

September 2024

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

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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 HighSpeed 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 September 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 www.gov.uk/government/collections/monitoring-the-environmentaleffects-of-hs2, 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: 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;
- Connection to Tunnels; and
- Building Trades: internal works including steel and zinc cladding.

Amersham Vent Shaft

- General Site Activities;
- Tunnel Connections;
- External Works Phases 1&2;
- Headhouse Superstructure Concrete Works;
- Precast Boundary Wall:
- Internal Works;
- Steel Works and Zinc Cladding; and
- MEP Works.

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:
- Ground Level Works: headhouse ATS concrete works and external works;
- Building Trades: External works; and
- Zinc and Cladding Works.

North Portal work site

- General Plant: Site Activities;
- Building Platform;
- Tracks Platform;
- Piling Platform Reinstatement: scraping/hardstanding/earthworks and dismantling piling platforms;
- Porous Portal Structure: Construct reinforced concrete frame and concrete works;
- TBM dismantling portal and compound works;
- North Portal Building; and
- Batching Plant installation & operation.

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>

- HERDS works/survey
- Earthworks (hauling of materials to conveyor).

Chesham Lane, Wendover Bus 55

- Earthworks (hauling of material)
- Dewatering across site.

Ellesborough Road

• Ellesborough Road cricket club demolition.

Nash Lee Road, Nash Lee Lane

- Pre-grouting and Piling for Nash Lee overbridge pier piles
- De-vegetation works across works area
- Dewatering across site
- NLOB Construction of the pile cap on the West
- Earthworks (movement of structureless chalk going to AA)
- <u>Stokebrook 2B Diversion</u>
 - Connection of the MillHouseNorth with the stokebrooK
 - Excavated stabilised material and stone to below v ditch invert level
 - Backfilled excavated area with blue clay up to ground level and compacted

- <u>Stokebrook Repairs</u>
 - Repaired banks destroyed by flooding last week
 - Backfilling and compacting clay with the excavator
 - Placing new cocomatting.

Bacombe Lane

- Earthworks (dig for shaft 2 Grove Farm Culvert).
- Construction of working platform for GFC shaft 2
- Earthworks (Hauling of materials)
- De-vegetation across site
- Excavation for Thames Water mains diversion
- Ellesborough Rd bank strip. (Bacombe Hill)
- Excavation at Ellesborough road (Ellesborough embankment reduction) for Bacombe Lane link Road.
- Tarmacking of Bacombe Lane passing bay.
- 33kV diversion, excavate to expose full length of cable run on Bacombe hill in preparation of removal.

<u>Grove Farm</u>

- Earthworks (Hauling of materials)
- De-vegetation across site.

<u>Small Dean Viaduct</u>

- Scabbing on abutment 7.
- Installation of neoprene on deck
- Installation of scaffold and edge protection on the deck
- Delivery of precast slabs
- Abutments pour A0
- Abutment shelf A7 pour
- Piling at pier 2
- Working platform install at Pier 2
- Welding of deck
- Stone platforms install
- Steel rebar prefabrication
- Steel fixing at A0, and A7
- Bearing plinths P6 pour.

Wendover Town

- Pre-grouting for Slurry Wall
- Installation of Slurry Wall
- Installation of Slurry Wall extension platform.
- V-ditch lining throughout site
- Site Access Road relocation, repair works, and V-Ditch Excavation

- Vegetation clearance
- Batching plant maintenance.

Calvert Area

<u>Quainton</u>

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

Woodlands

- 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.

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

- 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.

Twyford to Greatworth

School End

School End Overbridge:

- West Wingwall ½ concrete.
- Emj panel and paratop installation (middle section)
- Reinforcement works in middle slab

School End Highway Realignment:

- Bulk excavation (west)
- Devegetation preparation.

Chetwode Cutting:

• Drainage layer installation.

<u>Turweston North</u>

- Hauling 7E2
- Duo crushing and screening
- Turweston Green Overbridge construction
- Turwston Viaduct Construction
- Excavation.

