

December 2024

Air Quality and Dust Monitoring Monthly Report – December 2024 Buckinghamshire Council

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High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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A report prepared by EWCs and MWCCs on behalf of HS₂ Ltd.

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Monthly Summary

- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High-Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of dust monitoring undertaken in the Buckinghamshire Council (BC) during December 2024.
- 1.1.2 Figures 1-7 in Appendix A present the current worksites together with the dust monitoring locations.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from <u>www.gov.uk/government/collections/monitoring-the-environmental-</u> <u>effects-of-hs2</u>, which highlights the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.
- 1.1.4 The current worksites, as presented in Appendix A, Figures 1-7, include:

CVV LTP1 worksite

- North Embankment Compound: compound operation;
- DWSC Compound: compound operation;
- Haul Road and Jetty Maintenance River Colne to GUC: operation and maintenance;
- Haul Road and Jetty Maintenance GUC to Harvil Road: haul road and jetty maintenance;
- ATFS: site preparation, installation of ducts and earthworks, bulk earthworks fill, permanent drainage, soiling and seeding, ATFS access road construction;
- Pumping Water Management: pumping water management;
- Satellite Welfares;
- Generator Farms;
- South Abutment: earthworks, South Abutment construction stage 2, South Abutment construction stage 2, South Abutment construction stage 2 earthworks, yard supporting activities, soiling and seeding works, embankment FRC works;
- Environmental Maintenance;
- Stockpiling Activity HOAC: a stockpile of material coming from other sites;
- Deck Finishes Logistics: preparation and operation of storage yards and installation of below deck access provision, traffic management on the deck surface, installation of parapets, noise barriers, troughs, pipes, steel works and other minor material to the storage yards and deck, installation of access at the top of the deck (HAKI stairs) and finishes support plan;
- Deck Finishes On-deck Construction: noise barrier installation, north abutment works, deck waterproofing and SFRC slab construction;
- Deck Finishes In-deck Construction: structural health monitoring;
- Landscaping: advanced works including removal of cofferdam, early earthworks including ground profiling and cut, initial ground drainage including manhole chamber,

early soil placement, hardstanding removal and tree removal & vegetation clearance; and

• Jetty Removal and associated earthworks: Earthworks excavation, backfill, and landscaping, jetty removal, cutting piles and steelworks.

Chalfont St Peter Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Ground Level Works (External Works Part 2);
- Building Trades: brickworks and internals; and
- Demobilisation.

Amersham Vent Shaft

- General Site Activities;
- Tunnel Connections;
- External Works Phases 1&2;
- Highway Drainage Diversion;
- Precast Boundary Wall;
- Internal Works; and
- Steel Works and Zinc Cladding.

Chalfont St Giles Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- External Works Phase 2;
- Building Trades: brickworks and internal works; and
- Demobilisation.

Little Missenden Vent Shaft

- General site activity;
- Tunnel Connection;
- Internal Works;
- Steel Works and Cladding; and
- External Works Phase 1 and Phase 2.

Chesham Vent Shaft

- General site activity:
- External Works;
- Internal Works;
- Zinc Cladding Works
- Demobilisation; and
- Landscaping.

North Portal work site

- General Plant: Site Activities;
- Tracks Platform;
- Piling Platform Reinstatement;
- Porous Portal Structure;
- North Portal Building;
- Tunnel Support: Batching Plant operation and concrete distribution and tunnel walkway slip forming; and
- Tracks Drainage and Utilities.

South Heath

- General Plant: Site Activities;
- General Earthworks and Drainage;
- Construction and Installation of Utilities;
- Construction of the Great Missenden Compound;
- Havenfield Wood Drop Inlet Culvert Excavation and Installation;
- GMI/2 and GMI/12 Overbridge excavation and construction;
- Ground Investigation Works; and
- Site Access Road and Mass Haul Route construction, utilisation, and maintenance.

North Chilterns Area

<u>Grimms Ditch</u>

- Sheet piling for Grimms Ditch retaining wall.
- preparation works for drainage,
- installation of drilling platforms.

Chesham Lane, Wendover Bus 55

- Deck false-work erection
- Rebar fixing wing walls
- Rocky lane drainage Highway drainage installation
- Rocky lane Realignment installation of capping layers
- Temporary surface water management across site.

Ellesborough Road

- Installed foul pipe over the utilities bridge.
- Excavated and completed installing T-Junction connections on the water main on both sides of the utilities bridge.
- Reinstated road for the Christmas closure.

Nash Lee Road, Nash Lee Lane

- NLOB A3 (East) Abutment pour (90m3 approx)
- AC8 Building shutters for outlet headwall

- NLOB A0 (West) Abutment erection of steel and shutters
- KIS 1206 UKPN Diversion between CH56+350 and CH56+150
- Installation of control points
- Temporary surface water management across site.

Bacombe Lane

- Active Tunnelling
- Grout behind shaft rings
- Excavate for 1.1m base and underream
- Install steel work and pour RC base for POI-002
- Bacombe Lane Link Rd
- Install Fencing
- Install Bunds
- Install Sign posts
- Open the Road.

<u>Grove Farm</u>

- Grove Farm Accommodation Underbridge
- Completion of 75no. Piles
- Demob of BKJV
- A7
- Finish Temp construction of SDNE for SDVL Launch
- SDNE GI Works 2no infiltration test pits.

