HS2

March 2021

Construction noise and vibration Monthly Report – January 2021

Buckinghamshire

gov.uk/hs2

List of tables

Non-Technical Summary

This Noise and Vibration Monitoring Report fulfils HS2 Limited's commitment detailed in the Environmental Minimum Requirements (EMRs), Annex 1, Code of Construction Practice, to present the results of noise monitoring carried out within Buckinghamshire (BS) during the month of January 2021.

Within this period monitoring was undertaken at the following worksites:

- Noise and vibration monitoring were undertaken in the vicinity of Bottom House Farm Lane worksite (ref.: BHFL), where earthworks, stockpiling, trial holes, fencing and tree stump removal works were underway.
- Noise monitoring was undertaken in the vicinity of Chalfont St Peter Vent Shaft worksite (ref.: CSP), where earthworks, grout injection works, shaft compound construction, access road construction, vent shaft construction and structural wall installation works were in progress.
- Noise monitoring was undertaken in the vicinity of Load Test Pile 1 worksite (ref.: LTP #1), where earthworks, drainage works, utility works, roadworks and haul road preparation works were underway.
- Noise monitoring was undertaken in the vicinity of Amersham Vent Shaft worksite (ref.: AM), where site setup works, utility works and earthworks were underway.
- Noise monitoring was undertaken in the vicinity of Quainton Access Road (ref: QAR), where compound hardstanding works, pond excavation, drainage and pipe installation works and road works were underway.

Further works, where monitoring did not take place, were also undertaken at the following locations:

- Amersham and Northmoor as part of water pipeline and pumping station works;
- Aylesbury as part of gas works;
- Calvert as part of electricity diversion, vegetation clearance, compound asphalt surfacing and access road construction;
- Colne Valley as part of electricity diversion works;
- Great Missenden as part of compound construction and chalk embankment trial works;
- A41/Bicester Road where construction of compound, drainage and the access road were underway;
- A418 Oxford Road and Risborough Road where temporary compound enabling works were underway;

- Small Dean where vegetation clearance works were underway; and
- Twyford where compound construction was underway.

There were no exceedances of the HS2 threshold levels for significant noise impacts during the reporting period at any monitoring position.

There were no exceedances of trigger levels as defined in Section 61 consents during the reporting period at any monitoring position.

Two complaints were received within Buckinghamshire during the monitoring period. A description of complaints, the results of investigations and any action taken are detailed in Table 6 of this report.

Monitors CSP-NMP1, CSP-NMP3 and AM-NMP1 were offline on the early days of January 2021 caused by the loss of solar power due to insufficient sunlight. A replacement of the monitoring equipment was rolled out in January 2021 to eliminate data losses onwards.

Abbreviations and Descriptions

The abbreviations, descriptions and project terminology used within this report can be found in Table 1.

Table 1: Table of Abbreviations

Acronym/Term	Definition
$L_{Aeq,T}$	See equivalent continuous sound pressure level
Ambient sound	A description of the all-encompassing sound at a given location and time which will include sound from many sources near and far. Ambient sound can be quantified in terms of the equivalent continuous sound pressure level, $L_{pAeq,T}$
Decibel(s), or dB	Between the quietest audible sound and the loudest tolerable sound there is a million to one ratio in sound pressure (measured in Pascal (Pa)). Because of this wide range, a level scale called the decibel (dB) scale, based on a logarithmic ratio, is used in sound measurement. Audibility of sound covers a range of approximately 0-140dB.
Decibel(s) A-weighted, or dB(A)	The human ear system does not respond uniformly to sound across the detectable frequency range and consequently instrumentation used to measure sound is weighted to represent the performance of the ear. This is known as the 'A weighting' and is written as 'dB(A)'.
Equivalent continuous sound pressure level, or $L_{Aeq,T}$	An index used internationally for the assessment of environmental sound impacts. It is defined as the notional unchanging level that would, over a given period of time (T), deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating sound levels can be described in terms of an equivalent single figure value, typically expressed as a decibel level.
Exclusion of data	Measurement of noise levels can be affected by weather conditions such as prolonged periods of rain, winds speeds higher than 5m/s and snow/ice ground cover. Noise levels measured during these periods are considered not representative of normal noise conditions at the site and, for the purposes of this report, are excluded from the assessment of exceedances and calculation of typical noise levels and are also greyed out in charts. Identifiable incongruous noise and vibration events not attributable to HS2 construction noise are also excluded.
Façade	A facade noise level is the noise level 1m in front of a large reflecting surface. The effect of reflection, is to produce a slightly higher (typically +2.5 to +3 dB) sound level than it would be if the reflecting surface was not there.
Free-field	A free-field noise level is the noise level measured at a location where no reflective surfaces, other than the ground, lies within 3.5 metres of the microphone position.
LOAEL	Lowest Observed Adverse Effect Level - the level above which adverse effects on health and quality of life can be detected.
Peak particle velocity, or PPV	Instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position. The PPV is a simple indicator of perceptibility and risk of damage to structures due to vibration. It is usually measured in mm/s.
SOAEL	Significant Observed Adverse Effect Level - the level above which significant adverse effects on health and quality of life occur.
Sound pressure level	The parameter by which sound levels are measured in air. It is measured in decibels. The threshold of hearing has been set at 0dB, while the threshold of pain is approximately 120dB. Normal speech is approximately 60dB at a distance of 1 metre and a change of 3dB in a time varying sound signal is commonly regarded as being just detectable. A change of 10dB is subjectively twice, or half, as loud.
Vibration dose value, or VDV	An index used to evaluate human exposure to vibration in buildings. While the PPV provides information regarding the magnitude of single vibration events, the VDV provides a measure of the total vibration experienced over a specified period of time (typically 16h daytime and 8h night-time). It takes into account the magnitude, the number and the duration of vibration events and can be used to quantify exposure to continuous, impulsive, occasional and intermittent vibration. The vibration dose value is measured in $m/s^{1.75}$.

1 Introduction

1.1.1 HS2 is required to undertake noise (and vibration) monitoring as necessary to comply with the requirements of the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, including specifically Annex 1: Code of Construction Practice, in addition to any monitoring requirements arising from conditions imposed through consents under Section 61 of the Control of Pollution Act, 1974 or through Undertakings & Assurances given to third parties. Such monitoring may be undertaken for the following purposes:

- monitoring the impact of construction works;
- to investigate complaints, incidents and exceedance of trigger levels; or
- monitoring the effectiveness of noise and vibration control measures.

1.1.2 Monitoring data and interpretive reports are to be provided to each relevant local authority on a monthly basis and shall include a summary of the construction activities occurring, the data recorded over the monitoring period, any complaints received, any periods in exceedance of agreed trigger levels, the results of any investigations and any actions taken or mitigation measures implemented. This report provides noise data, and interpretation thereof, for monitoring carried out by HS2 within the Buckinghamshire (BS) Local Authority area for the period 1st to 31st January 2021.

1.1.3 Active construction sites in the local authority area where monitoring was undertaken during this period include:

- Bottom House Farm Lane Worksite, reference - BHFL (see plan 2 in Appendix A), where work activities included:
  - trial holes to uncover water pipes;
  - stockpiling excavated material;
  - topsoil strip along temporary access road;
  - post and rail fencing;
  - installation of Heras fencing; and
  - tree stump removal.

- Chalfont St Peter Vent Shaft Worksite, reference - CSP (see plan 3 in Appendix A), where works activities included:
  - grout injection;
  - earthworks activities;
  - structural wall installation works including diaphragm wall excavation, rebar and concreting;
  - construction of shaft compound;
  - construction of vent shaft;

- construction of temporary access road; and
- landscaping and reinstatement activities.

- Load Test Pile 1 Worksite, reference - LTP #1 (see plan 4 in Appendix A), where works activities included:
  - construction of access road including earthworks, drainage and hard-standing;
  - site gas crossing, drainage and fencing;
  - River Colne removal of fish works; and
  - civil works, earthworks, and drainage on haul roads.

- Amersham Vent Shaft Worksite, reference - AM (see plan 5 in Appendix A), where works activities included:
  - site management activities including installation of storage facilities; reinforcement, crane bases, workshops, internal site roads, entrance and car park;
  - utility and drainage works;
  - installation of edge protection posts and fencing above the retaining wall; and
  - excavation to shaft piling platform level.

- Quainton Access Road Worksite, reference - QAR (see plan 6 in Appendix A), where works activities included:
  - compound hardstanding;
  - pond excavation;
  - drainage and installation of pipe works; and
  - asphalt and binder resurfacing.

1.1.4 Further works, where monitoring did not take place, were also undertaken at:

- Amersham and Northmoor as part of water pipeline and pumping station works;

- Aylesbury as part of gas works;

- Calvert where work activities included:
  - electricity diversions;
  - vegetation clearance;
  - compound asphalt surfacing; and
  - access road construction.

- Colne Valley as part of electricity diversion works;

- A41/Bicester Road where work activities included:

- construction of compound;
- construction of drainage; and
- construction of access road.

- A418 Oxford Road and Risborough Road where temporary compound enabling works were underway.

- Great Missenden, where work activities included:
  - compound construction for ground investigation and devegetation works;
  - cabin installation and compound set-up for chalk embankment trial;
  - expansion of permanent pond; and
  - construction of temporary chalk embankment.

- Small Dean where vegetation clearance works were underway.

- Twyford where compound construction activities included:
  - soil stripping; and
  - stoning up of compound.

1.1.5 The applicable standards, guidance, and monitoring methodology is outlined in the construction noise and vibration monitoring methodology report which can be found at the following location https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2. Noise and vibration monitoring reports for previous months can also be found at this location.

1.2 Measurement Locations

1.2.1 Seven noise and one vibration monitoring installations were active in January in the BS area. Table 2 summarises the position of noise monitoring installations within the BS area in January 2021.

1.2.2 Maps showing the position of noise monitoring installations are presented in Appendix B.

Table 2: Monitoring Locations

Worksite Reference	Measurement Reference	Address
CSP	CSP-NMP1	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter
	CSP-NMP2	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter
	CSP-NMP3	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter
LTP #1	LTP #1-NMP1	Northern boundary, Load Test Pile 1 Worksite, Denham Water Ski Club
BHFL	BHFL-NMP1	Elm Tree Cottage, Bottom House Farm Lane
	BHFL-Vib 1	Pine Cottage, Bottom House Farm Lane
AM	AM-NMP1	Amersham Vent Shaft Worksite, Whielden Lane, Amersham
QAR	QAR-NMP1	1 Woodlands Farm Cottages, Quainton

2 Summary of Results

2.1 Summary of Measured Noise Levels

2.1.1 Table 3 presents a summary of the measured noise levels at each monitoring location over the reporting period. The $L_{Aeq,T}$ is presented for each of the relevant time periods averaged over the calendar month, along with the highest single period $L_{Aeq,T}$ that was found to occur within the month.

2.1.2 Monitors CSP-NMP1, CSP-NMP3 and AM-NMP1 were offline on the early days of January 2021 due to a replacement of the monitoring equipment.

Table 3: Summary of Measured dB L_{Aeq} Data over the Monitoring Period

Worksite Reference	Measurement Reference	Address	Free-field or Façade Measurement	Weekly Average $L_{Aeq,T}$ (Highest Day $L_{Aeq,T}$)					Saturday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)					Sunday / Public Holiday Average $L_{Aeq,T}$ (highest day $L_{Aeq,T}$)	
				0700 - 0800	0800 - 1800	1800 - 1900	1900 - 2200	2200 - 0700	0700 - 0800	0800 - 1300	1300 - 1400	1400 - 2200	2200 - 0700	0700 - 2200	2200 - 0700
CSP	CSP-NMP1	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	Free-field	60.7 (64.6)	67.6 (73.2)	64.4 (67.5)	63.0 (66.7)	59.8 (68.0)	59.2 (59.5)	67.2 (68.2)	63.1 (64.9)	62.3 (65.8)	59.9 (70.9)	60.7 (74.4)	58.3 (59.9)
	CSP-NMP2	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	Free-field	45.4 (50.5)	50.8 (58.1)	47.7 (54.7)	47.1 (56.1)	43.5 (55.8)	45.0 (48.2)	48.9 (51.9)	50.4 (54.8)	48.5 (57.6)	42.2 (48.1)	46.3 (52.1)	43.0 (47.3)
	CSP-NMP3	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	Free-field	54.8 (57.2)	56.8 (58.5)	56.5 (58.7)	54.3 (57.7)	47.9 (53.6)	51.0 (52.2)	55.2 (56.0)	56.8 (58.0)	55.6 (57.9)	46.5 (52.2)	53.3 (58.0)	46.8 (51.9)
LTP #1	LTP #1-NMP1	Northern boundary, Load Test Pile 1 Worksite, Denham Water Ski Club	Free-field	61.6 (64.5)	63.0 (64.9)	61.6 (64.2)	58.6 (63.4)	53.9 (58.6)	58.2 (59.2)	61.0 (62.3)	62.0 (64.2)	60.6 (64.5)	52.5 (58.6)	58.9 (64.4)	53.9 (60.5)
BHFL	BHFL-NMP1	Elm Tree Cottage, Bottom House Farm Lane	Free-field	51.6 (54.6)	58.2 (64.6)	52.7 (61.5)	47.0 (56.0)	44.5 (54.1)	50.5 (56.1)	53.3 (58.1)	52.0 (53.2)	49.3 (53.8)	40.5 (49.0)	48.6 (55.5)	42.8 (52.6)
AM	AM-NMP1	Whielden Lane, Amersham	Free-field	67.5 (68.9)	70.1 (72.3)	70.2 (72.4)	67.2 (72.2)	61.0 (69.5)	64.1 (66.3)	68.6 (70.7)	70.3 (71.9)	68.3 (73.1)	60.0 (72.0)	66.2 (72.1)	59.9 (64.3)
QAR	QAR-NMP1	1 Woodlands Farm Cottages, Quainton	Free-field	52.1 (57.0)	52.6 (55.5)	48.5 (52.6)	45.0 (53.8)	43.1 (54.4)	47.7 (51.3)	50.2 (52.4)	50.0 (51.1)	47.4 (51.8)	37.2 (43.4)	47.5 (54.8)	40.0 (51.2)

2.1.3 Table 4 presents a summary of the measured vibration levels at the monitoring location over the reporting period. The highest PPV measured during the monitoring along any axis is presented in the table.

Table 4: Summary of Measured PPV Data over the Monitoring Period

Worksite Reference	Measurement Reference	Monitor Address	Highest PPV measured in any axis, mm/s
BHFL	BHFL-Vib 1	Pine Cottage, Bottom House Farm Lane	0.75 (X-axis)

2.1.4 Appendix C presents graphs of the noise and vibration monitoring data over the month for each of the measurement locations. Noise data presented consists of the hourly L_{Aeq} values and, where relevant, the $L_{Aeq,T}$ values (where the time period T has been taken to be the averaging period as specified in Table 1 of HS2 Information Paper E23). Vibration data presented consist of hourly PPV values. The full data set for the monitoring equipment can be found at the following location: https://data.gov.uk/dataset/24542ae7-dd44-444f-b259-871c4cc43b5e/environmental-monitoring-data.

2.2 Exceedances of the LOAEL and SOAEL

2.2.1 The lowest observed adverse effect level (LOAEL) is defined in the Planning Practice Guidance – Noise (PPG) as the level above which "noise starts to cause small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life".

2.2.2 The significant observed adverse effect level (SOAEL) is defined in the 'Planning Practice Guidance – Noise' as the level above which "noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area."

2.2.3 HS2 Phase One Information Paper E23: Control of Construction Noise and Vibration sets out the LOAELs and SOAELs for construction noise.

2.2.4 Where reported construction noise levels exceed the LOAEL and SOAEL, relevant periods will be identified. Summary statistics to evaluate ongoing qualification for noise insulation and temporary rehousing are also presented where relevant.

2.2.5 Table 5 presents a summary of recorded exceedances of the LOAEL and SOAEL at each measurement location over the reporting period, including the number of exceedances during each time period.

