffic noise from Anchor and Hope Lane. It should be noted that during measurements at ST5 and ST6, events such as delivery vehicles were measured during night-time hours. These events do not influence the L_{eq} or the L_{90}, however, these events do influence the L_{max}. Therefore, these events are accounted for during these measurements and applied to the site suitability assessment.

Table 5 Results of baseline noise survey at ST5				
Time	**Duration**	**dBL$_{A90}$**	**dBL$_{Aeq}$**	**dBL$_{AFmax}$**
7:25	15 min	53	62	83

1.1.12 Results of attended measurements at location ST6 are presented in Table 6. The dominant noise source was birdsong and traffic noise from Anchor and Hope Lane.

Table 6 Results of baseline noise survey at ST6				
Time	**Duration**	**dBL$_{A90}$**	**dBL$_{Aeq}$**	**dBL$_{AFmax}$**
05:30	15 min	50	55	76

1.1.13 Results of the unattended measurements at location LT1 are detailed in Table 7. A graphical representation of the logging results are presented in Figure 1.

Table 7 Results of baseline noise survey at LT1				
Time Period (T)	**Average $dBL_{Aeq,T}$**	**Highest $dBL_{Aeq,15min}$**	**Lowest $dBL_{A90,15min}$**	**Modal Average $dBL_{A90,15min}$**
Daytime (07:00-23:00)	51.1	66	37	44
Night-time (23:00-07:00)	45	57	35	40

1.1.14 Results of the unattended measurements at location LT2 are detailed in Table 4. A graphical representation of the logging results are presented in Figure 2.

Table 8 Results of baseline noise survey at LT2				
Time Period (T)	**Average $dBL_{Aeq,T}$**	**Highest $dBL_{Aeq,15min}$**	**Lowest $dBL_{A90,15min}$**	**Modal Average $dBL_{A90,15min}$**
Daytime (07:00-23:00)	63	68	47	57
Night-time (23:00-07:00)	59	64	43	48