Small Dean Viaduct

- Precast installation
- Neoprene, sealant and backer rod installation
- Rebar prefabrication
- Rebar installation top deck
- Bearing plinth pour
- Bearing plate grouting
- Scaffold building pier 3
- Backfill around A7
- Cutting of sheet piles on P4 and P5 interface with Network rail
- Backfill around interface with Network rail
- Lowering of the small Dean Viaduct at AP3
- Welding of launching equipment on P4 and P5
- Installation of generators and associated equipment in preparation of the launch.

<u>Wendover Town</u>

- Poured two sets of LPW protection slabs.
- Installed and removed shutters, assembled steel cages.
- Delivered over 5 million litres of water by Tardis for the LPW works.

- Installed a 27-meter pipe crossing from the slurry plant to the Northern Extension.
- Backfilled the excavated step at the Southern bulkhead.
- Continued with LPW excavation works, with a total of three hydraulic grabs operational.
- Continued pre-treatment works both at the main scope and the northern extension. A total of 5 rigs are operational.
- EKFB constructed and BKJV relocated the pre-treatment compound to a new platform to enable the northern extension grouting.
- Completed stoning up the western side of the LPW extension.
- Completed vegetation clearance works on the farmer's land under HS2 Clause 16.

Calvert Area

<u>Quainton</u>

- Earthworks Ongoing
- Platform for storage Completed
- Carpark extension Ongoing

<u>Woodlands</u>

- Adams Accommodation underbridge construction of steel reinforcement cages for wing walls.
- River Ray diversion temporary works.
- Aggregate deliveries along the SAR.

FCC / School Hill (Calvert)

- School Hill batching plant production of concrete.
- School Hill culvert waterproofing and technical backfill.
- School Hill Overbridge dig and replace (D&R) under structure and piling platform completed. Excavation and technical backfill.
- Calvert Green overbridge FRC works.
- Aggregate deliveries along the site access road (SAR).
- Calvert Cutting earthworks drainage and general maintenance activities.
- CBGM batching plant production of CBGM.

Other works ongoing in Calvert not within proximity (greater than 1km) to dust monitors include:

- West Street overbridge
- Portway culvert
- Perry Hill overbridge
- EWR culvert
- IMD West culvert
- IMD East Culvert
- Addison Road highway
- Shepherds Furze earthworks (stockpile maintenance)

- Shepherds Furze culvert
- MCJ4 chord earthworks
- Infrastructure maintenance depot (IMD) earthworks
- Secant retaining wall
- Bat mitigation structure
- SCL/13 overbridge
- FCC Cell 6 earthworks (stockpile maintenance)
- FCC Access Road Retaining Wall
- Sheephouse Wood North culvert
- Greatmoor no. 4 culvert and CAG2 underbridge
- Megaditch retaining wall
- Greatmoor no. 3 culvert
- GUN28 overbridge
- QUA36 overbridge
- Hills farm earthworks (stockpile maintenance)
- Edgcott Road overbridge
- QUA26 Underbridge
- Woods drop inlet culvert
- Doddershall Embankment earthworks
- Doddershall No. 6 and No. 7 Culvert
- Quainton cutting
- QUA28 overbridge
- Station Road overbridge
- Station Road Network Rail overbridge.

Twyford to Greatworth

Turweston North

- Turweston viaduct- construction of the retaining wall and assembly of the girder
- Turweston green overbridge- Steel fixing, beam instillation
- Central cutting excavation
- Filter drain construction
- Landscape bund movement
- Flood compensation area excavation.

<u>School End</u>

- School End Overbridge: Bridge Deck Works (Steel Fixing and Formwork), Slab above diaphragm east, side span east and west Lifting of Paratops.
- School End Highways: Temporary signage installation at Spiers access.

<u>Twyford</u>

• Twyford Viaduct- Sheet Piling Installation on southern side of Brook. Backfill against Sheet Piles;

• General: Winter Shutdown Preparations, MHR/SAR maintenance, pump/ water management.