Table 5: Summary of Exceedances of LOAEL and SOAEL

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
CSP	CSP-NMP1	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	All days	0700-2200 2200-0700	Continuous Continuous	No exceedance Continuous*
	CSP-NMP2	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	All days	All periods	No exceedance	No exceedance
	CSP-NMP3	Chalfont St Peter Vent Shaft Worksite, Chesham Lane, Chalfont St. Peter	All days	All periods	No exceedance	No exceedance
LTP #1	LTP #1-NMP1	Northern boundary, Load Test Pile 1 Worksite, Denham Water Ski Club	All days	All periods	No exceedance	No exceedance
BHFL	BHFL-NMP1	Elm Tree Cottage, Bottom House Farm Lane	Weekday	0800-1800	2	No exceedance
AM	AM-NMP1	Whielden Lane, Amersham	Weekdays Weekdays Saturdays Saturdays Sundays Nights	0800-1800 1800-2200 0800-1300 1300-2200 0700-2200 2200-0700	16 Continuous 3 4 4 Continuous	No exceedance Continuous** No exceedance 4** 4** Continuous**

Worksite Reference	Measurement Reference	Address	Day (Weekday, Saturday, Sunday, Night)	Time period	Number of exceedances of LOAEL	Number of exceedances of SOAEL
QAR	QAR-NMP1	1 Woodlands Farm Cottages, Quainton	All days	All periods	No exceedance	No exceedance

* Exceedances of the SOAEL at monitoring position CSP-NMP1 were due to local traffic (from A413 and Chesham Ln.) and construction activities being undertaken in close proximity to the monitor. In consideration of the large separation distance between the monitor and nearby receptors (approximately 70m), noise levels at receptor locations are calculated to be below the SOAEL.

** Exceedances of the SOAEL at monitoring position AM-NMP1 were due to local traffic from A413, A355 and M40.

2.2.6 No exceedances of the SOAEL were recorded due to HS2 construction works at sensitive receptors during January 2021. A number of exceedances of the LOAEL were recorded at monitoring positions CSP-NMP1, BHFL-NMP1 and AM-NMP1 in January 2021 during working hours.

2.3 Exceedances of Trigger Level

2.3.1 Table 6 provides a summary of exceedances of the S61 trigger noise levels determined to be due to HS2 related construction noise measured during the reporting period, along with the findings of any investigation.

Table 6: Summary of Exceedances of Trigger Levels

Complaint Reference Number (if applicable)	Worksite Reference	Date and Time Period	Identified Source	Results of Investigation (including noise monitoring results)	Actions Taken
-	-	-	-	-	-

2.4 Complaints

2.4.1 Table 7 provides a summary of complaint information related to noise and vibration received during the reporting period, along with the findings of any investigation.

Table 7: Summary of Complaints

Complaint Reference Number	Worksite Reference	Description of Complaint	Results of Investigation	Actions Taken
HS2-21-41254-C	-	Deep rapid pulsing noises heard from	Site supervisor confirmed that noise was from a	No actions to remove or reduce the disruption were possible.

		07:45 and throughout day.	compaction roller that was being used to compact stone to form a temporary stone road. Confirmed that works were in line with Section 61 conditions and the activity would continue intermittently for the remainder of the week.	A response was provided to the resident detailing the outcome of the investigation and the period the noise was likely to be ongoing for.
HS2-21-41252-C	-	Noise from fixed Plant	Investigation determined that the noise was from a site generator.	Acoustic noise barriers were installed around generator and investigating possibility of replacing the generator with a hybrid/eco-friendly generator. Weekly site visits will be undertaken to monitor.

Appendix A Site Locations

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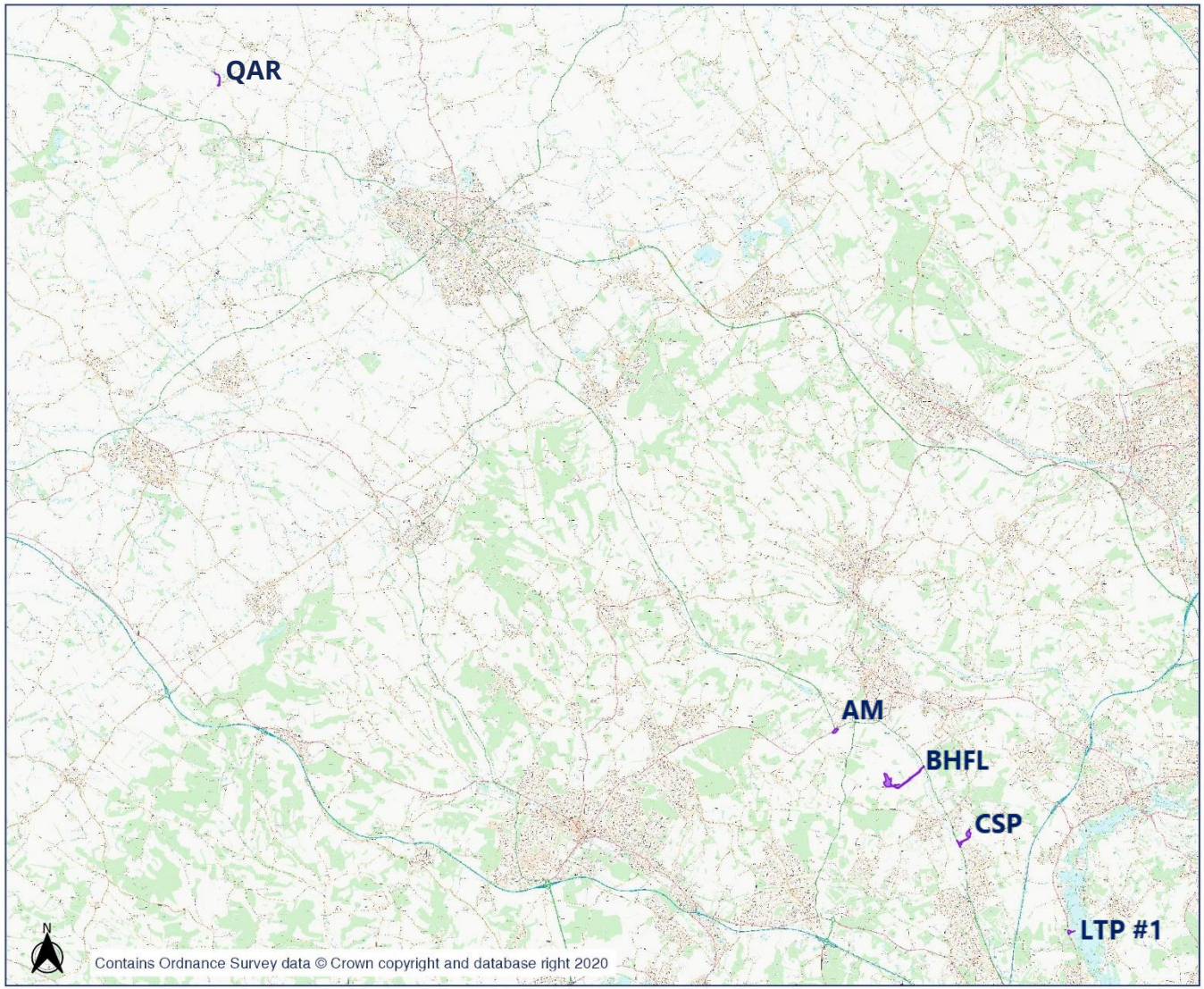
Worksite identification plan - 1



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Active worksites

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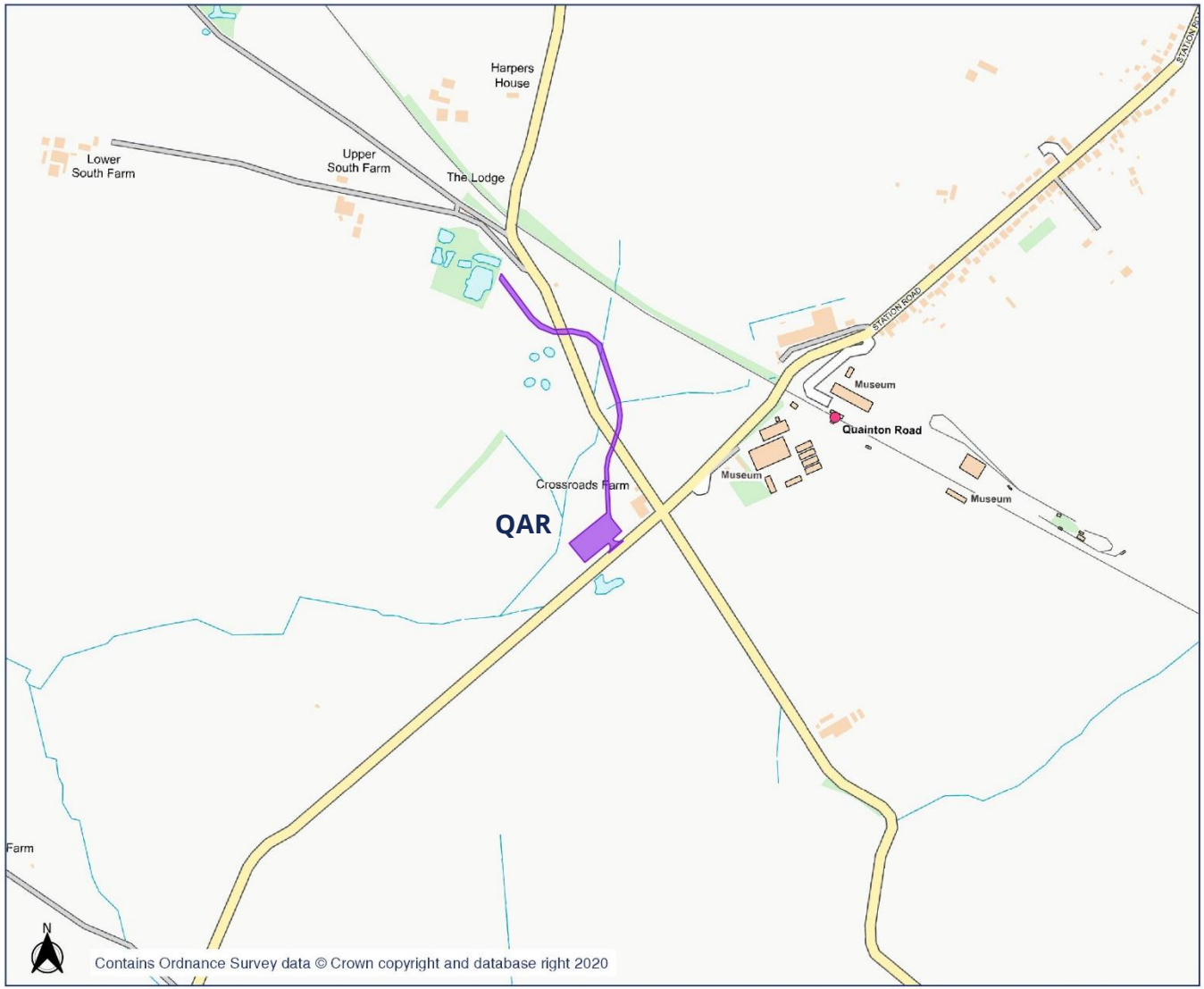
Worksite identification plan - 2



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Active worksites

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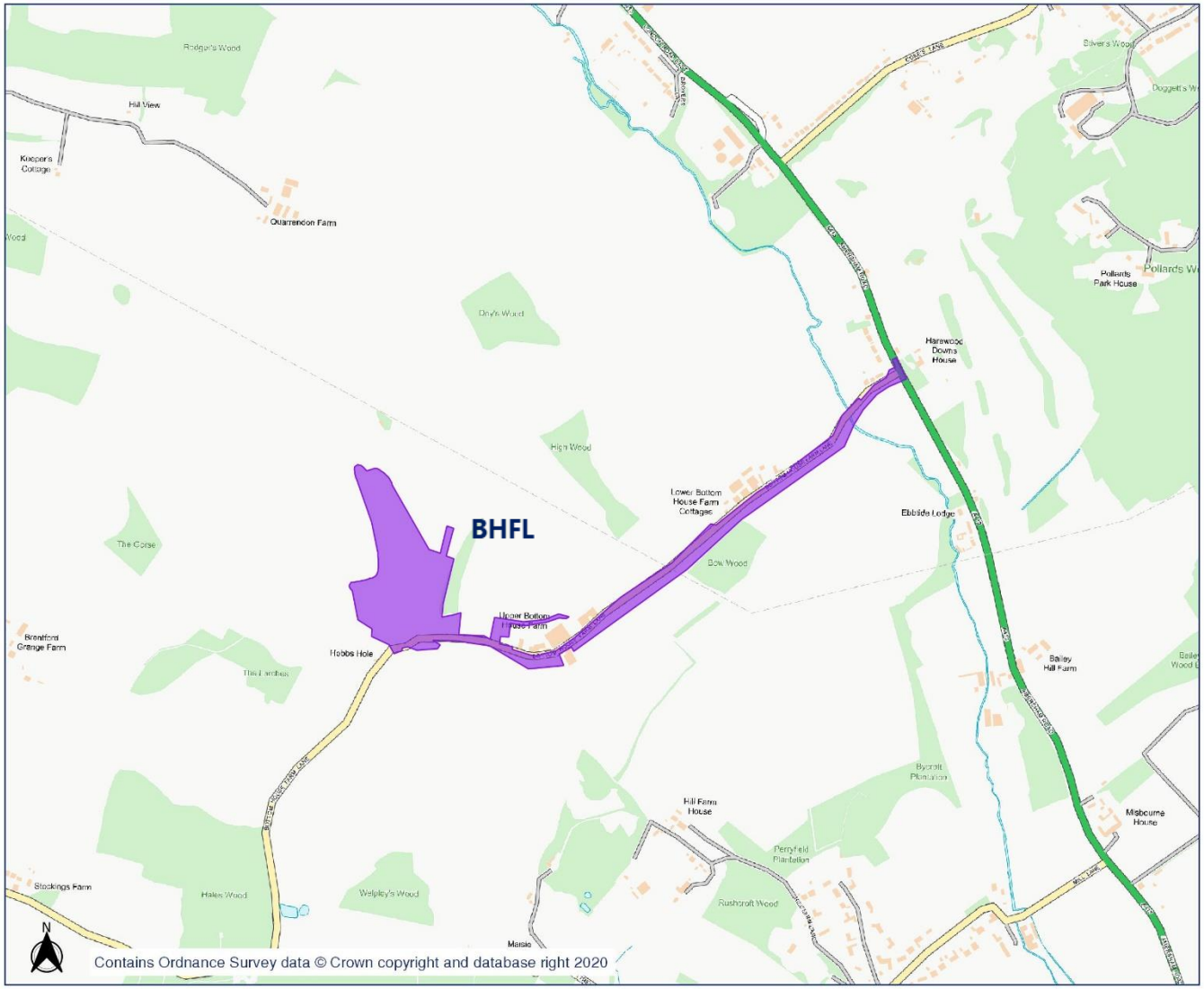
Worksite identification plan - 3



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Active worksites

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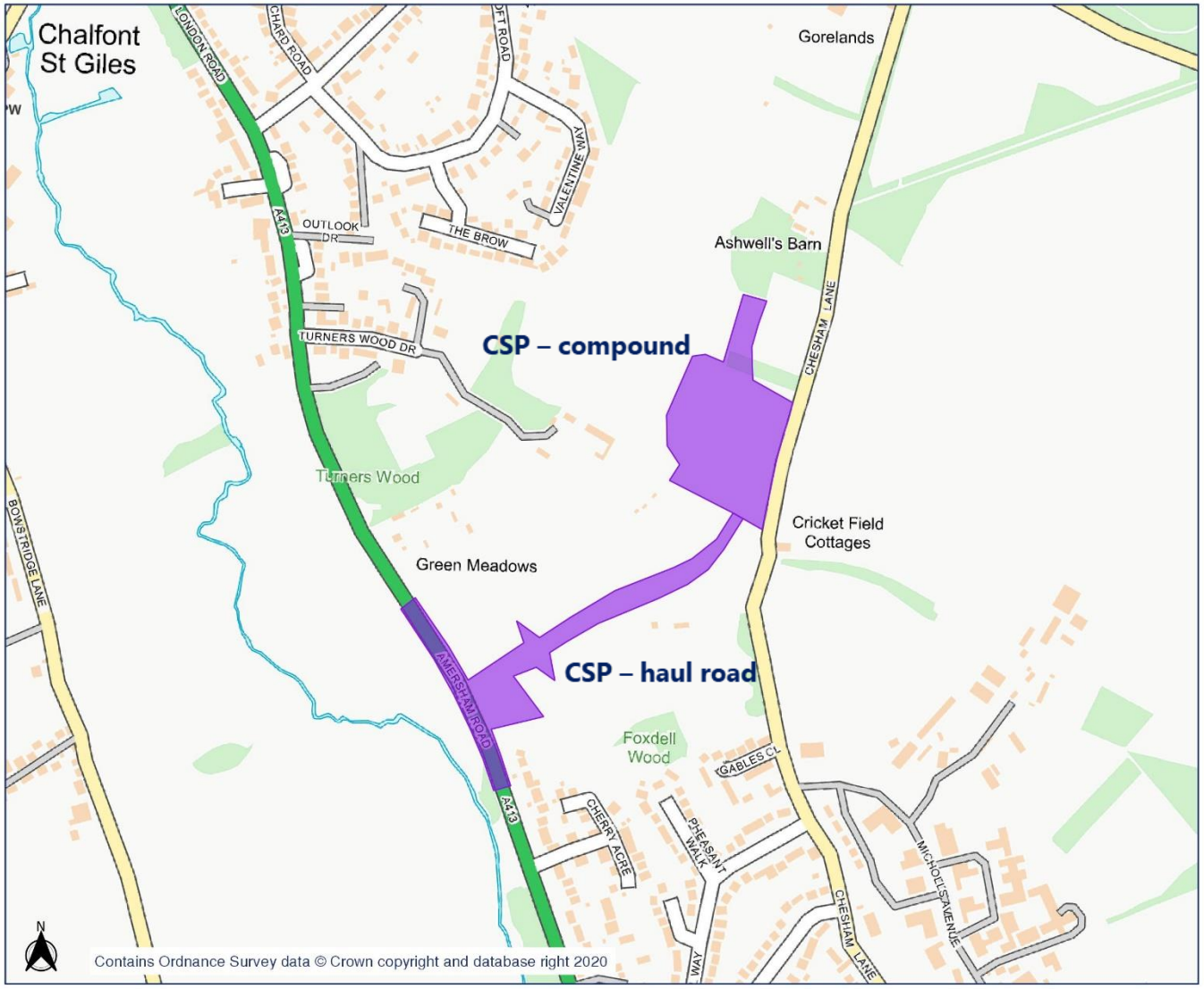
Worksite identification plan - 4