<u>Twyford</u>

- Twyford East Culvert- WC diversion bulk dig.
- Padbury Brook dig to formation level, placement of rip rap and coco bn.
- Haul road and SAR maintenance.

<u>Hermitage</u>

CHW18 Overbridge:

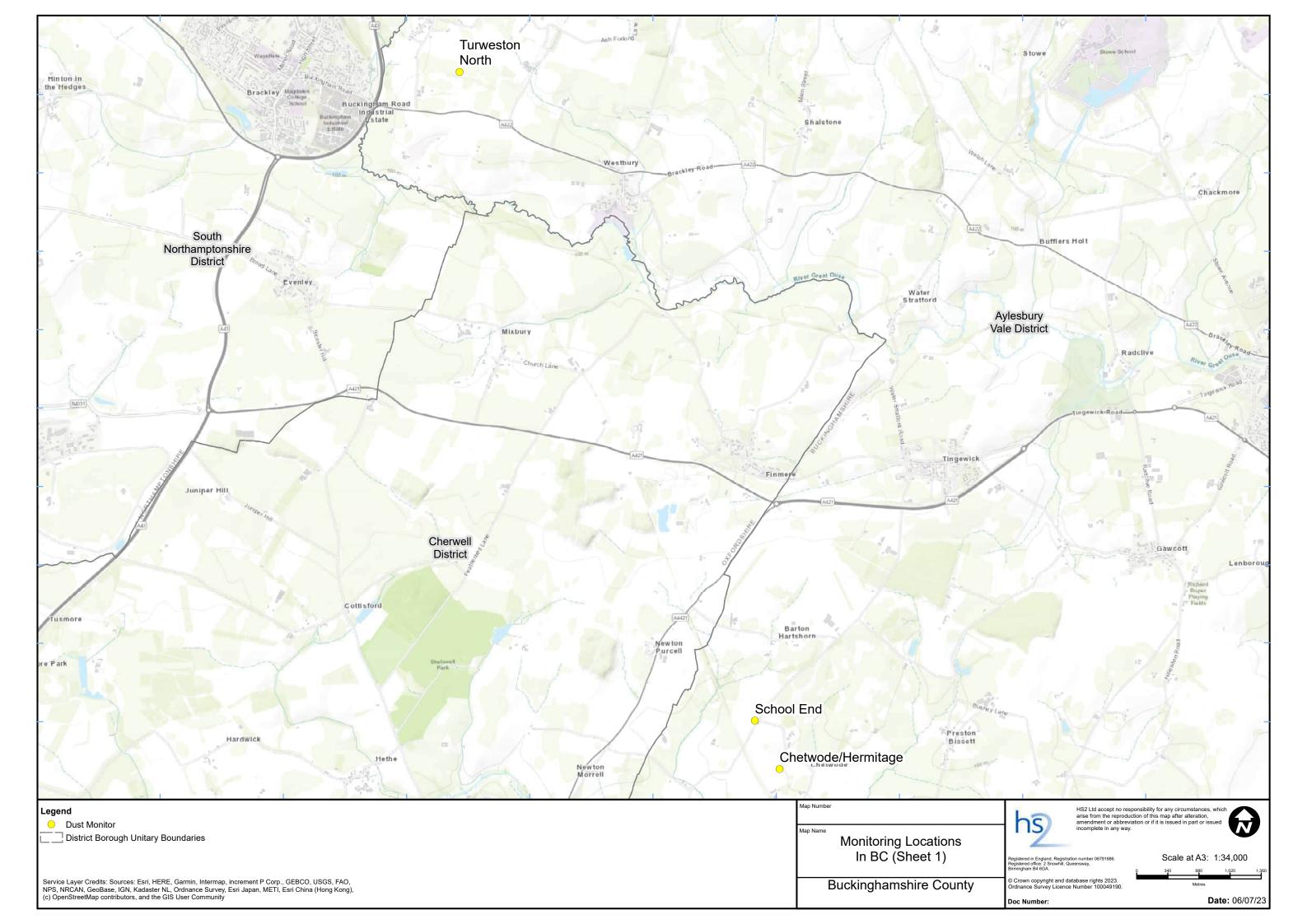
- Welding shoes of the paratops
- Paratop installation
- Reinforcement works of the middle slab