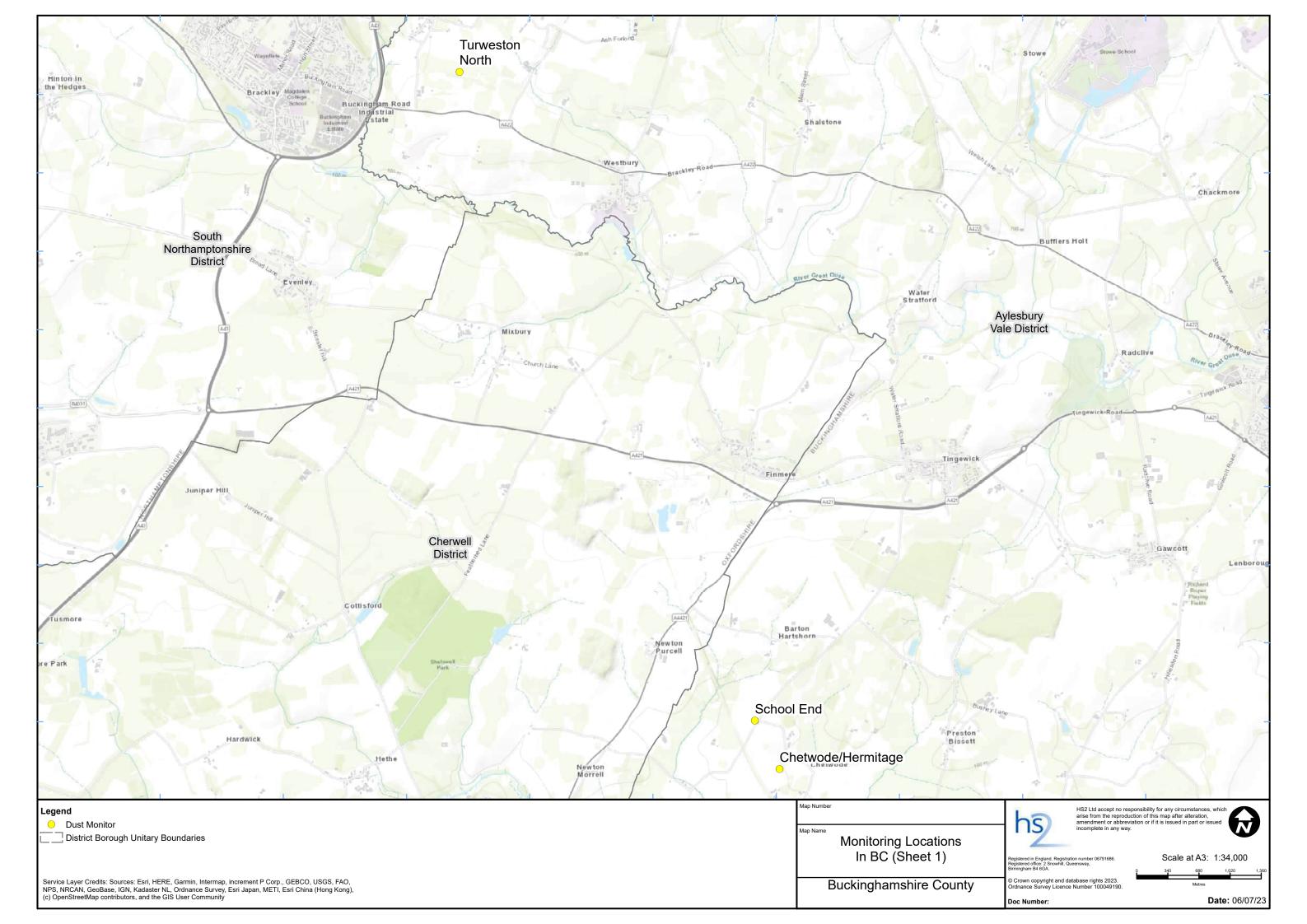
<u>Hermitage</u>

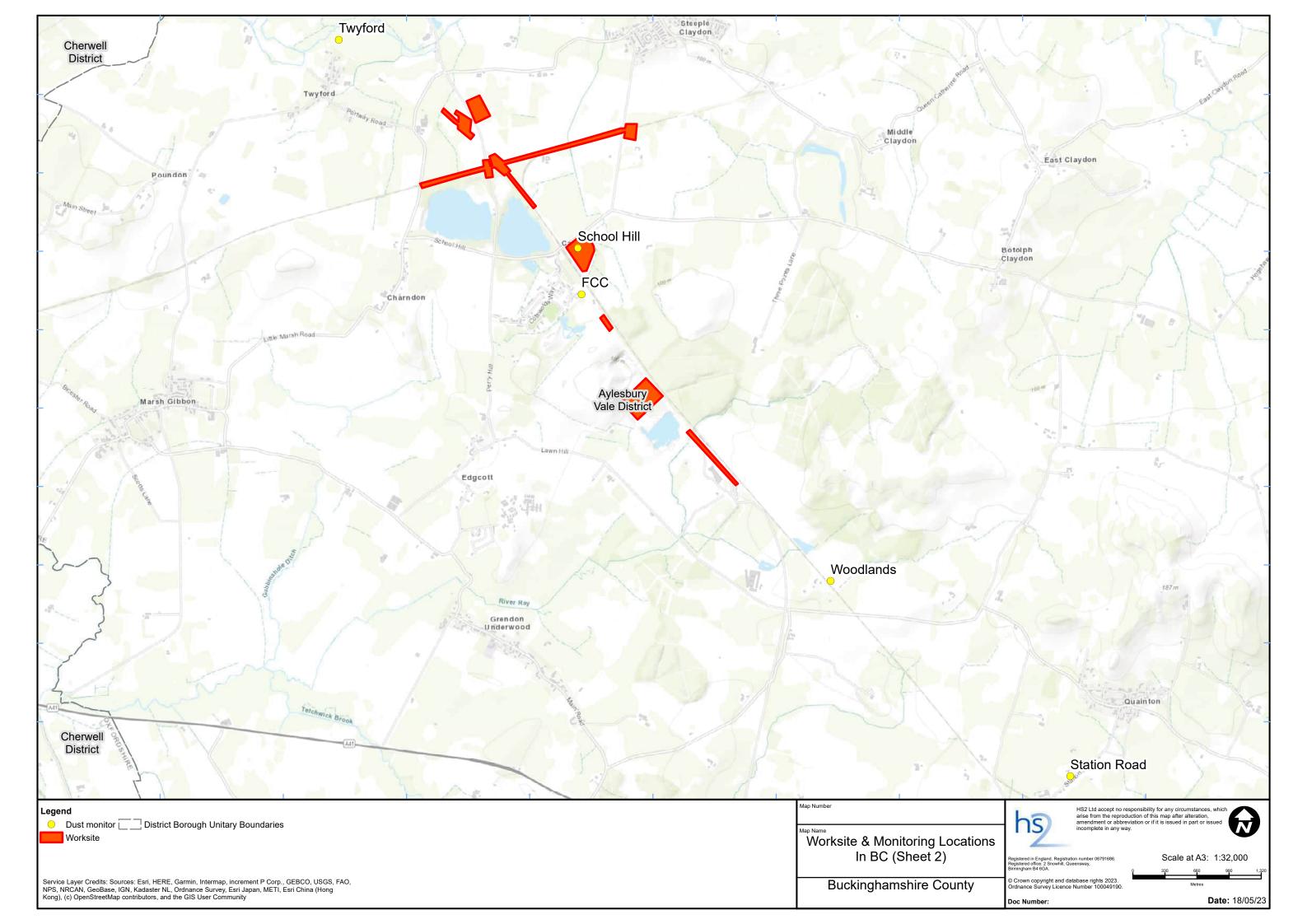
- CHW18 Overbridge: Bridge Deck Works (Steel Fixing and Formwork), Slab above diaphragm east, side span east and west Lifting of Paratops.
- CHW8 Highways: Utility Duct Installation (AW and BT).
- 1.1.5 Thirty-three (33) dust monitors are installed around these worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor presented in Figure 8. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.
- 1.1.7 The trigger level for PM₁₀ concentrations of 190 μg/m³, measured as a 1-hour mean, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (December 2018)*' has been applied.
- 1.1.8 No (0) dust trigger alerts were recorded during the monitoring period (December 2024).
- 1.1.9 Data capture was below 90% for multiple monitors due to:
 - CHStG-AQMP1 had been disconnected from the power due to ongoing utilities work on the site but is now reconnected.
 - Grimms Ditch Intermittent data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
 - Chesham Lane Low data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
 - Wendover Bus 55 Low data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
 - Ellesborough Road Very low data capture was due to a battery fault throughout the month and a fault to the associated noise monitor which hindered the air quality data capture for the location. Noise monitor was reinstated on 14/01/2025 and data capture has improved.