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Active worksites

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Worksite identification plan - 5

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Active worksites

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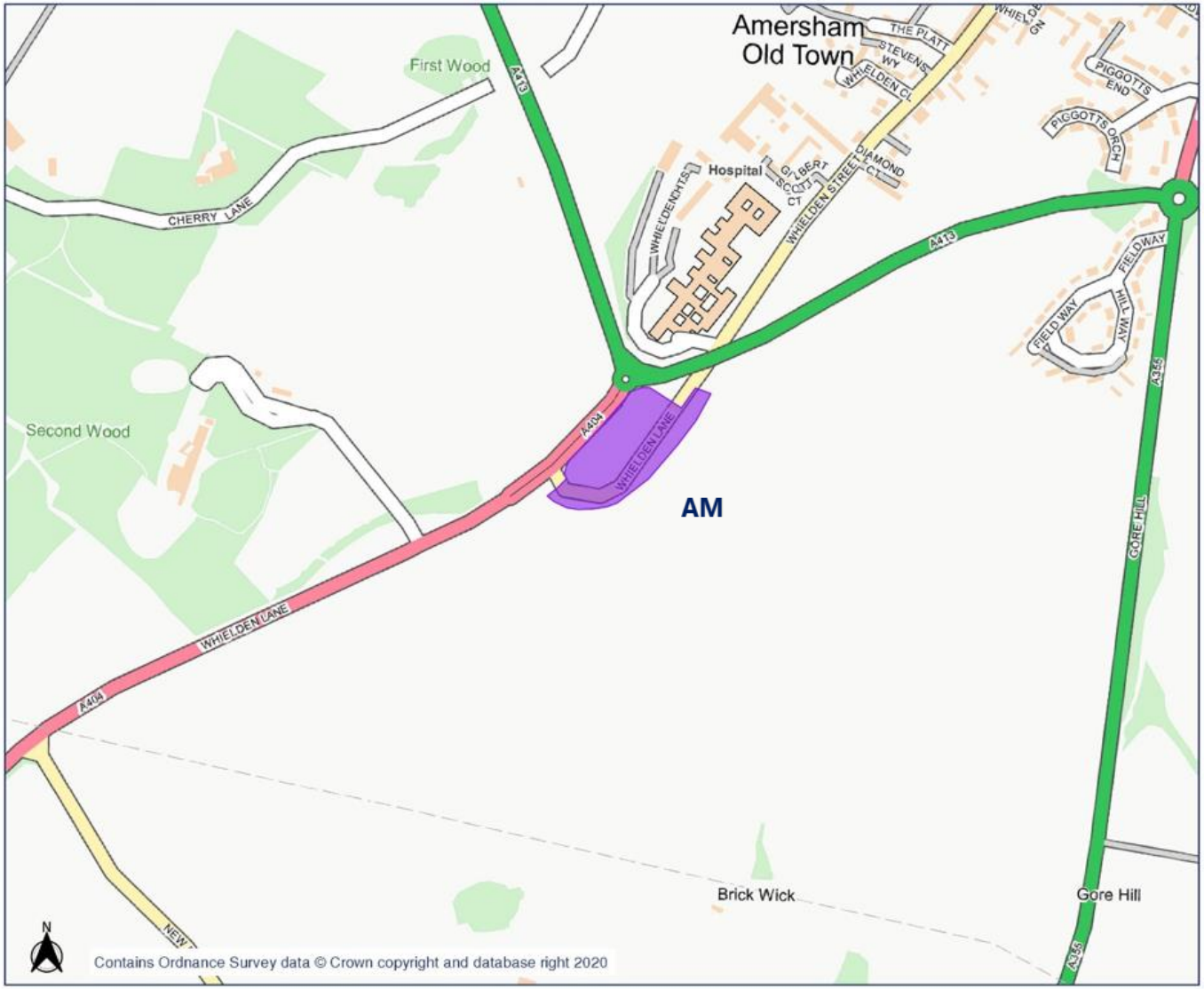
HS2 Worksite identification plan - 6



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Active worksites

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Appendix B Monitoring Locations

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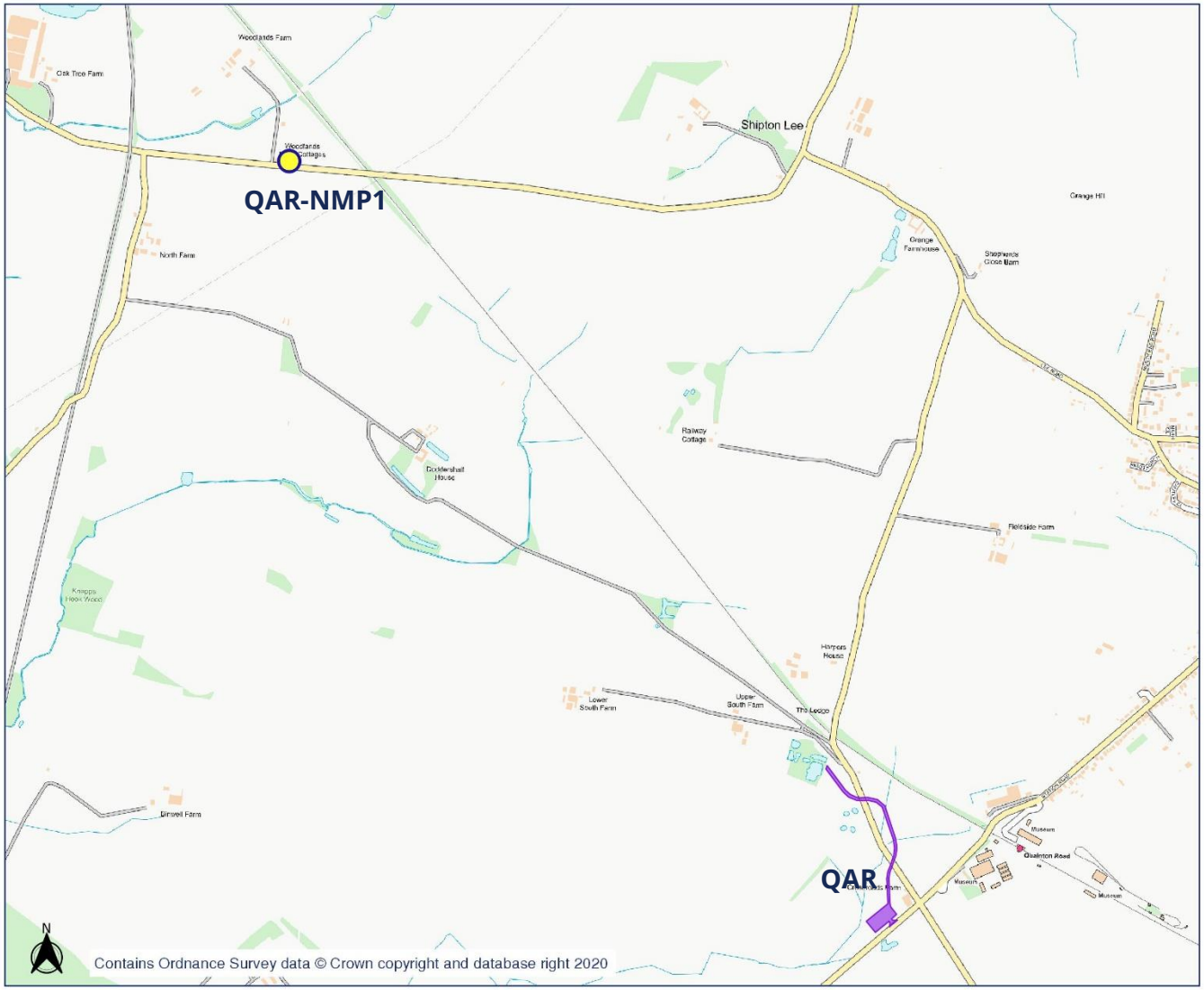
Noise monitoring plan - 1



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- Noise monitor
- Active worksites

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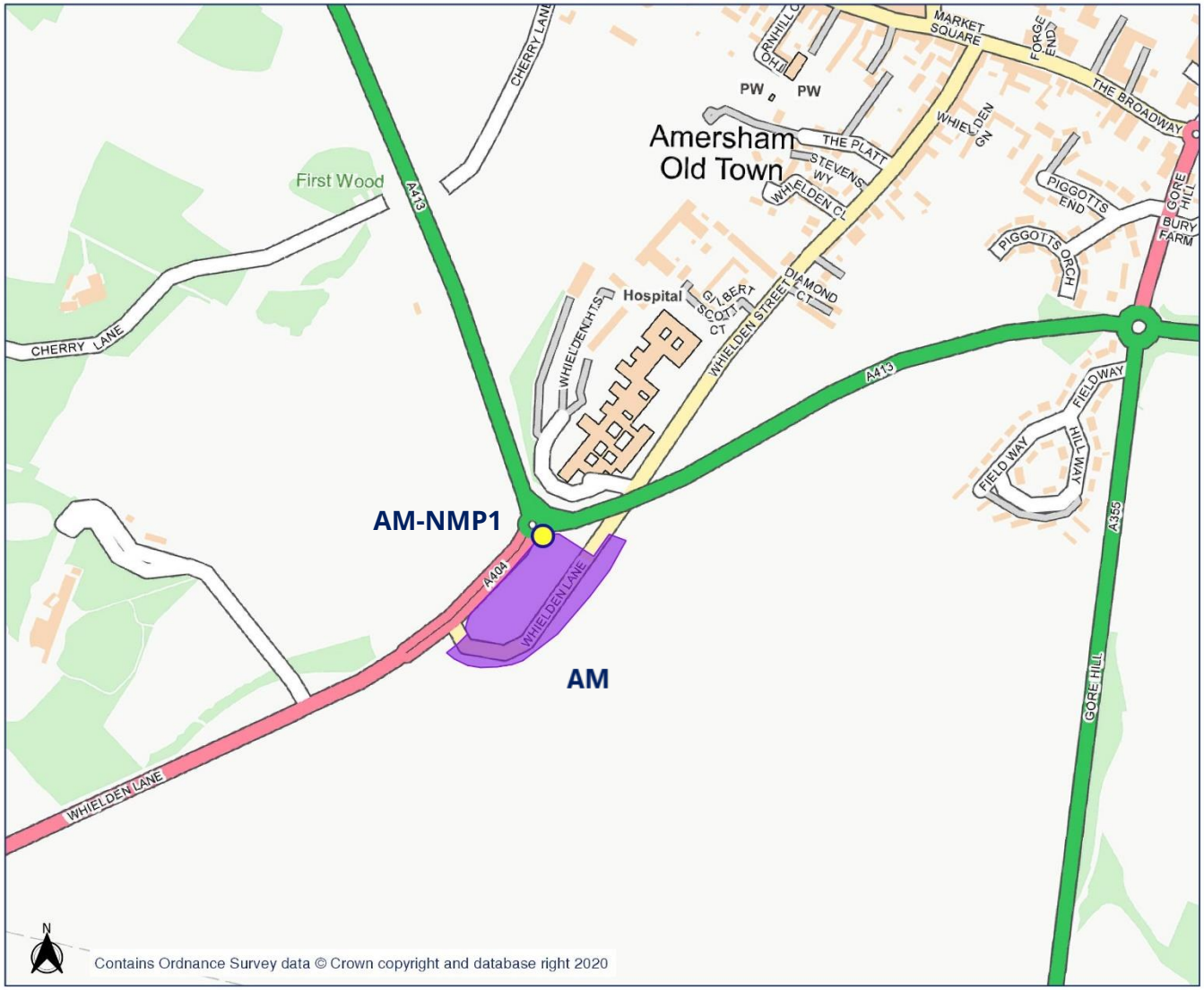
Noise monitoring plan - 2



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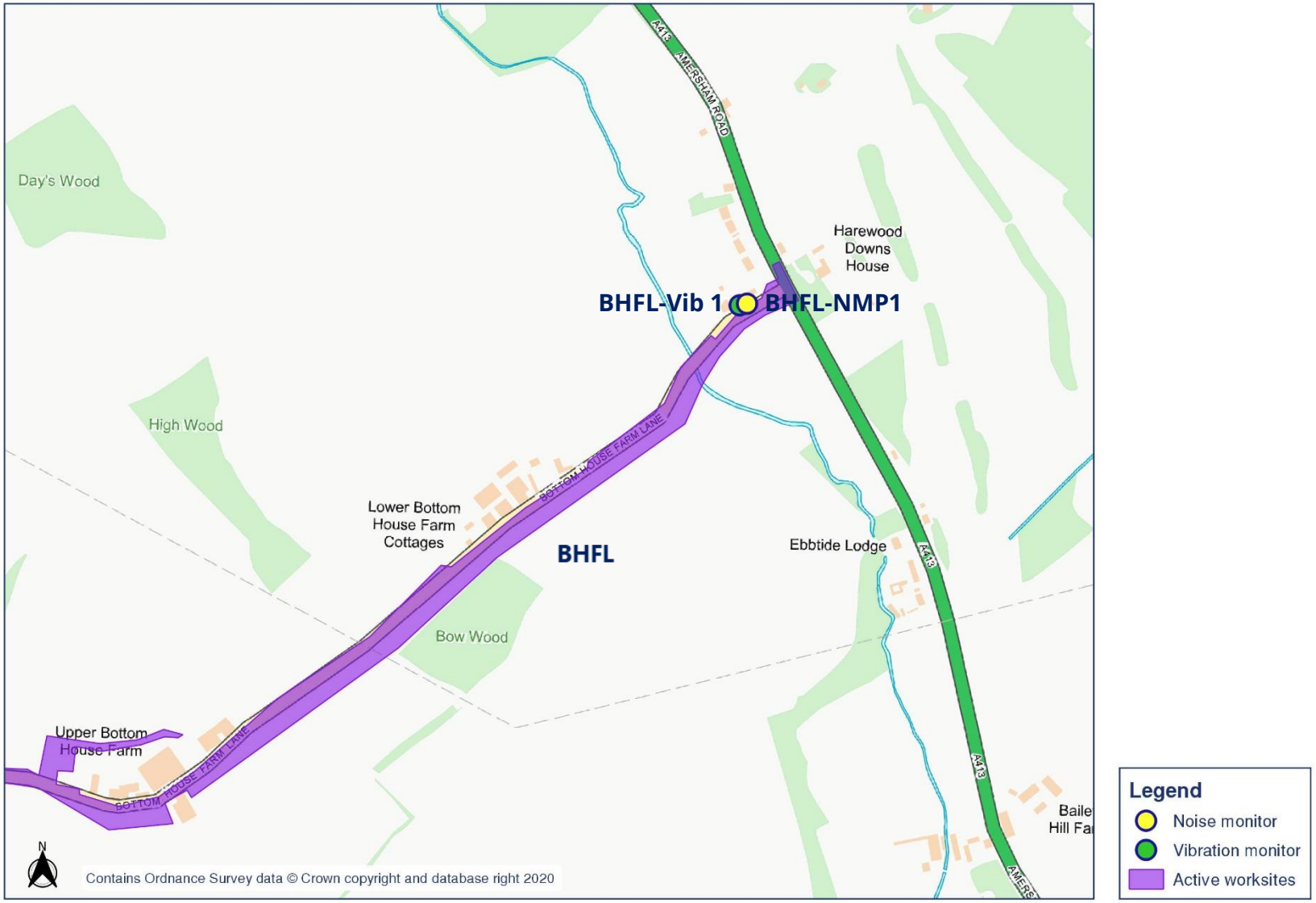
Noise monitoring plan - 3