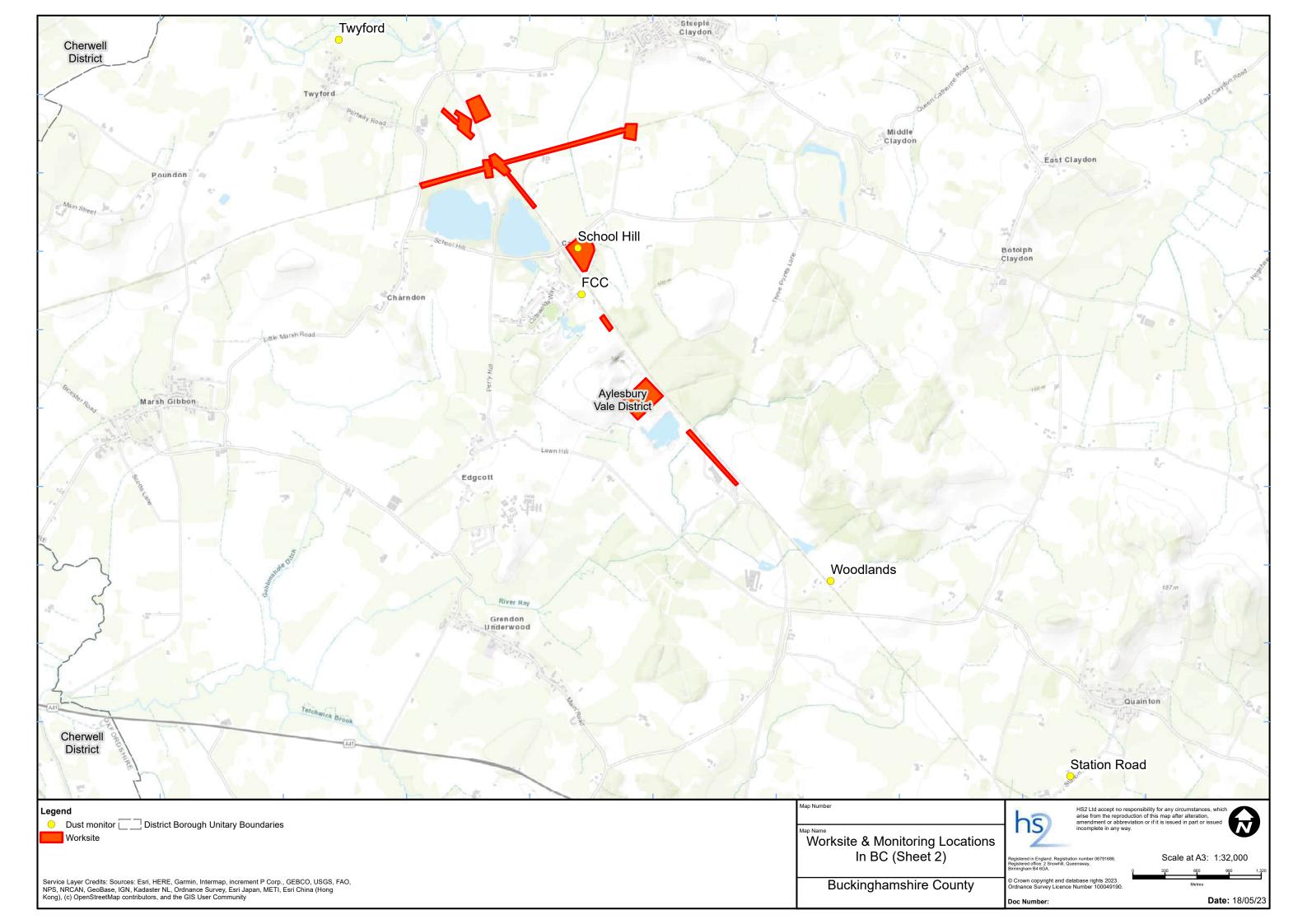
CHW18 Highways:

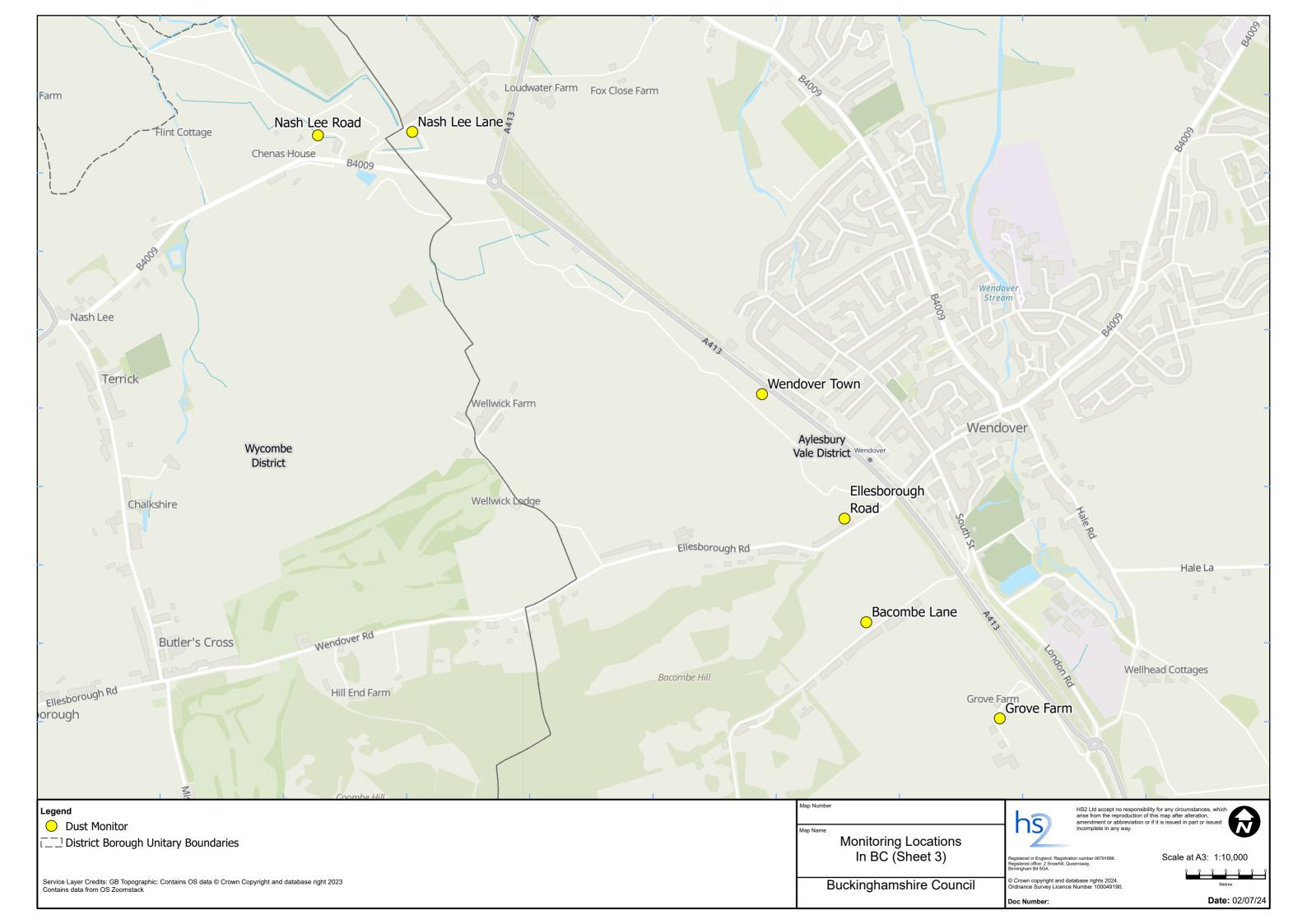
- Deveg works (east).
- 1.1.5 Thirty-three (33) dust monitors are installed around these worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from 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 (September 2024).
- 1.1.9 Data capture was below 90% for multiple monitors due to SH-AQMP2 suffering water ingress and subsequently becoming damaged. Sub-contractors have been sent to site in October and will repair or swap out the monitor. No data captured at FCC for the month of September 2024 due to no communications cable for the dust monitor. The replacement cable was installed on 1st October. No data capture from 22nd September onwards for the Grove Farm monitor due to a communications cable fault.
- 1.1.10 There were no (0) complaints received during the reporting period (September 2024).