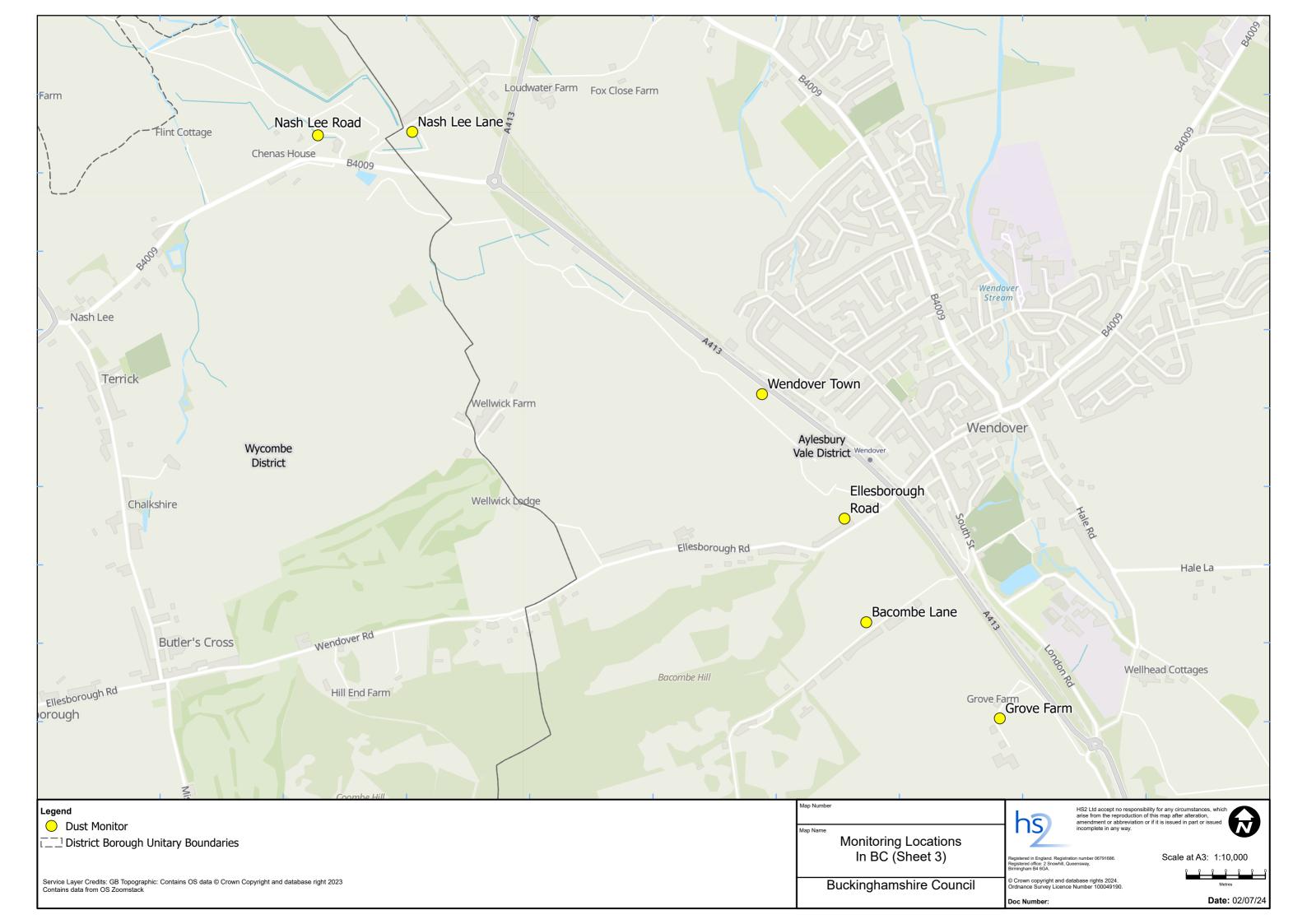
- Nash Lee Road Low data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- Nash Lee Lane Intermittent data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- Bacombe Lane Low data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- Small Dean Viaduct Low data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- Wendover Town Intermittent data capture was due to a battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- Grove Farm Low data capture was due to battery fault throughout the month. More batteries have been acquired and regular battery swaps are being undertaken to improve data capture.
- School Hill Low data capture was due to a battery fault throughout the month. Low data capture is due to dust monitors demanding more voltages. The EHO has been made aware of the issue. Spare batteries and charging stations are available in the stores, on site. Regular checks and battery swaps are being undertaken to improve data capture.
- Data capture at the FCC dust monitor was very low data capture due to vandalised communications cable of the monitor. A replacement cable to be sourced. A new cable has been installed, and the monitor has been secured with the locked fencing to avoid the vandalism in future.
- Station Road Low data capture was due to a battery fault throughout the month. Low data capture is due to dust monitors demanding more voltages. The EHO has been made aware of the issue. Spare batteries and charging stations are available in the stores, on site. Regular checks and battery swaps are being undertaken to improve data capture.
- Woodlands dust monitor Low data capture was due to a battery fault throughout the month. Low data capture is due to dust monitors demanding more voltages. The EHO has been made aware of the issue. Spare batteries and charging stations are available in the stores, on site. Regular checks and battery swaps are being undertaken to improve data capture.
- School End Low data capture was due to a battery fault throughout the month.
- Twyford Very low data capture was due to a battery fault.
- Chetwode Hermitage Low data capture was due to a battery fault throughout the month.
- Turweston North Very low data capture was due to a battery fault. Access to location was unsafe and difficult to replace batteries.
- 1.1.10 There were no (0) complaints received during the reporting period (December 2024).