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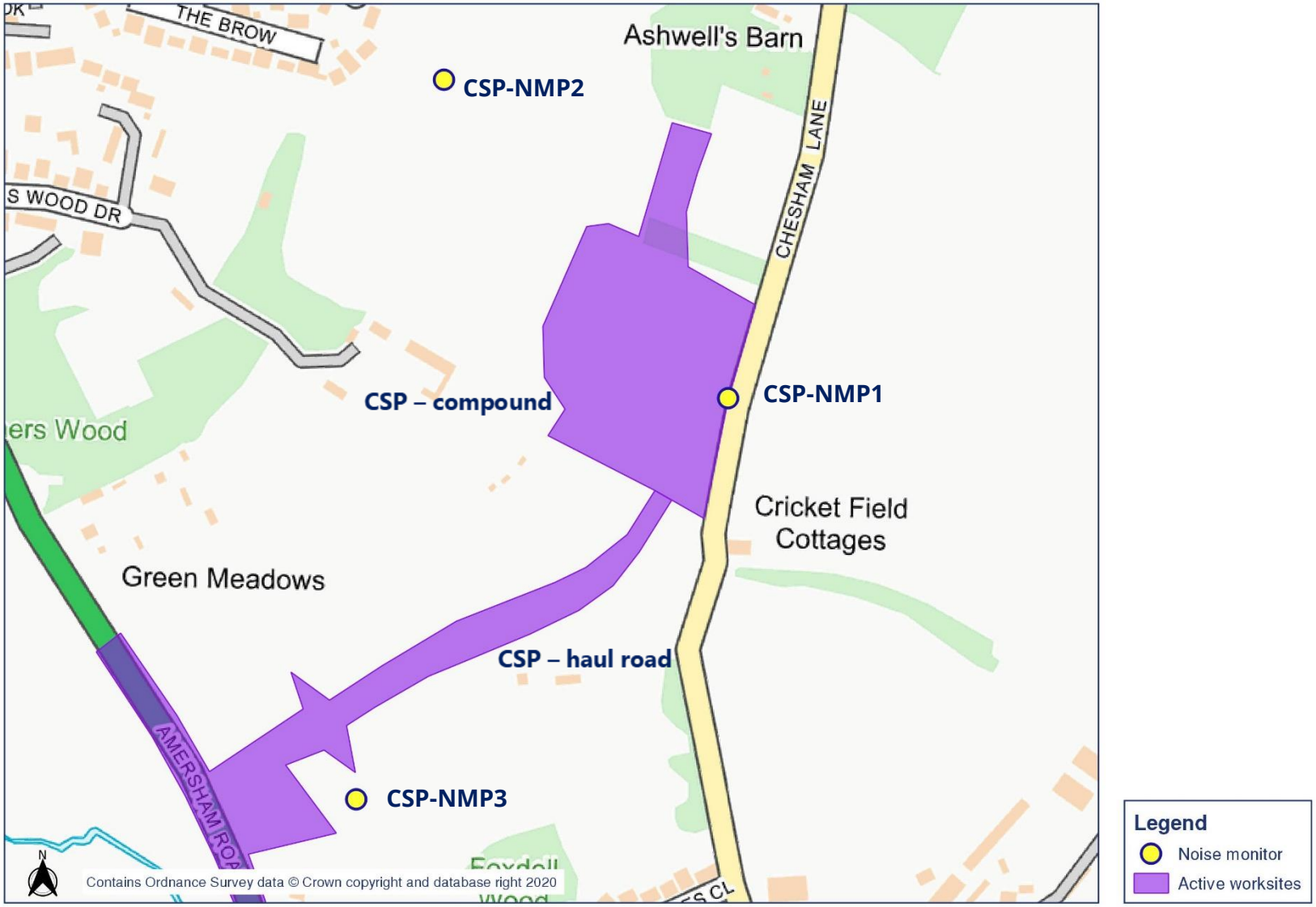
Noise monitoring plan - 4



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Noise monitoring plan - 5

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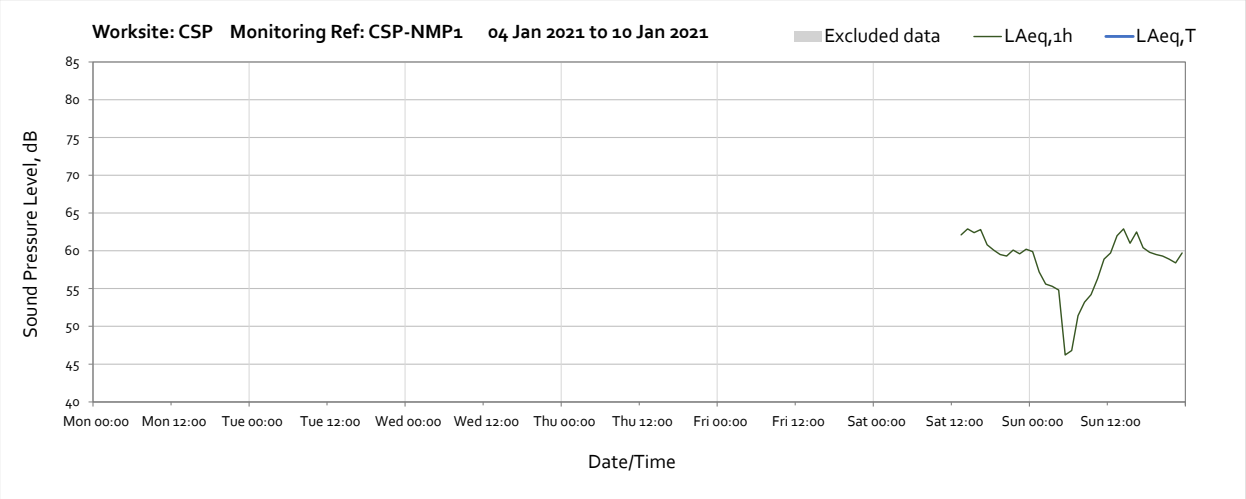
Appendix C Data

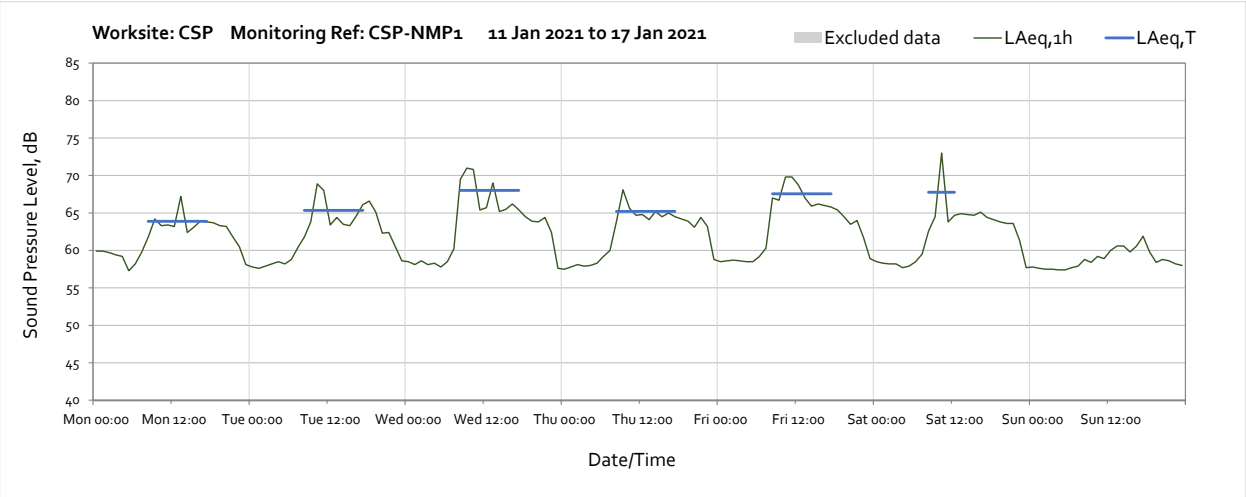
Noise

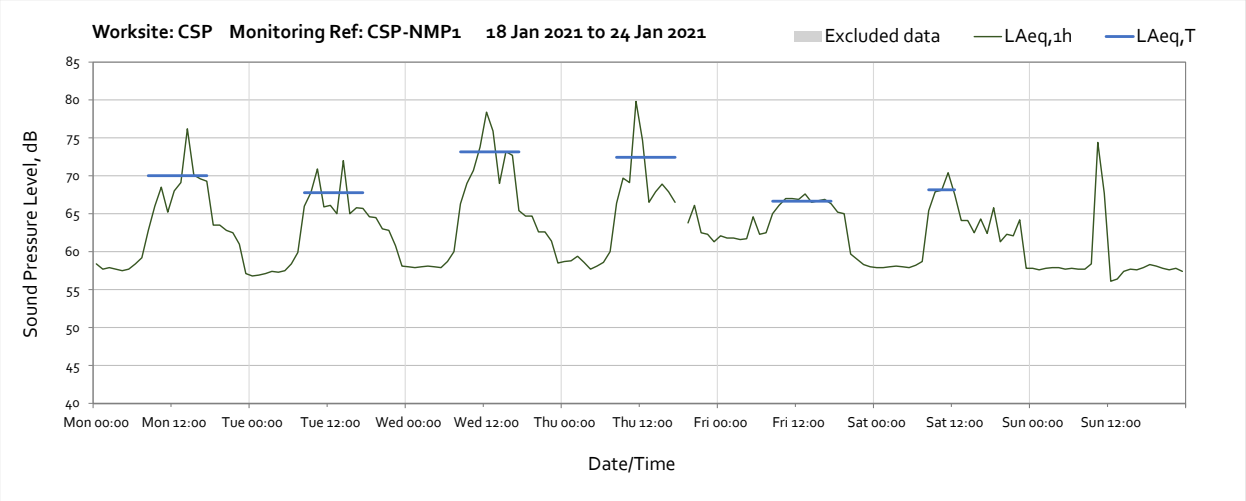
The following graphs show the hourly measured ambient noise level $L_{Aeq,1h}$ and, where relevant, the averaged noise level $L_{Aeq,T}$ values, where the time period T is as specified in Table 1 of HS2 Information Paper E23. Periods with adversely weather affected noise levels are greyed out and have been excluded from the calculation of the $L_{Aeq,T}$ values in Table 3 of the main report.

Worksite: CSP – Monitoring Ref: CSP-NMP1

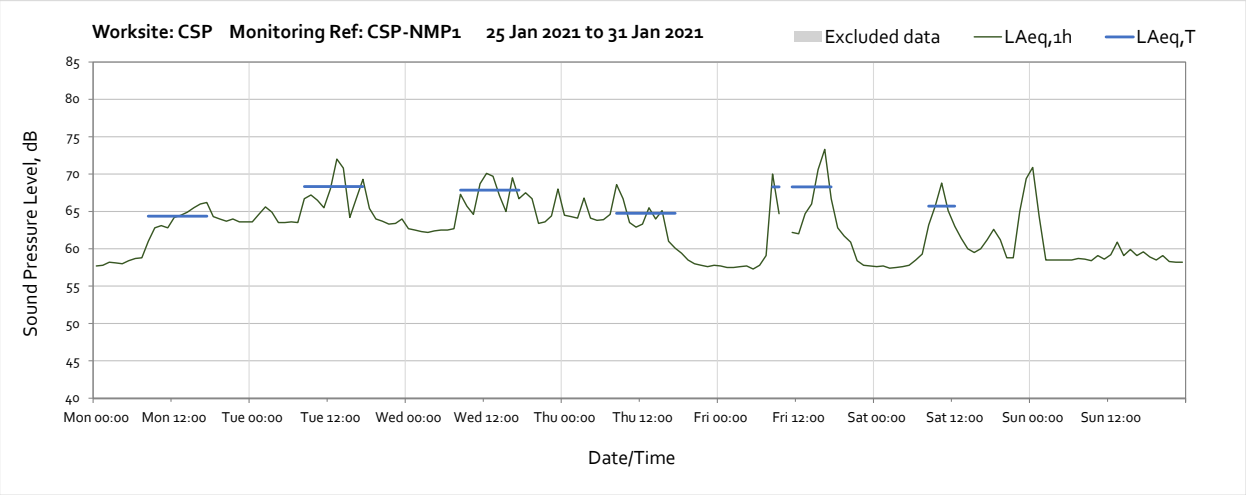


Note: Missing data from 00:00 on Friday 1st January until 13:00 on Saturday 9th January was due to a replacement of the monitoring equipment.



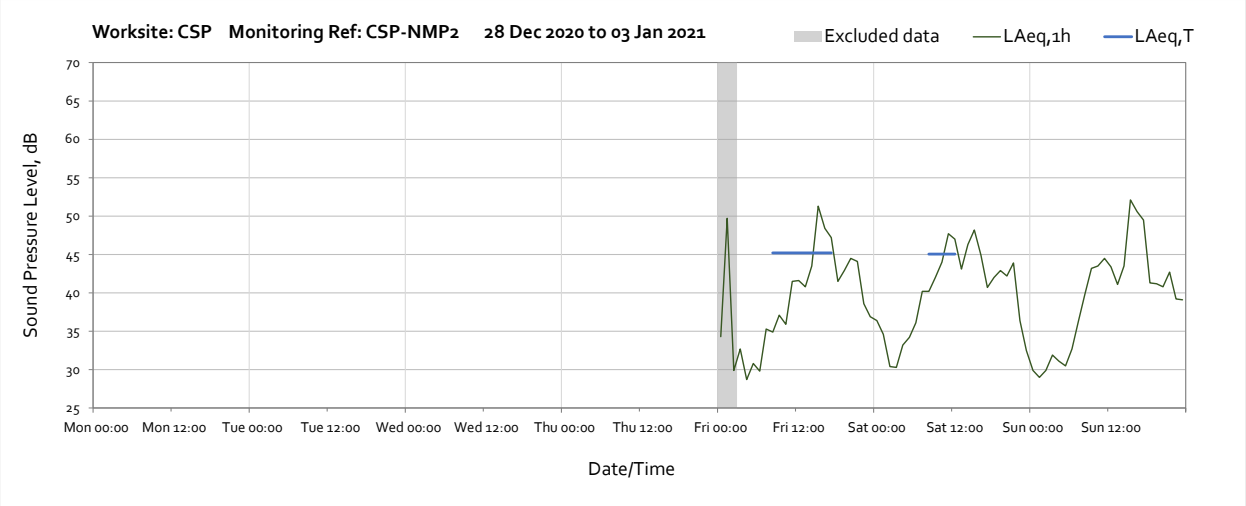


Note: Missing data from 18:00 until 19:00 on Thursday 21st January was due to power supply failure.

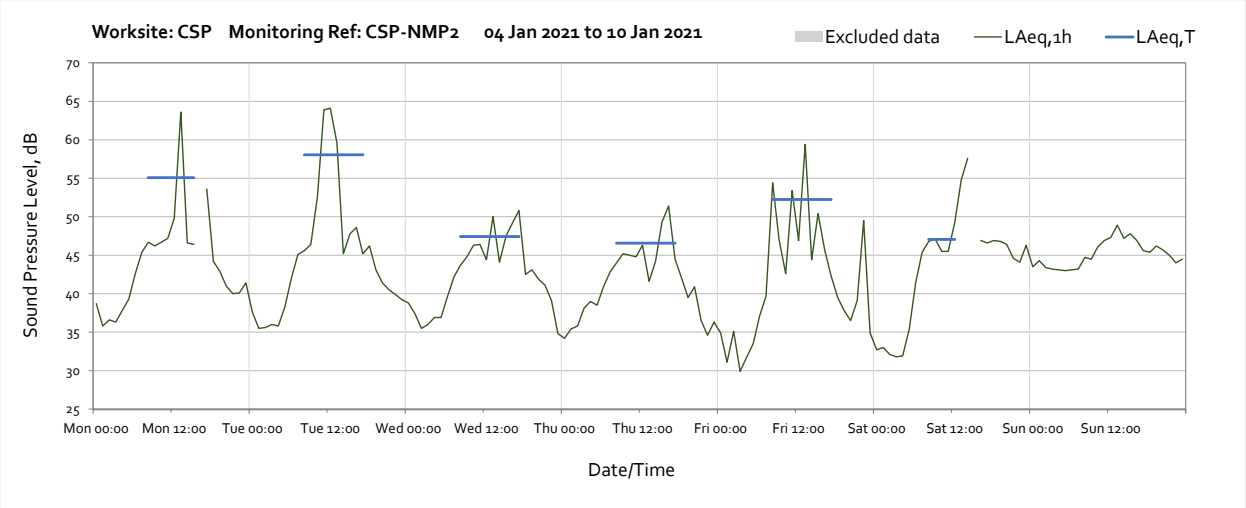


Note: Missing data from 10:00 until 11:00 on Friday 29th January was due to power supply failure.