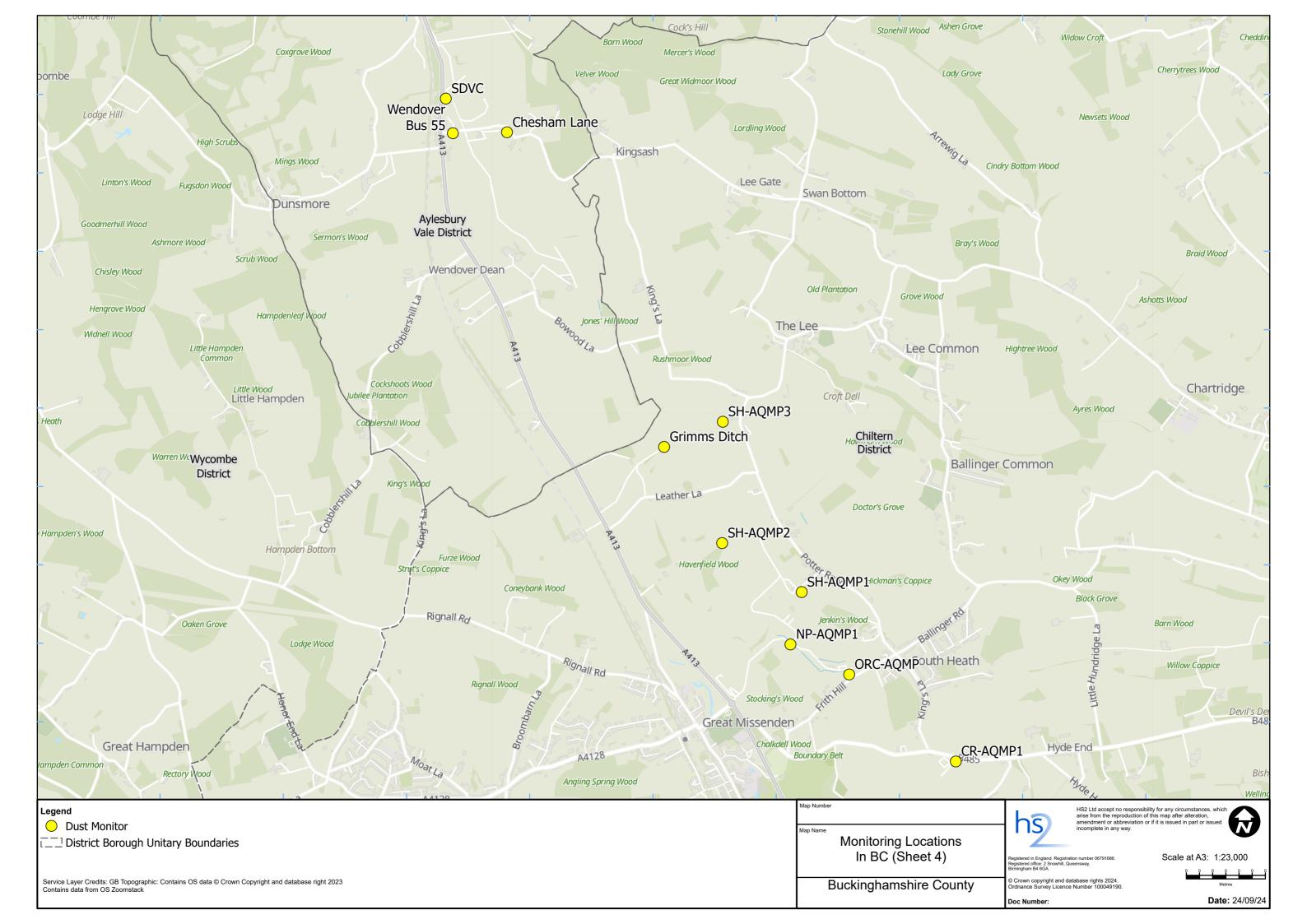
Appendix A – Worksite and Dust Monitoring Locations