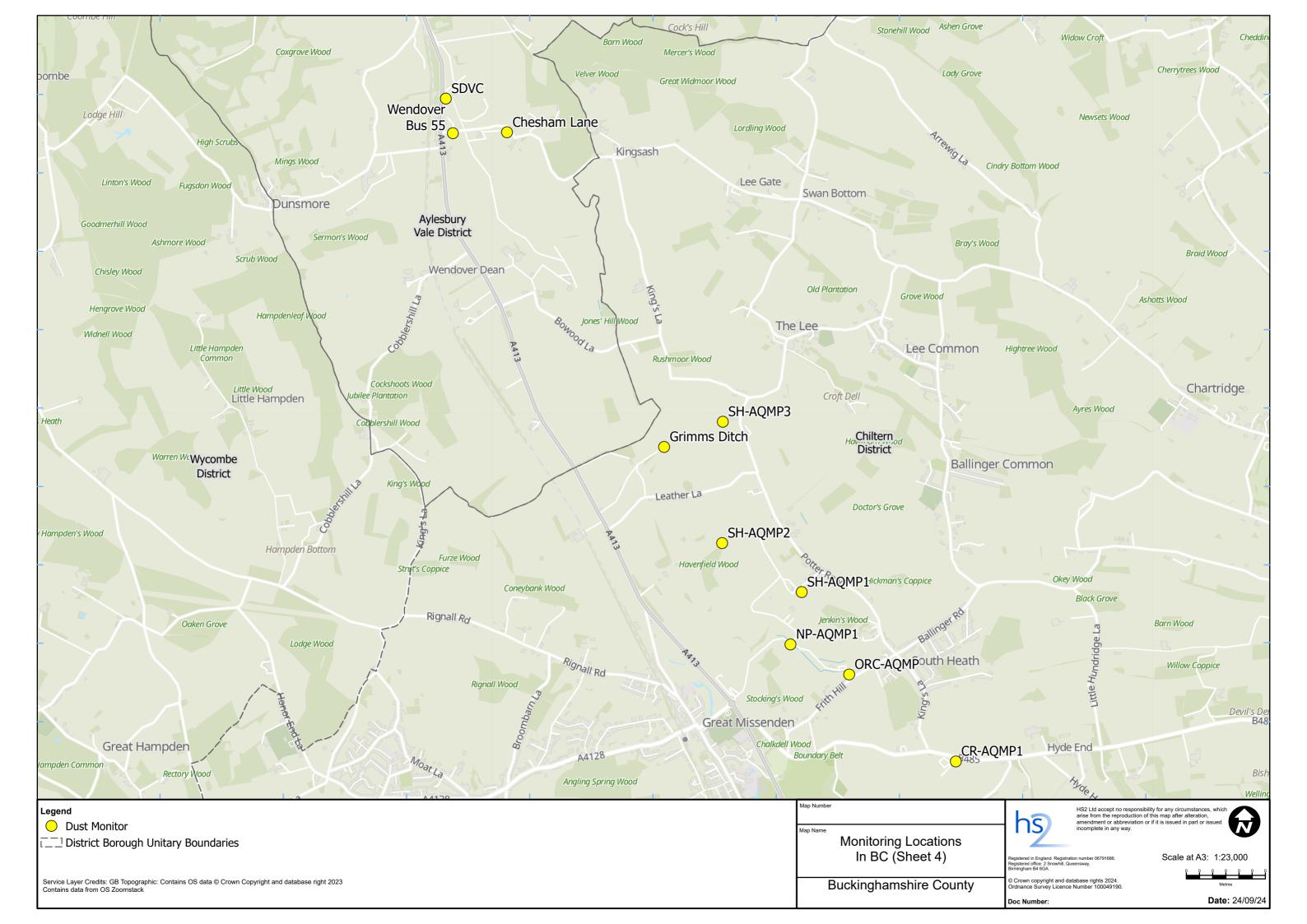
Appendix A – Worksite and Dust Monitoring Locations