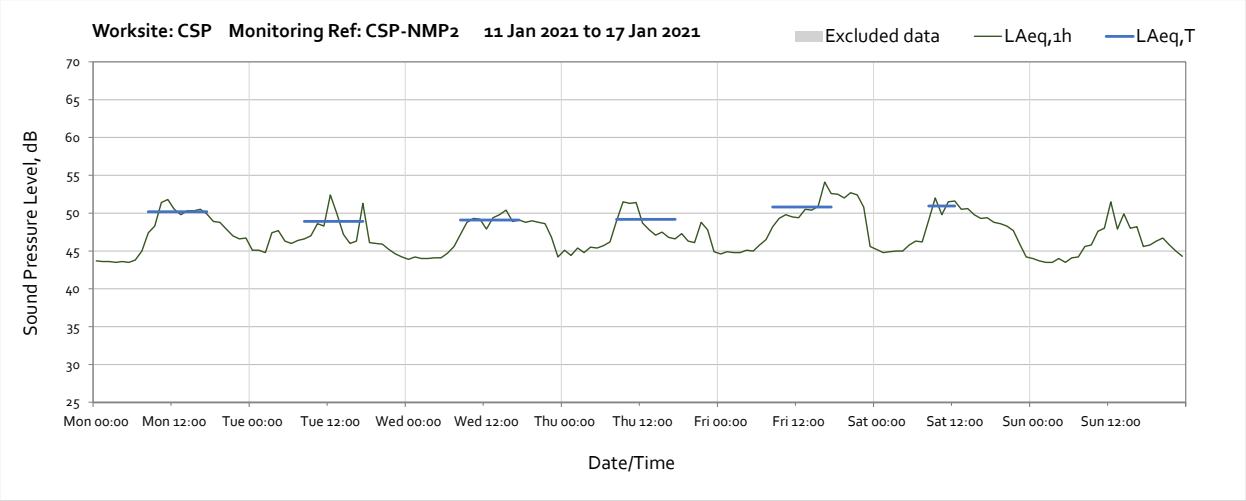
Worksite: CSP – Monitoring Ref: CSP-NMP2

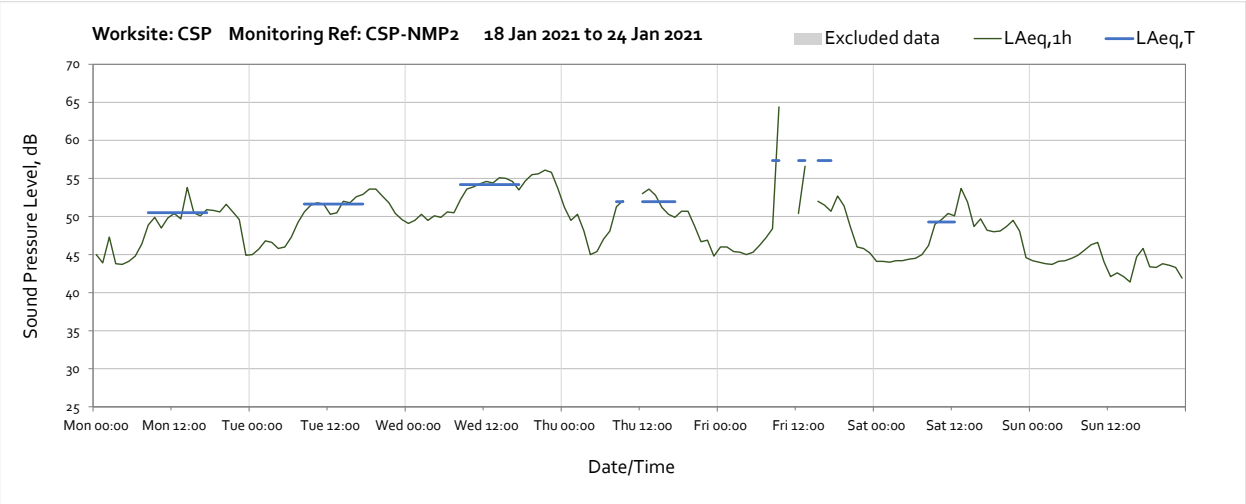


Note: High noise levels on the early hours of the 1st January were due to New Year's Eve celebrations and have been excluded to calculate values in Table 3.

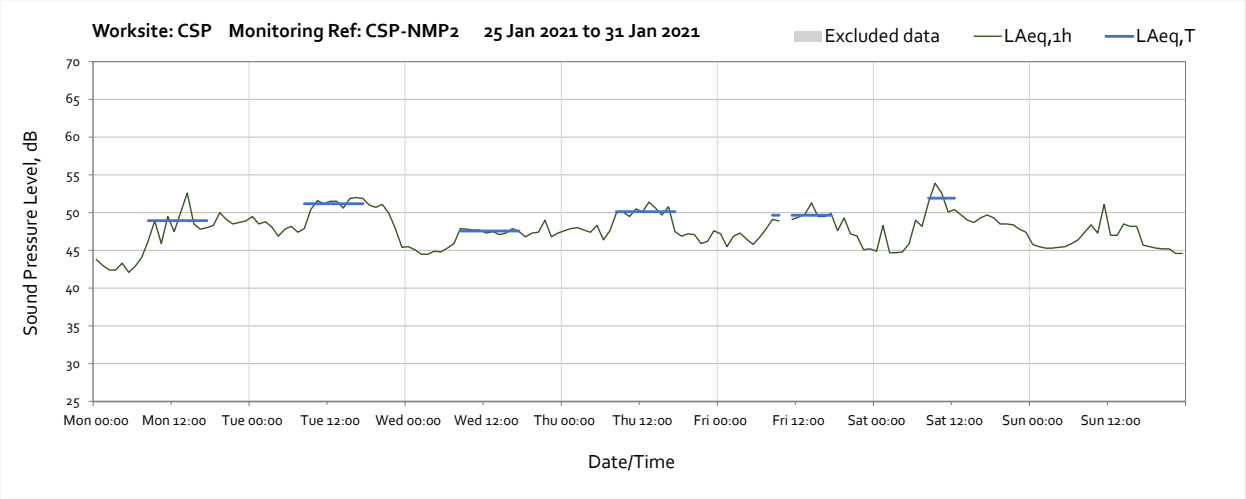


Note: Missing data sporadically throughout January was due to power supply failure.



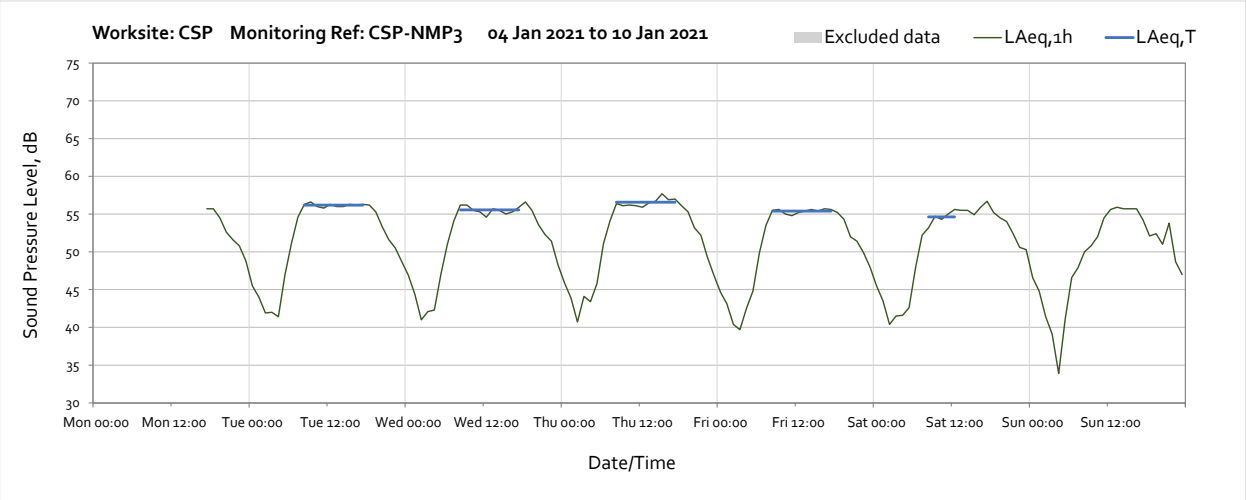


Note: Missing data sporadically throughout January was due to power supply failure.

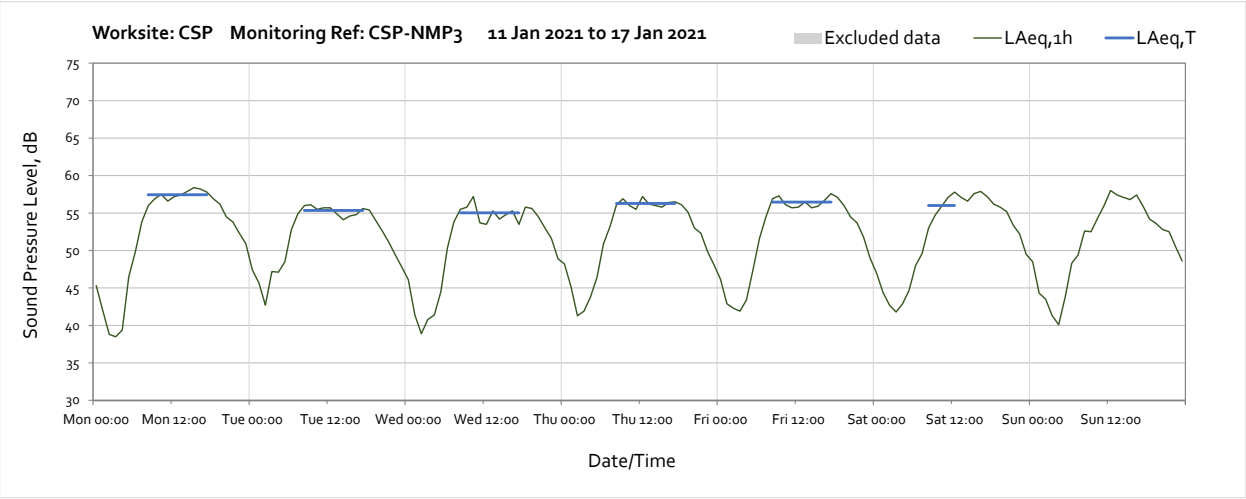


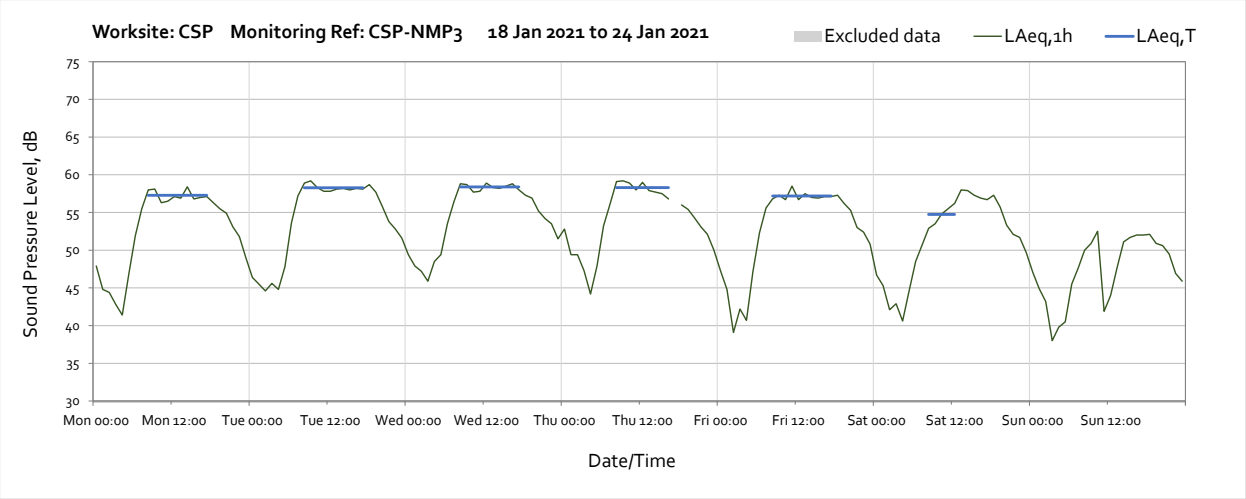
Note: Missing data sporadically throughout January was due to power supply failure.

Worksite: CSP – Monitoring Ref: CSP-NMP3

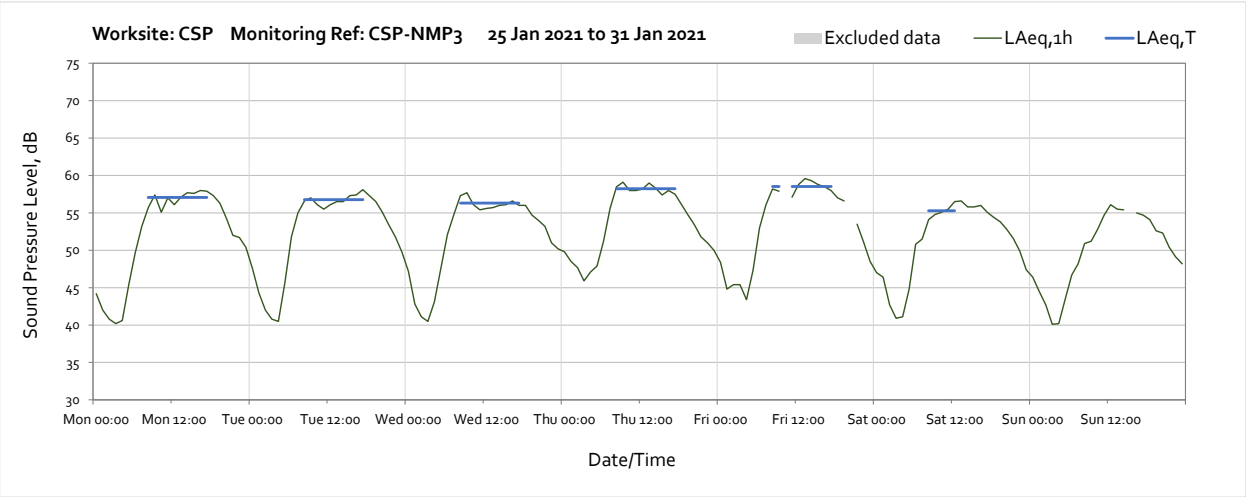


Note: Missing data from 00:00 on Friday 1st January until 17:00 on Monday 4th January was due to a replacement of the monitoring equipment.



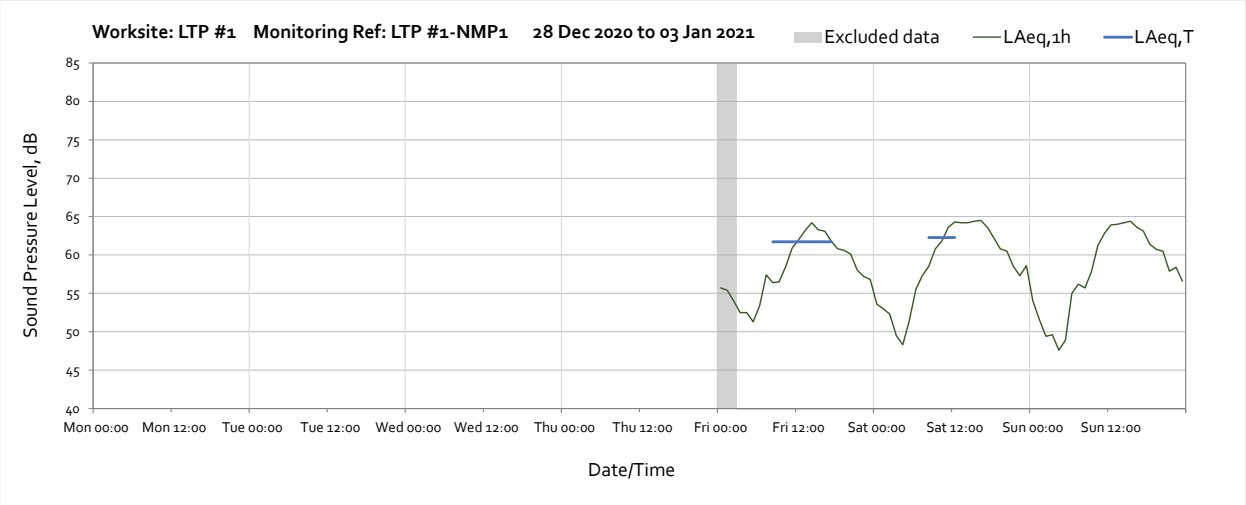


Note: Missing data sporadically throughout January was due to power supply failure.