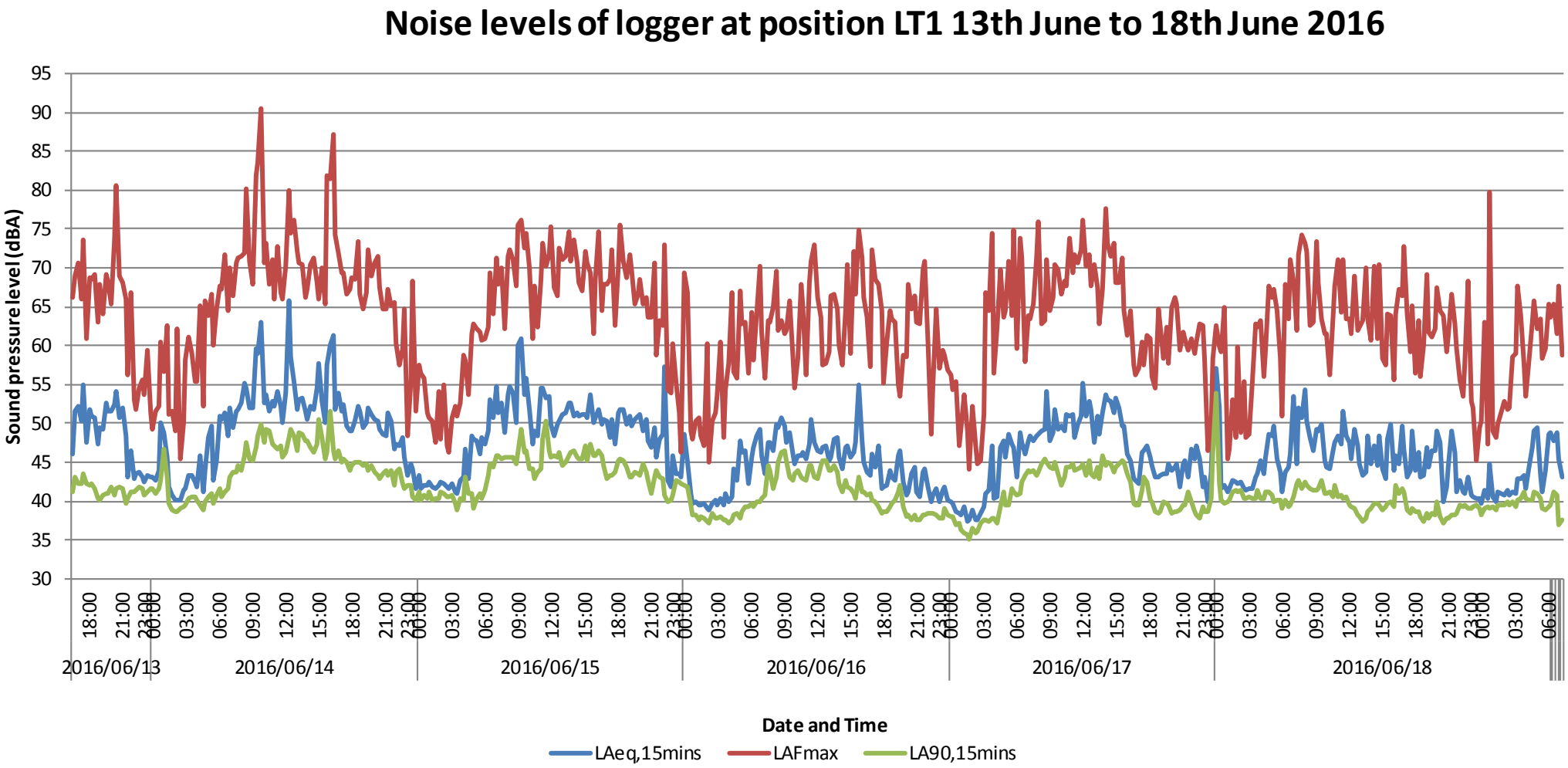

Figure 1 Measurement results at LT1

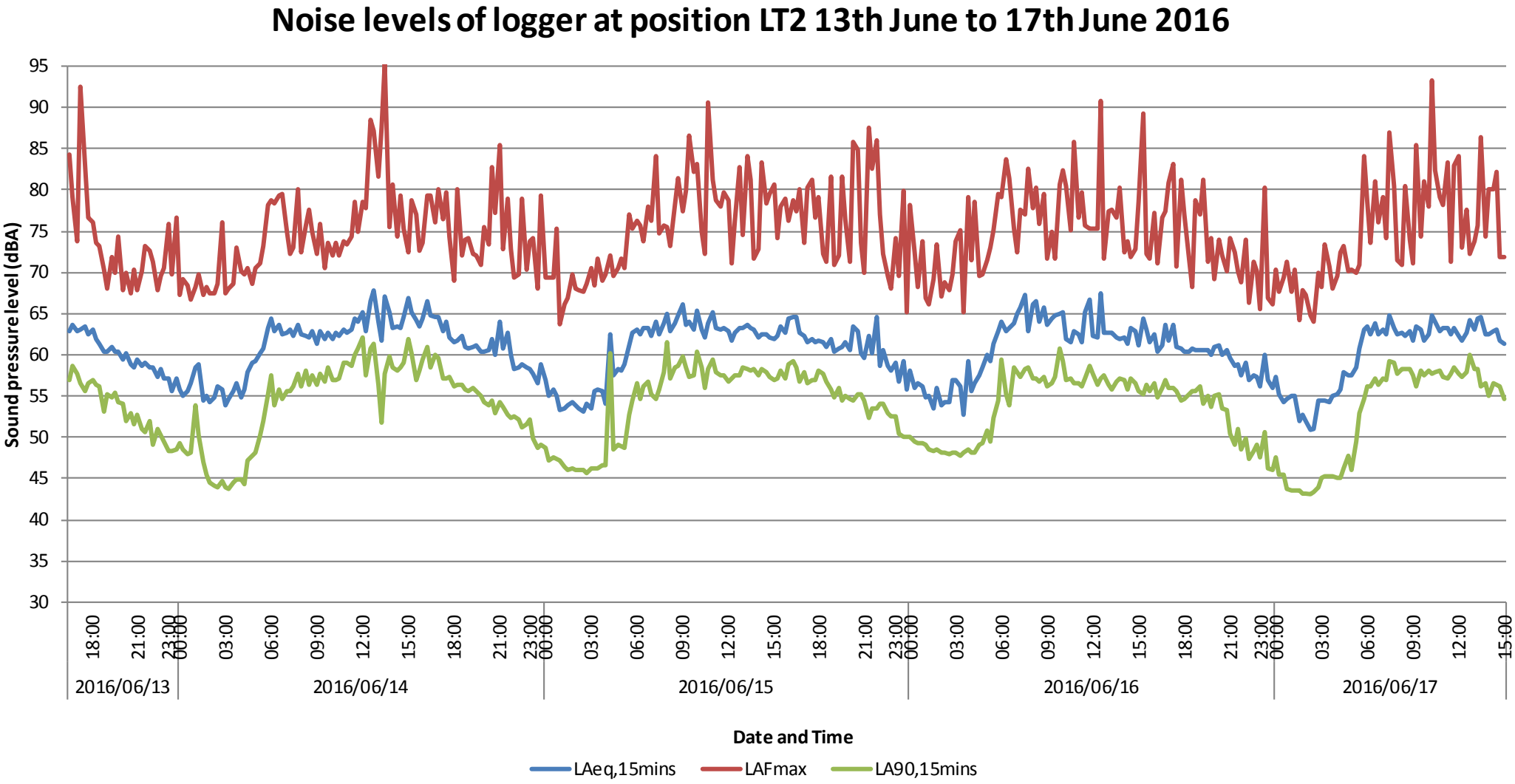

Figure 2 Measurement results at LT2

1.1.15 The weather history during the unattended logging period is summarised in Table 8 below:

Table 9 Weather History		
Date	Weather	Average Wind speed (km/h)
13th June	Light Rain	15 km/h
14th June	Mostly Cloudy	15 km/h
15th June	Light Rain	14 km/h
16th June	Partly Cloudy	8 km/h
17th June	Scattered Clouds	8 km/h
18th June	Partly Cloudy	8 km/h