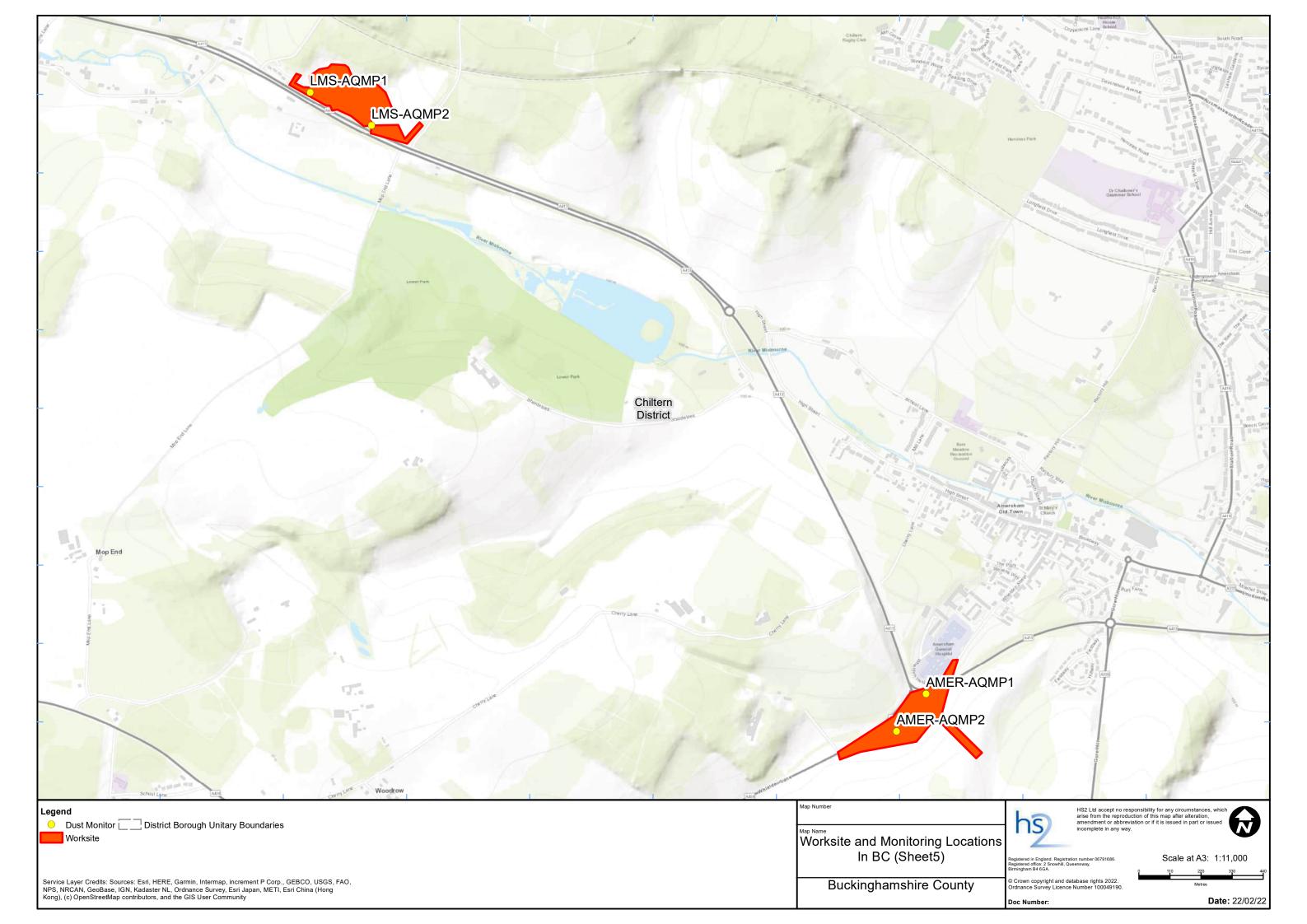
Figures 1-7: Worksite and Monitoring locations within BC