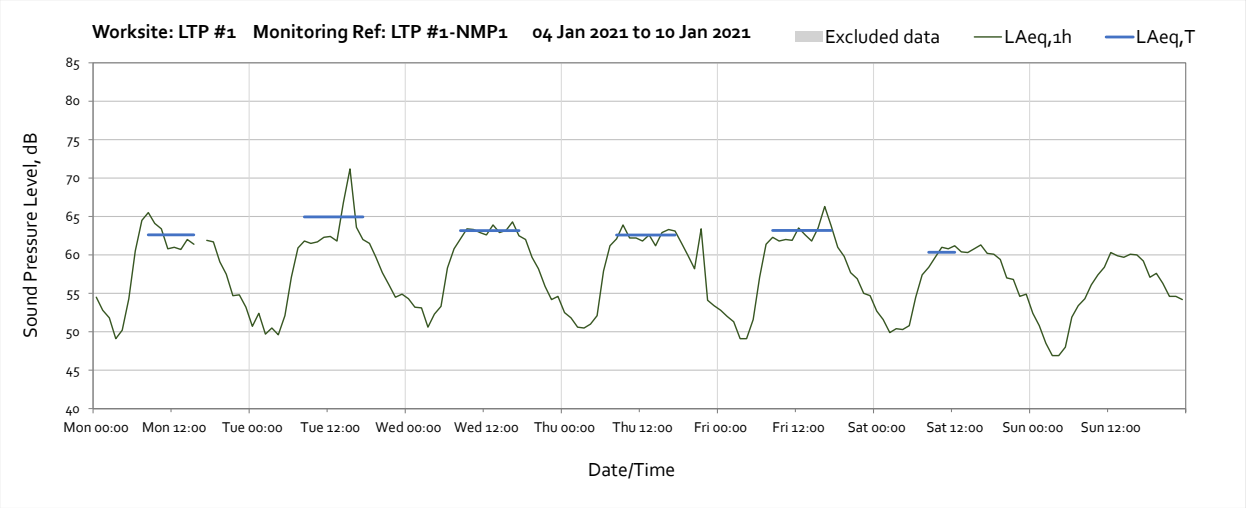


Note: Missing data sporadically throughout January was due to power supply failure.

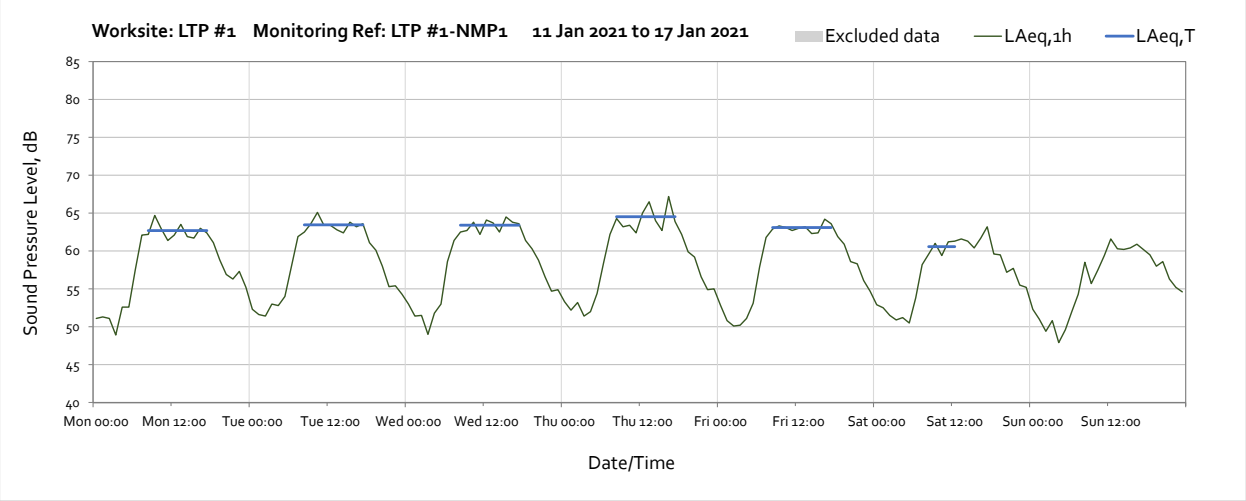
Worksite: LPT#1 – Monitoring Ref: LPT#1-NMP1

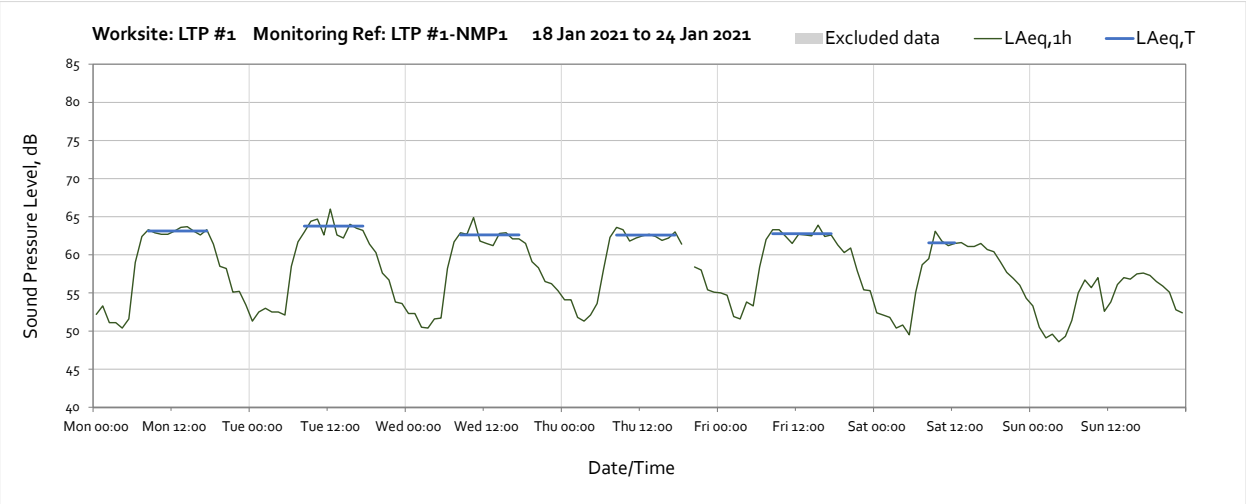


Note: High noise levels on the early hours of the 1st January were due to New Year's Eve celebrations and have been excluded to calculate values in Table 3.

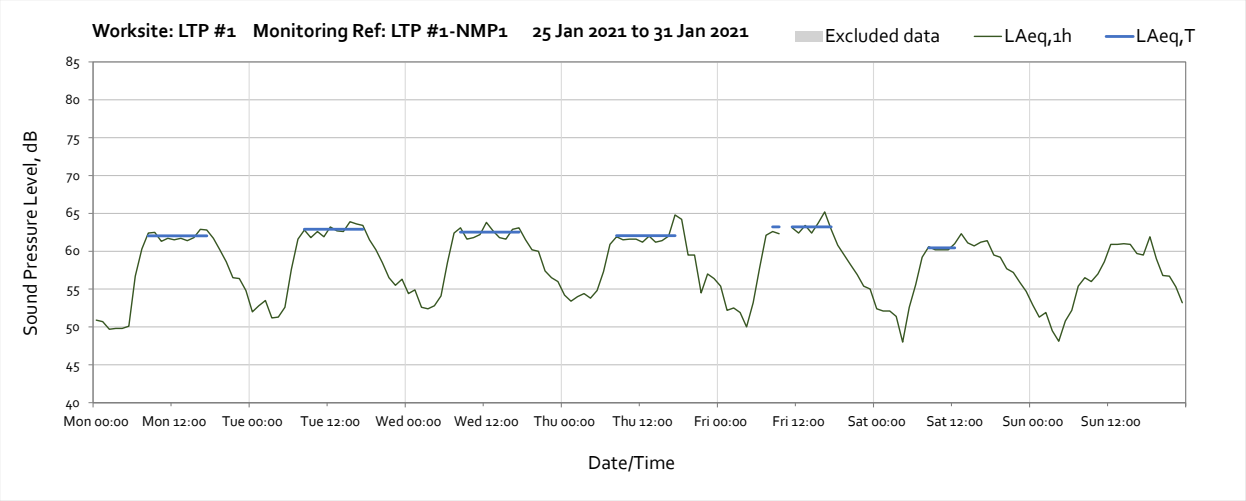


Note: Missing data sporadically throughout January was due to power supply failure.



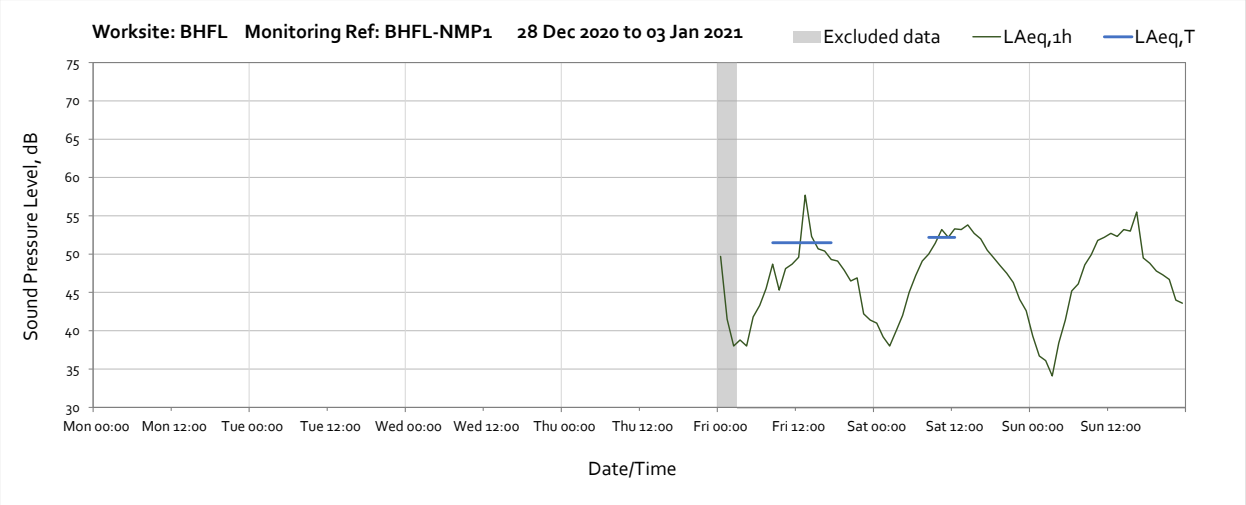


Note: Missing data sporadically throughout January was due to power supply failure.

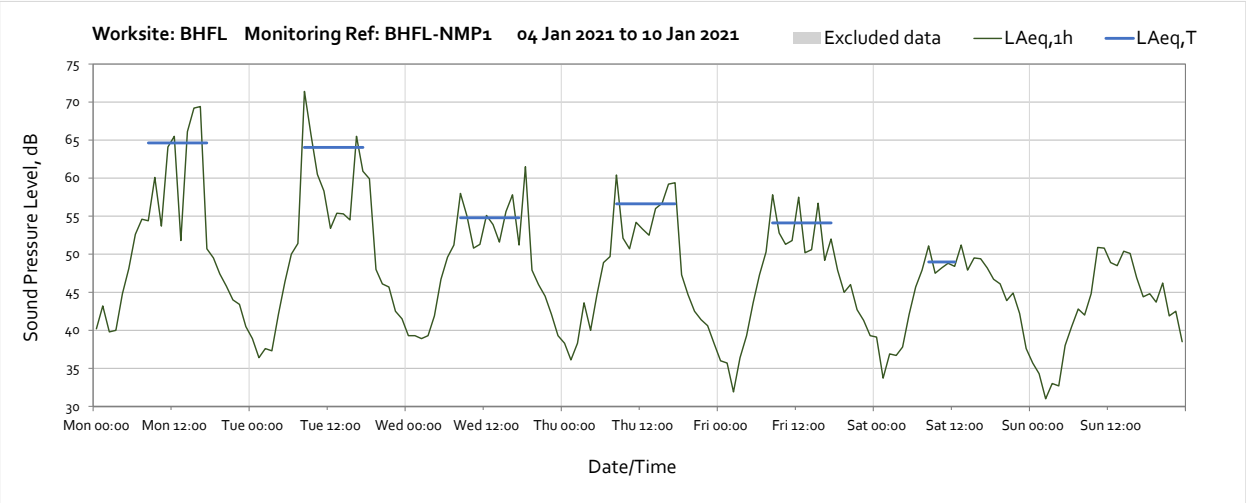


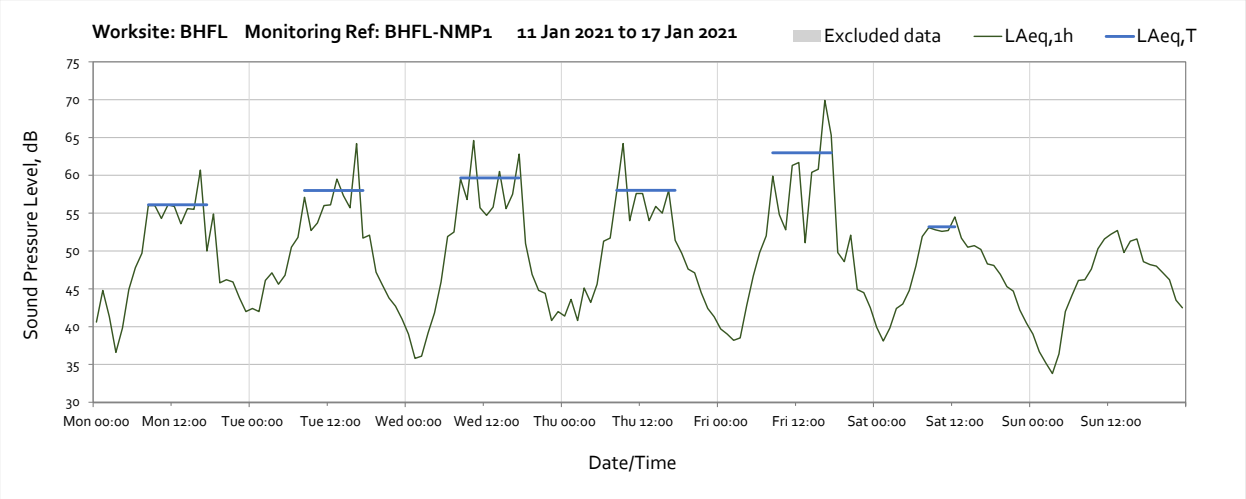
Note: Missing data sporadically throughout January was due to power supply failure.