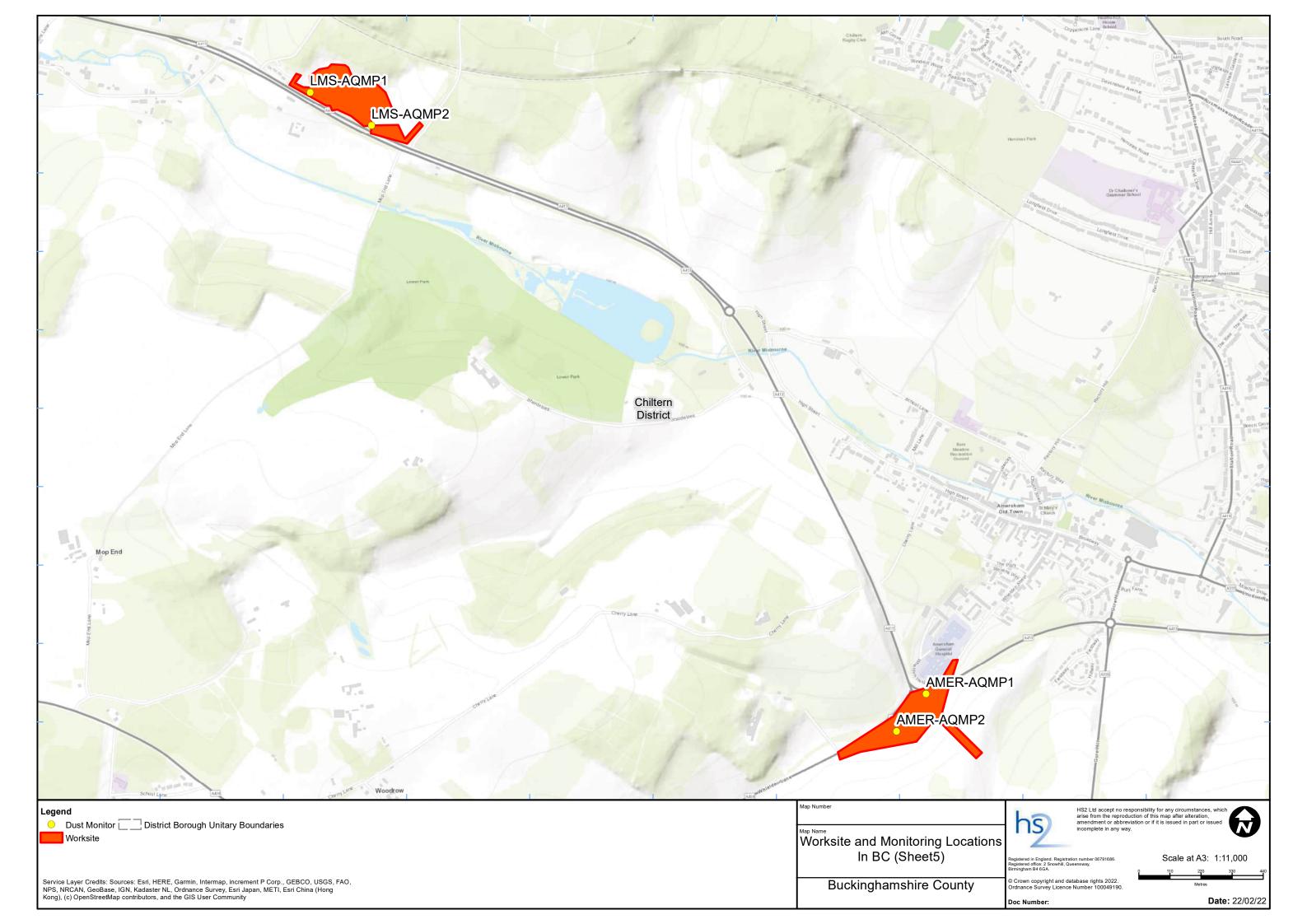
Figures 1-7: Worksite and Monitoring locations within BC