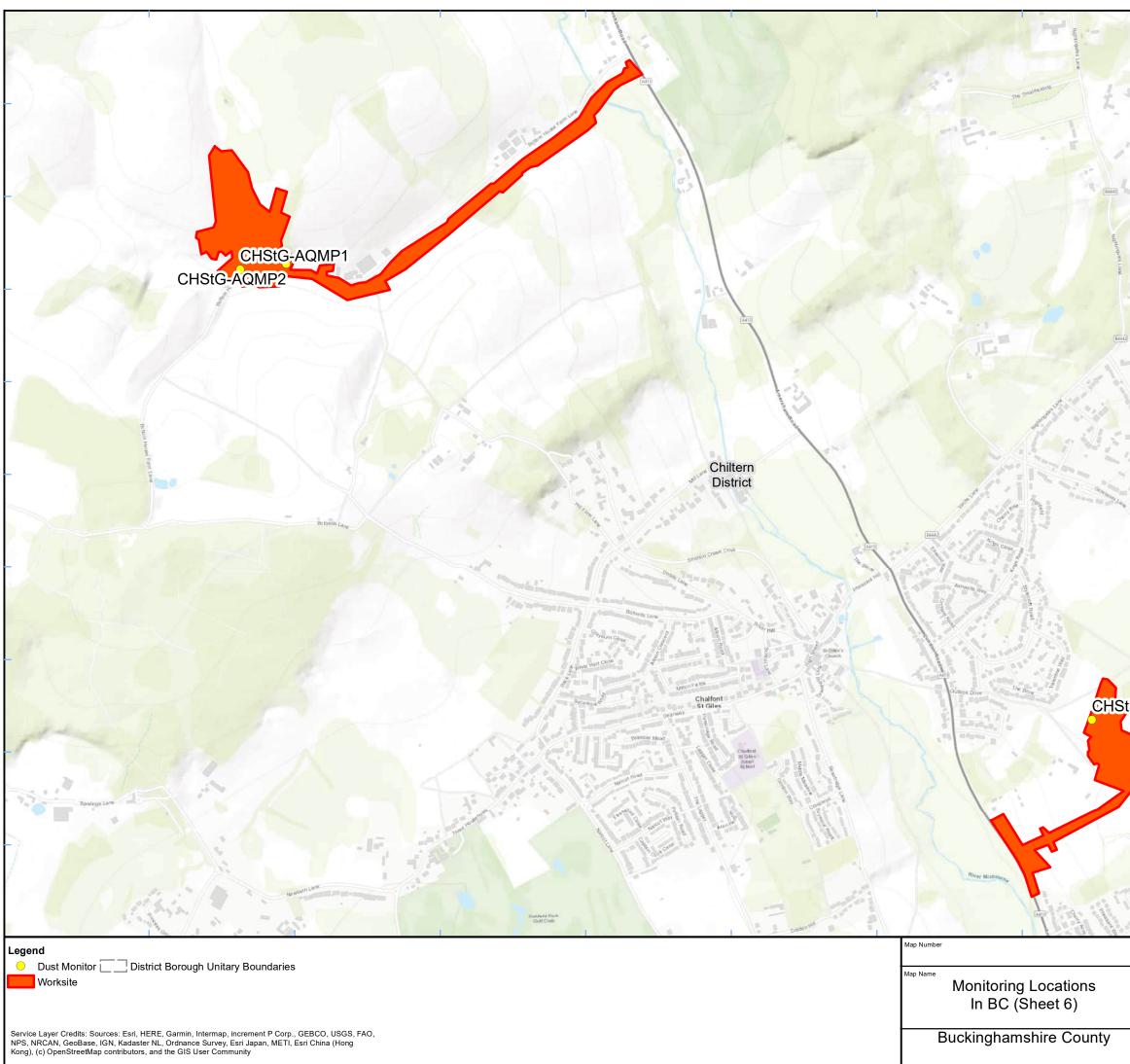




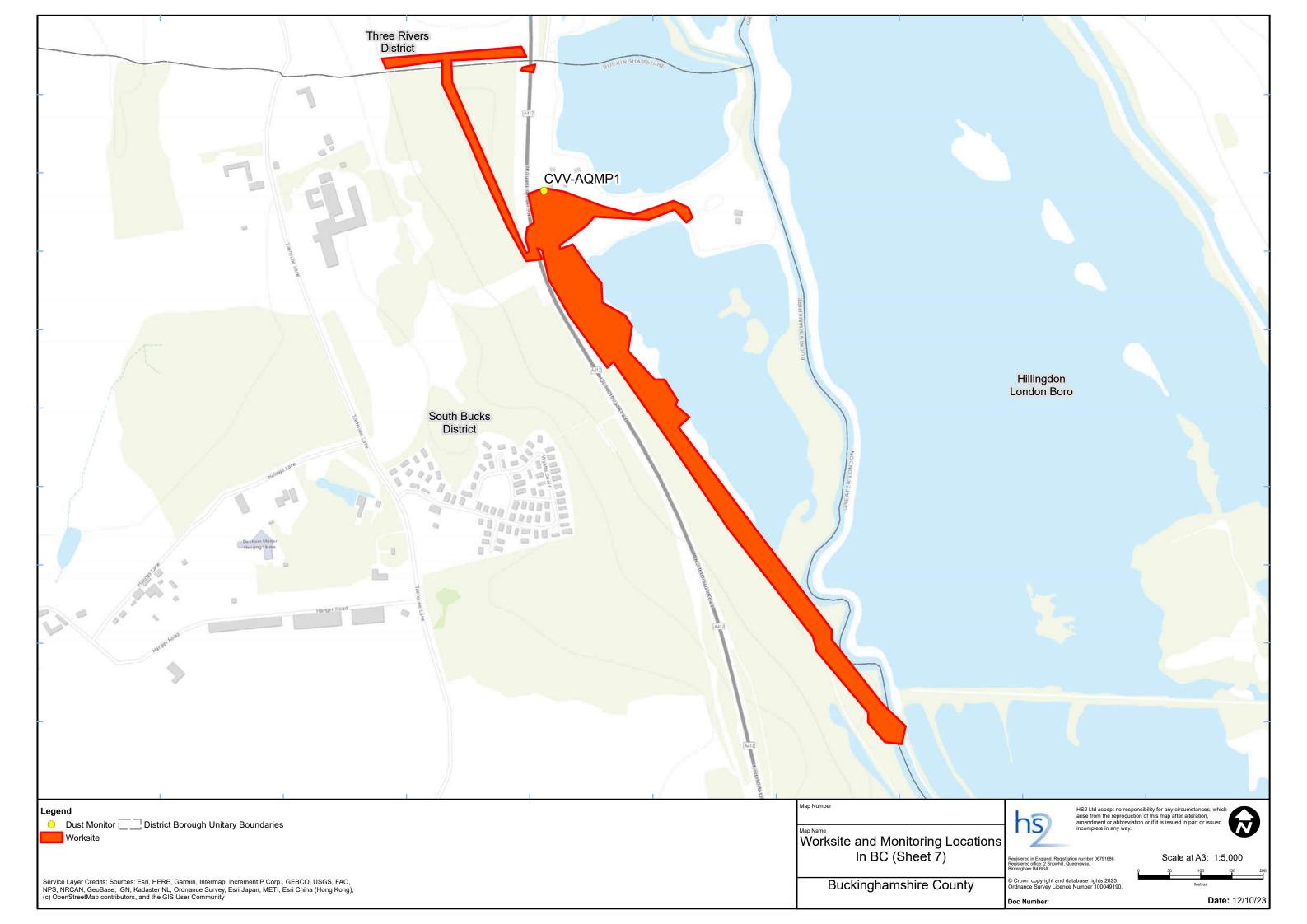








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Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and Results

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m³)	Minimum 1-hour PM ₁₀ concentration (µg/m³)	Maximum 1-hour PM ₁₀ concentration (µg/m³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	No	5.0	1.0	38.0	0	100.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	4.7	1.0	39.0	0	98.4
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	3.2	1.0	48.0	0	91.4
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	5.1	1.0	35.0	0	96.8
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	4.5	1.0	30.0	0	99.6
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	м	Yes	Yes	4.7	1.0	35.0	0	88.8
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	4.6	1.0	38.0	0	92.7
LMS-AQMP1	493190, 198848	On the south-west of the site	М	Yes	Yes	4.7	1.0	29.0	0	98.5
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	4.8	1.0	30.0	0	99.1
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	М	Yes	Yes	4.4	1.0	24.0	0	96.8

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ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	3.3	1.0	19.0	0	98.5
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	4.0	1.0	23.0	0	98.0
SH-AQMP1	490152, 202395	Park Farm	М	Yes	Yes	17.4	8.0	64.2	0	99.7
SH-AQMP2	489564, 202757	King's Lane	М	Yes	Yes	8.8	6.4	29.7	0	99.7
SH-AQMP3	489569, 203654	Leather Lane	М	Yes	Yes	19.1	7.4	76.7	0	99.7
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	4.8	1.0	17.0	0	39.9
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	4.4	1.0	23.0	0	44.0
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	3.4	1.0	13.0	0	77.0
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	4.6	1.0	27.0	0	42.9
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	2.3	1.0	10.0	0	47.3
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	4.2	1.0	11.0	0	14.5