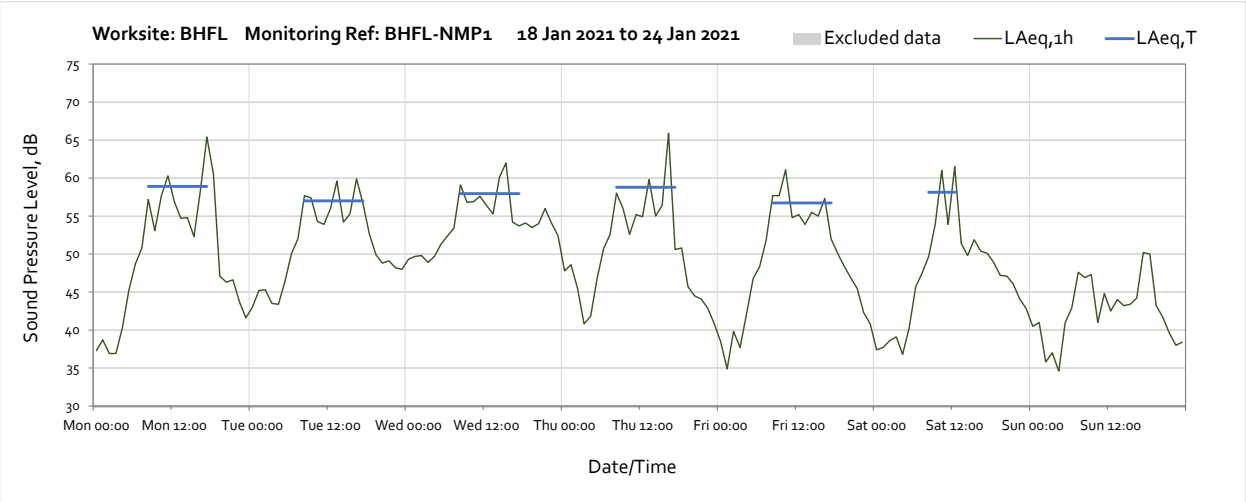
Worksite: BHFL – Monitoring Ref: BHFL-NMP1

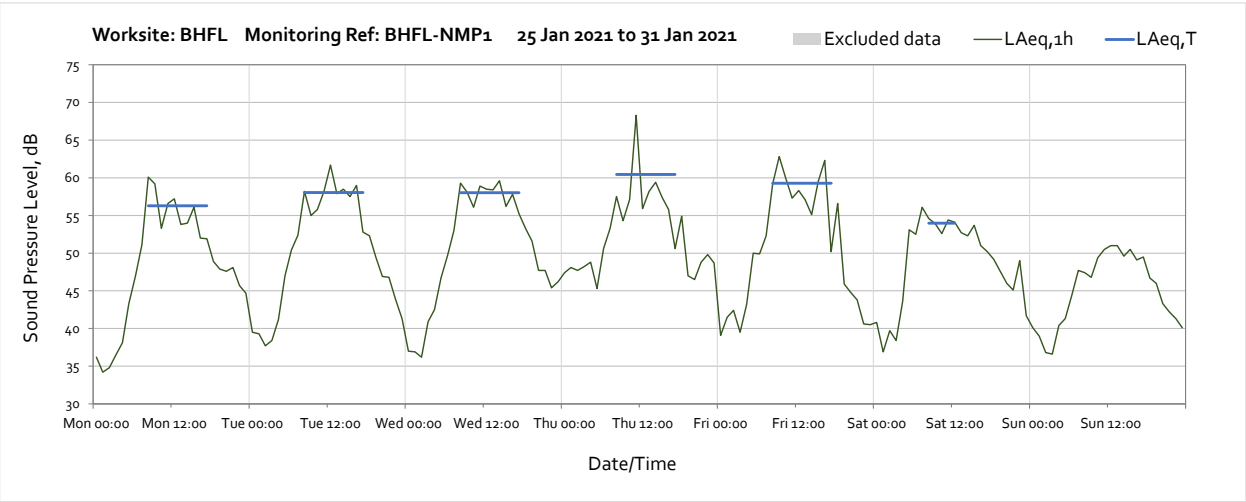


Note: High noise levels on the early hours of the 1st January were due to New Year's Eve celebrations and have been excluded to calculate values in Table 3.

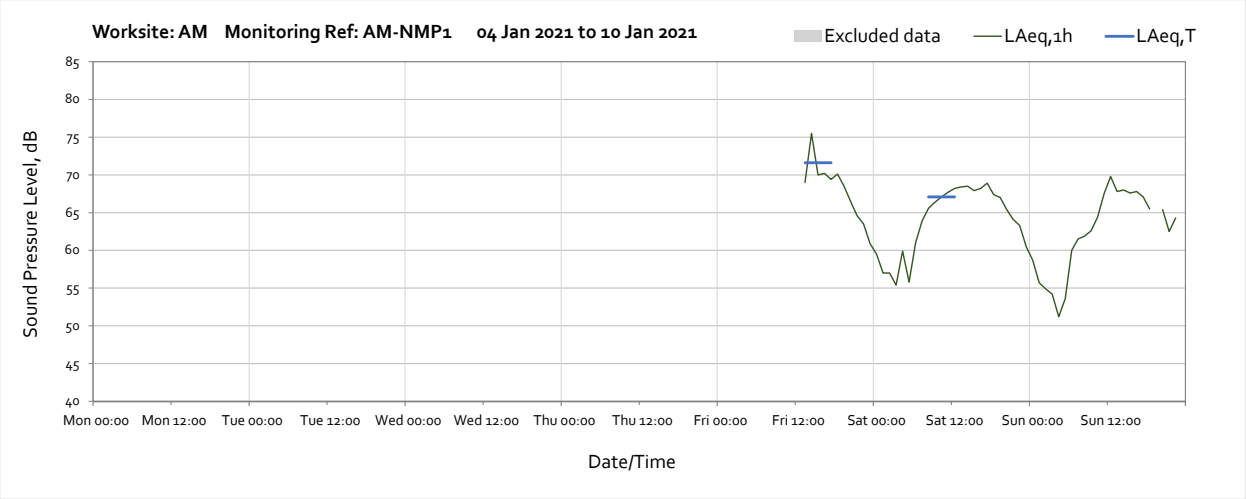



Worksite: BHFL Monitoring Ref: BHFL-NMP1 11 Jan 2021 to 17 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
60
55
50
45
40
35
30
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

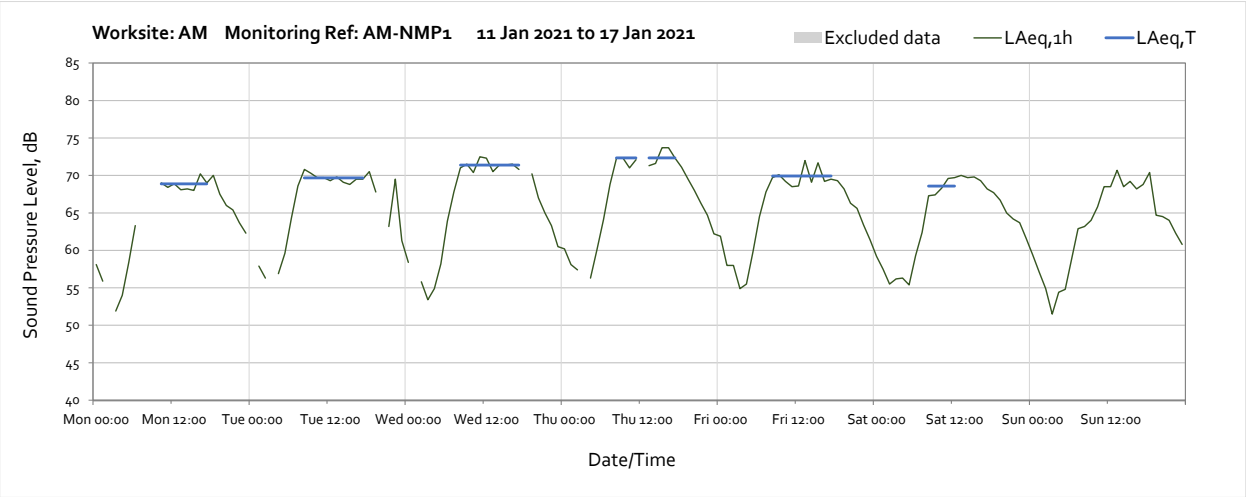

Worksite: BHFL Monitoring Ref: BHFL-NMP1 18 Jan 2021 to 24 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
60
55
50
45
40
35
30
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: BHFL Monitoring Ref: BHFL-NMP1 25 Jan 2021 to 31 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
75
70
65
60
55
50
45
40
35
30
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

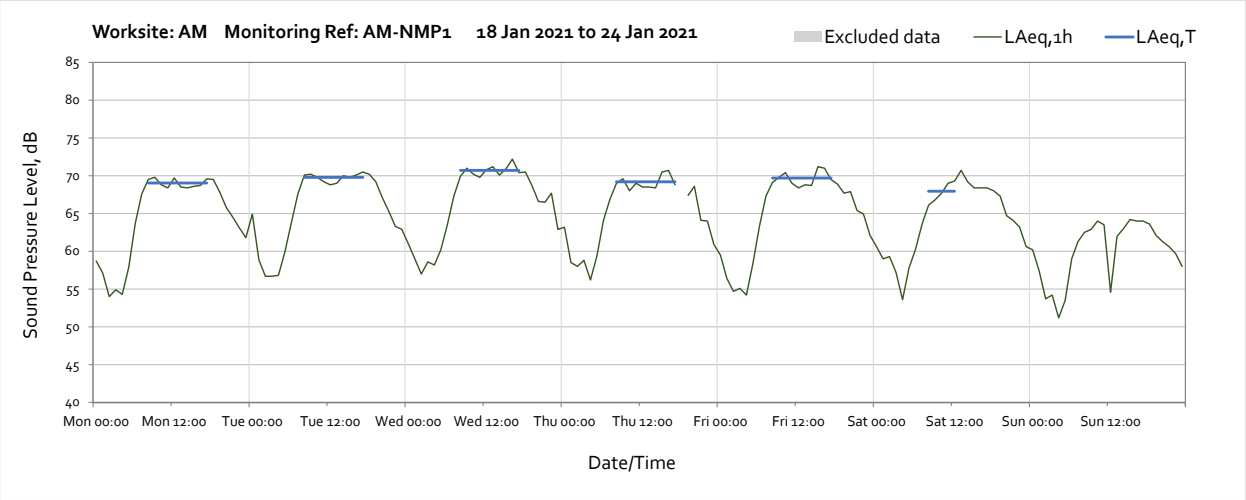
Worksite: AM – Monitoring Ref: AM-NMP1



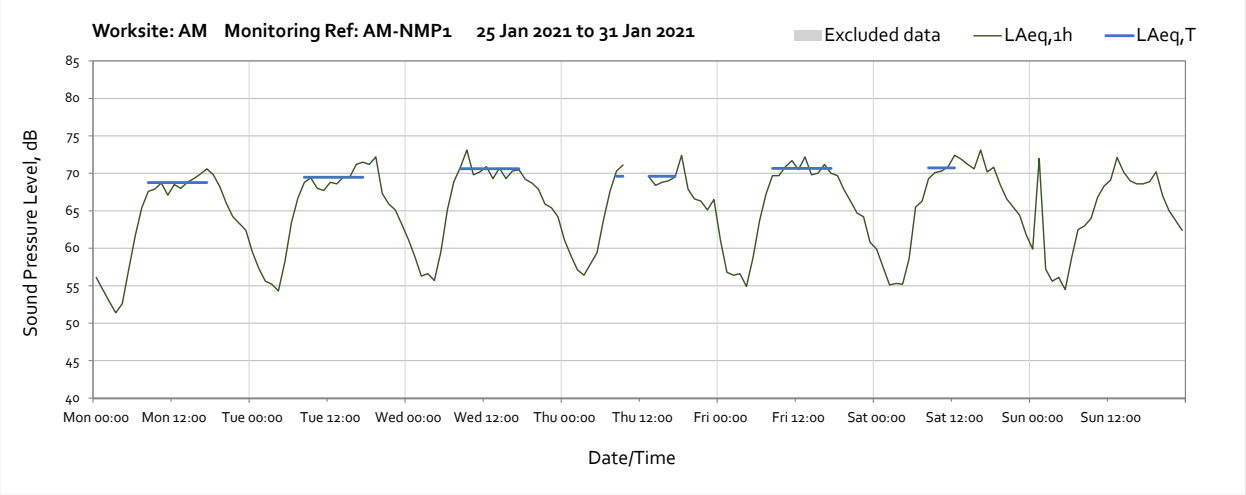
Note: Missing data from 00:00 on Friday 1st January until 13:00 on Friday 8th January was due to a replacement of the monitoring equipment, also missing data sporadically throughout January was due to power supply failure.



Note: Missing data sporadically throughout January was due to power supply failure.

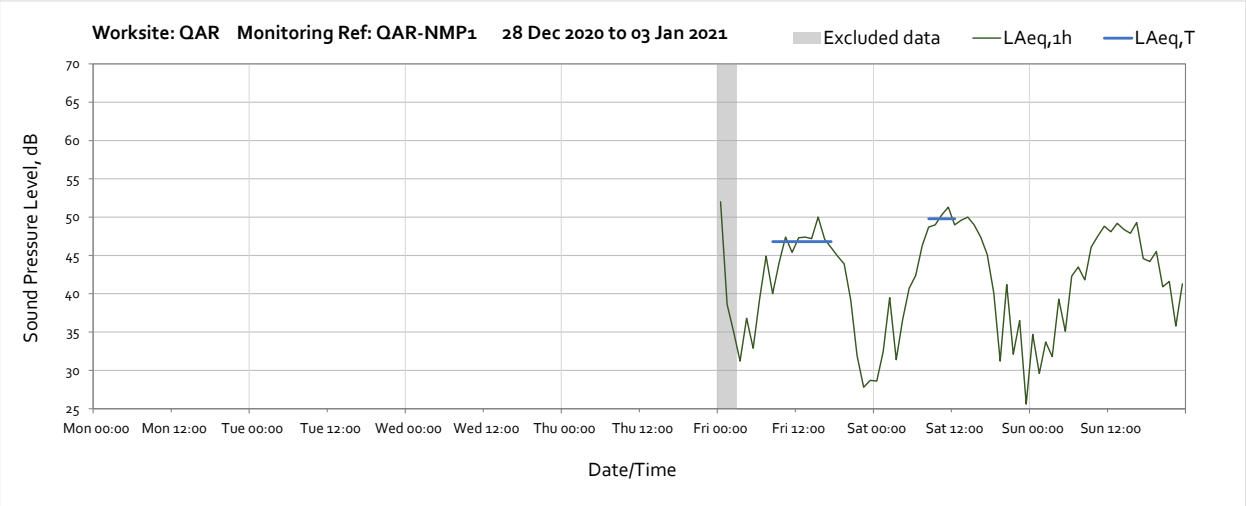


Note: Missing data sporadically throughout January was due to power supply failure.

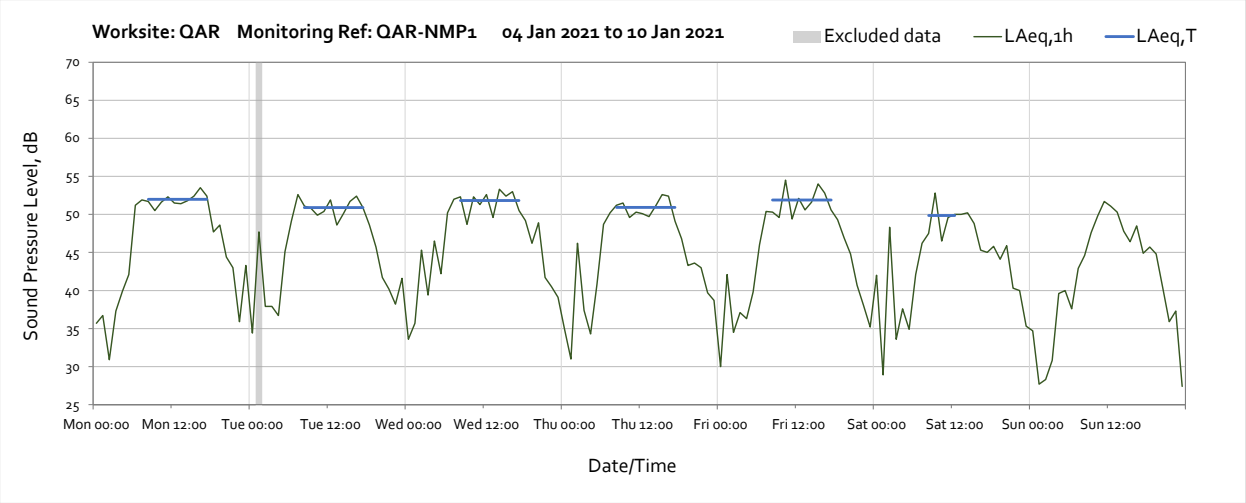


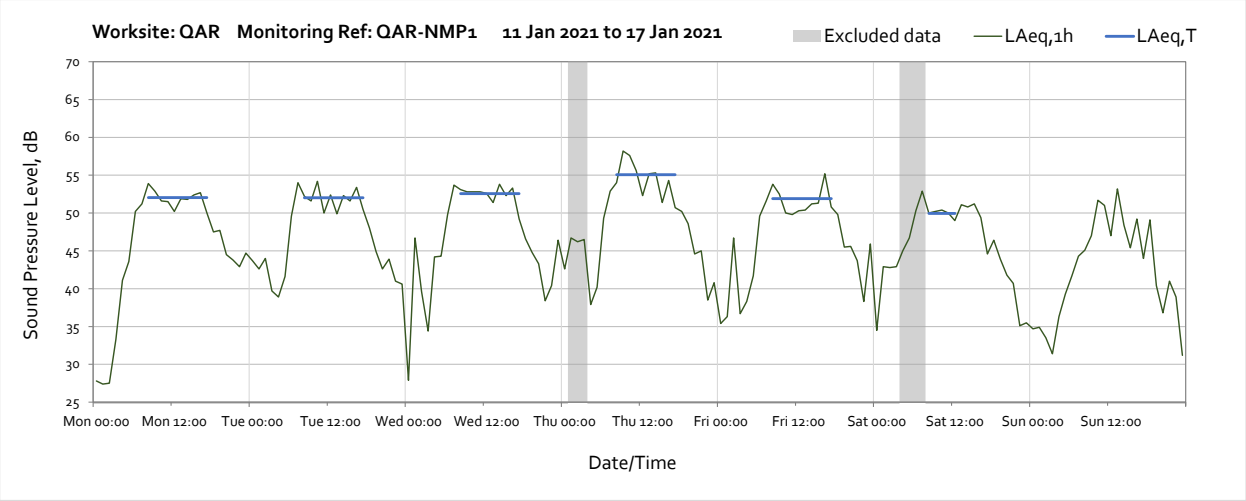
Note: Missing data sporadically throughout January was due to power supply failure.

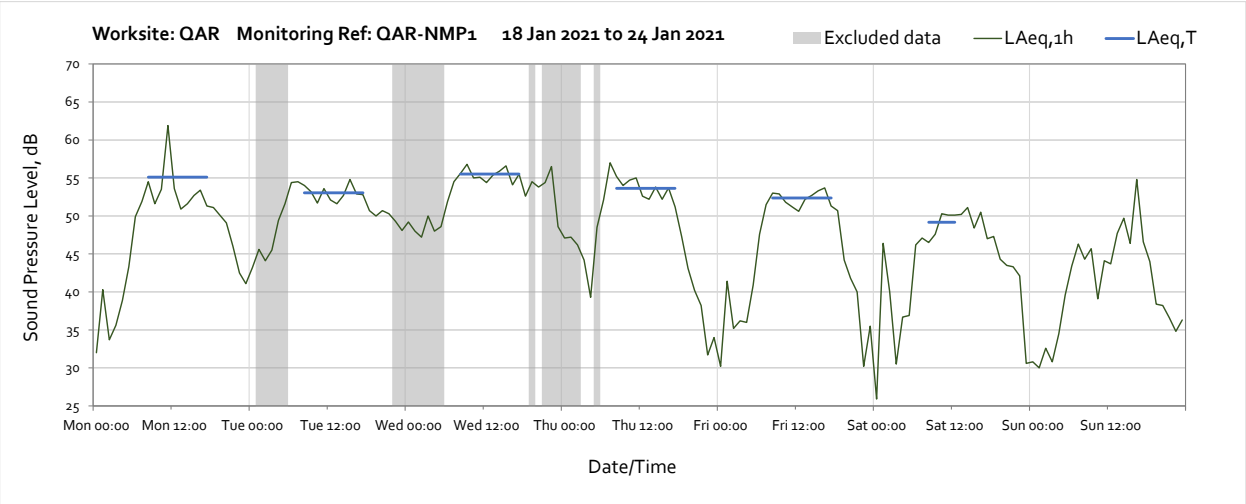
Worksite: QAR – Monitoring Ref: QAR-NMP1

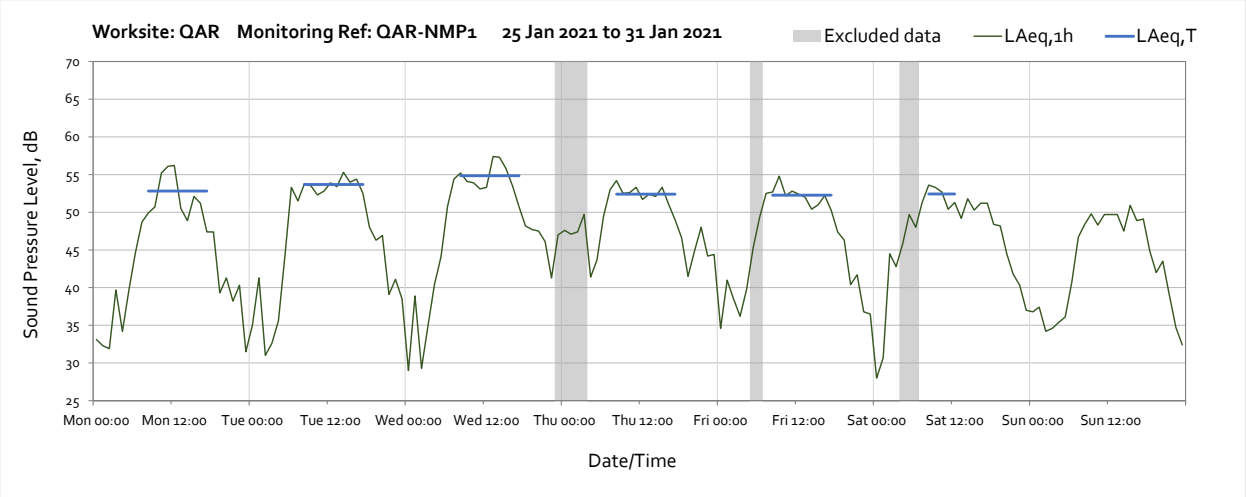


Note: High noise levels on the early hours of the 1st January were due to New Year's Eve celebrations and have been excluded to calculate values in Table 3.


Worksite: QAR Monitoring Ref: QAR-NMP1 04 Jan 2021 to 10 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
35
30
25
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time


Worksite: QAR Monitoring Ref: QAR-NMP1 11 Jan 2021 to 17 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
35
30
25
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

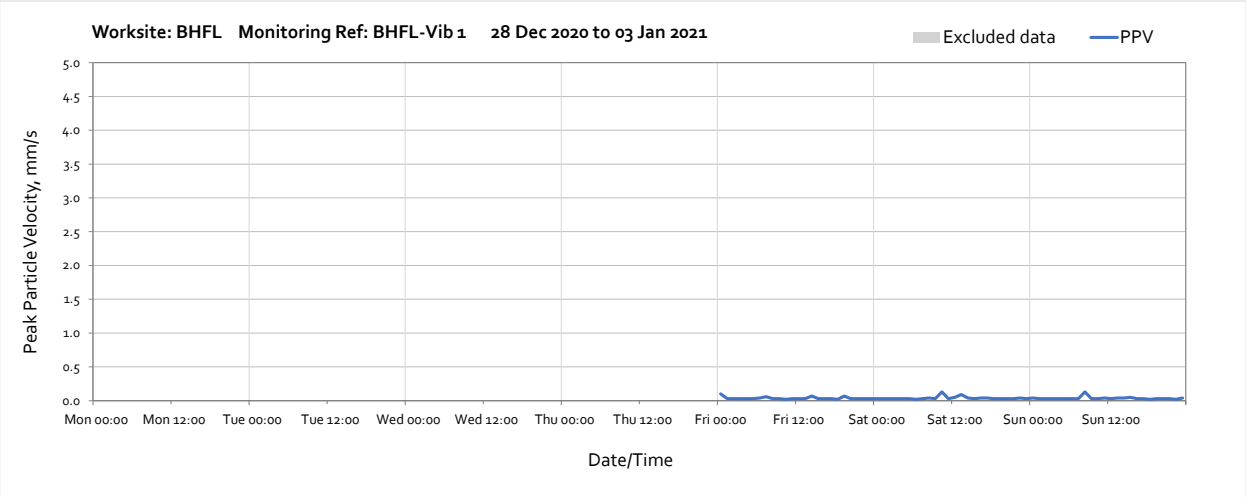

Worksite: QAR Monitoring Ref: QAR-NMP1 18 Jan 2021 to 24 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
35
30
25
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

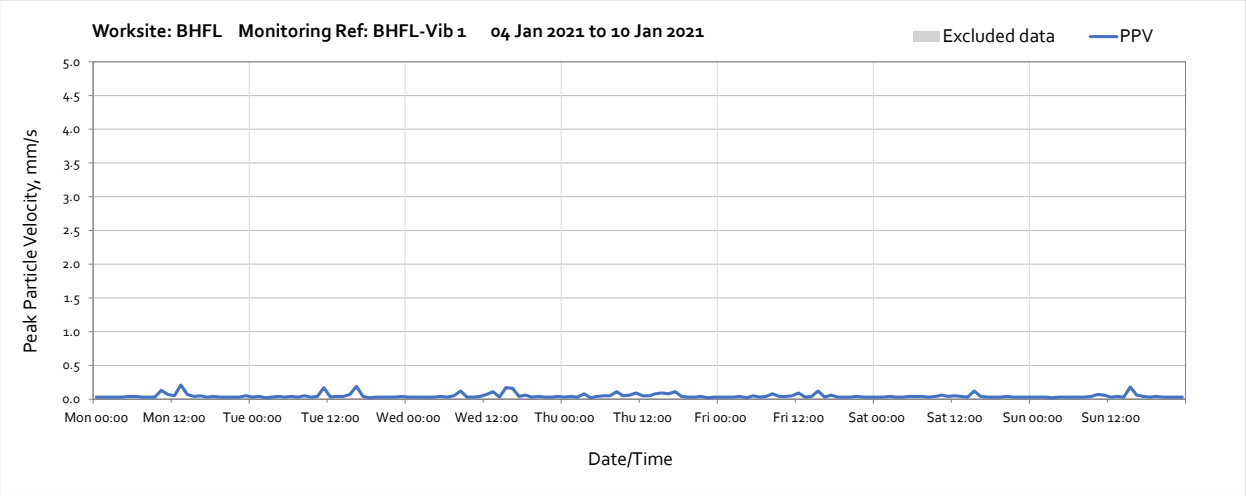

Worksite: QAR Monitoring Ref: QAR-NMP1 25 Jan 2021 to 31 Jan 2021
Excluded data
LAeq,1h
LAeq,T
Sound Pressure Level, dB
70
65
60
55
50
45
40
35
30
25
Mon 00:00
Mon 12:00
Tue 00:00
Tue 12:00
Wed 00:00
Wed 12:00
Thu 00:00
Thu 12:00
Fri 00:00
Fri 12:00
Sat 00:00
Sat 12:00
Sun 00:00
Sun 12:00
Date/Time

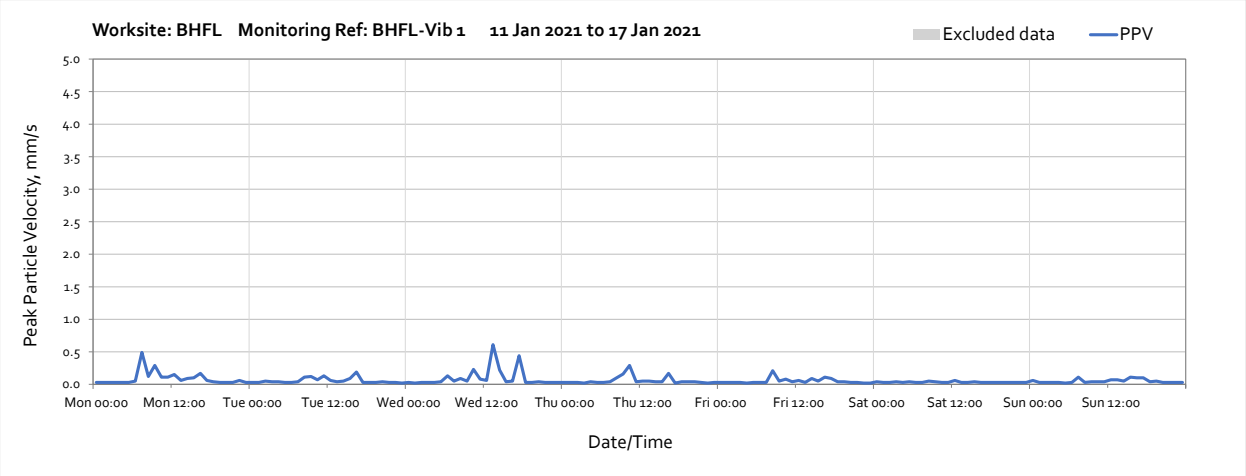
Vibration

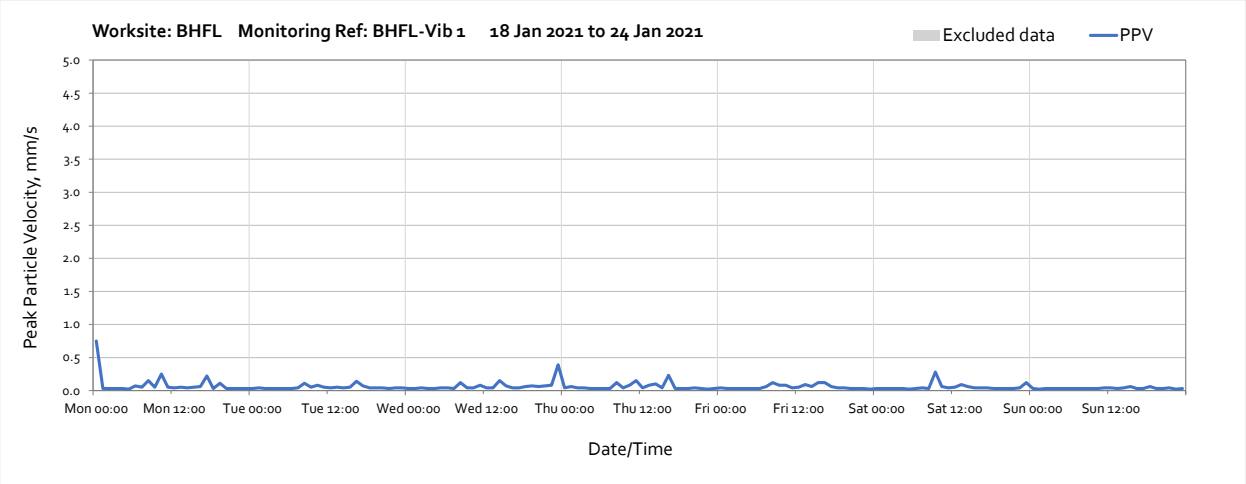
The following graphs show the hourly measured peak particle velocity PPV recorded during the monitoring period. The graphs show the highest PPV of the three orthogonal axes x, y and z. Where high values of PPV were caused by local interference with the vibration monitor, which are not representative of HS2 construction works, these values have been greyed out in the following charts and have been excluded to calculate values in Table 4 of the main report.

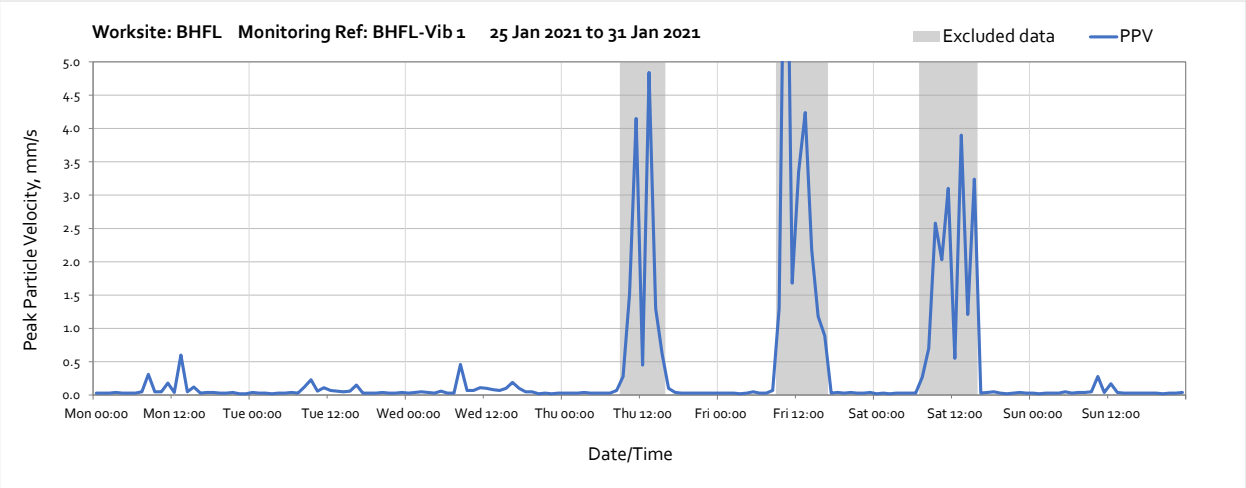
Worksite: BHFL – Monitoring Ref: BHFL-Vib 1











Note: High PPV values greyed out were due to renovation works in the property.