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	4.8	1.0	22.0	0	28.4
Turweston North - Dust	460439, 237140	Turweston, Buckinghamshire	М	Yes	Yes	23.7	2.0	58.0	0	15.5
FCC - Dust	469042, 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	2.2	1.0	3.0	0	1.3
Ellesborough Road - Dust	486458, 207550	Ellesborough Road, Wendover	М	Yes	Yes	5.1	1.0	14.0	0	11.8

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (μg/m³)	Minimum 1-hour PM ₁₀ concentration (µg/m³)	Maximum 1-hour PM ₁₀ concentration (μg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
Nash Lee Road - Dust	484766, 208782	Nash Lee Lane (west)	М	Yes	Yes	5.1	1.0	19.0	0	40.5
Nash Lee Lane - Dust	485069, 208793	Nash Lee Lane (east)	м	Yes	Yes	5.4	1.0	25.0	0	64.3
Bacombe Lane – Dust	486528, 207217	Bacombe Lane, Wendover	м	Yes	Yes	6.1	1.0	25.0	0	43.6
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	м	Yes	Yes	4.6	1.0	18.0	0	49.2
Station Road – Dust	474068, 219307	Station Road, Quainton	м	Yes	Yes	6.0	1.0	116.0	0	49.1
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	м	Yes	Yes	4.7	1.0	23.0	0	71.8
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	М	Yes	Yes	4.7	1.0	21.0	0	49.3
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	4.8	1.0	22.0	0	41.1

Hourly Mean Indicative PM10 Concentration - CVV-AQMP1 (December 2024) Hourly Mean Indicative PM10 Concentration - CHStp-AQMP1a (December 2024) 300 250 250 200 200 n³) цBц 150 150 100 100 NA C 50 Measurment Time Measurment Time Series4 — Series5 – – – Series6 Hourly Mean Indicative PM10 Concentration - AMER-AQMP1 (December 2024) Hourly Mean Indicative PM10 Concentration - CHStP-AQMP2 (December 2024) 300 300 250 250 200 200 (su 150 150 100 100 ž Measurment Time Measurment Time ---- Dust Trigger Limit ----- PM10 Particles (μg/m³) ---- Average PM10 Particles (μg/m³) Dust Trigger Limit — PM10 Particles (µg/m³) – – – Average PM10 Particles (µg/m³)

Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentration for all dust monitors