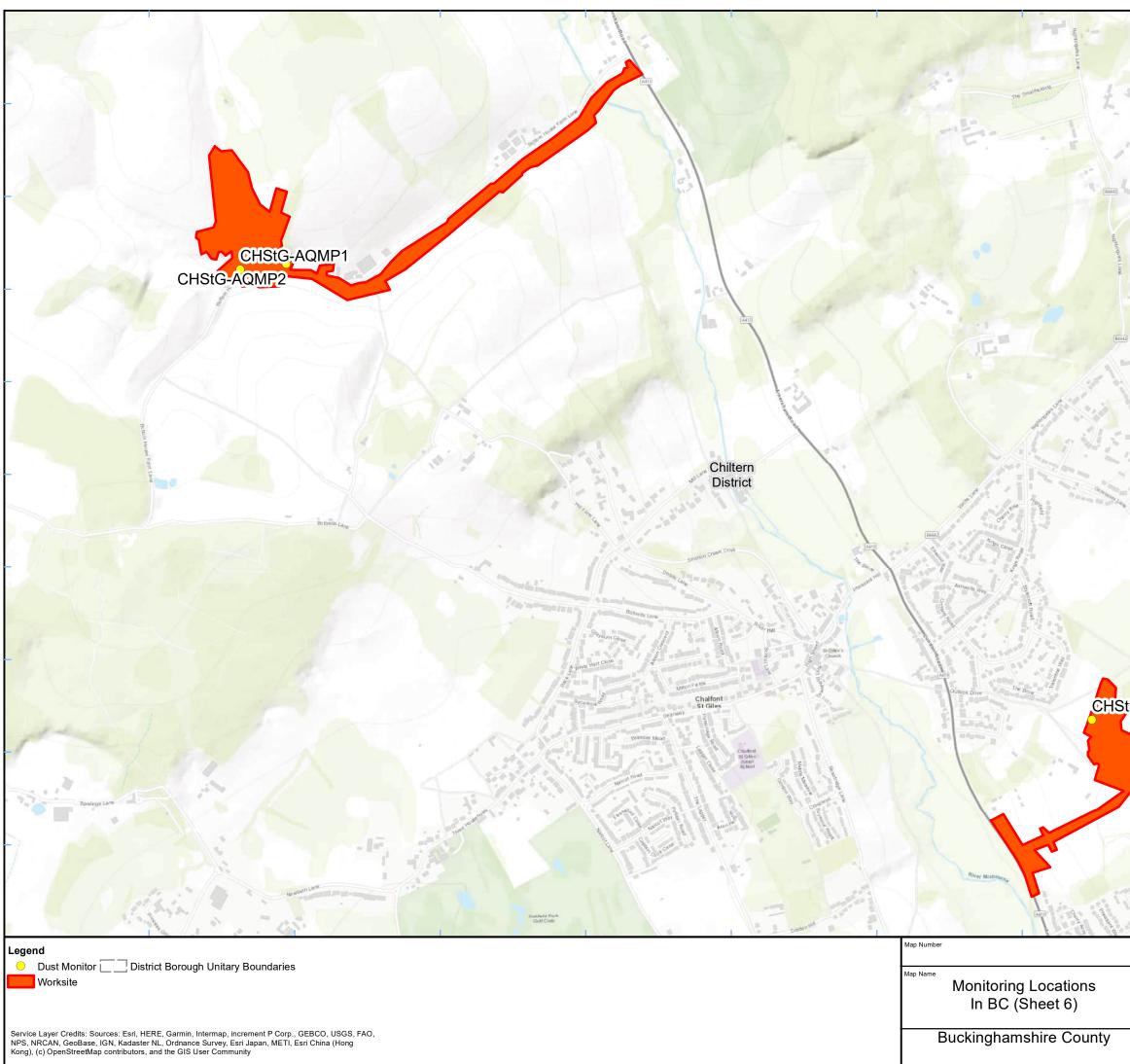




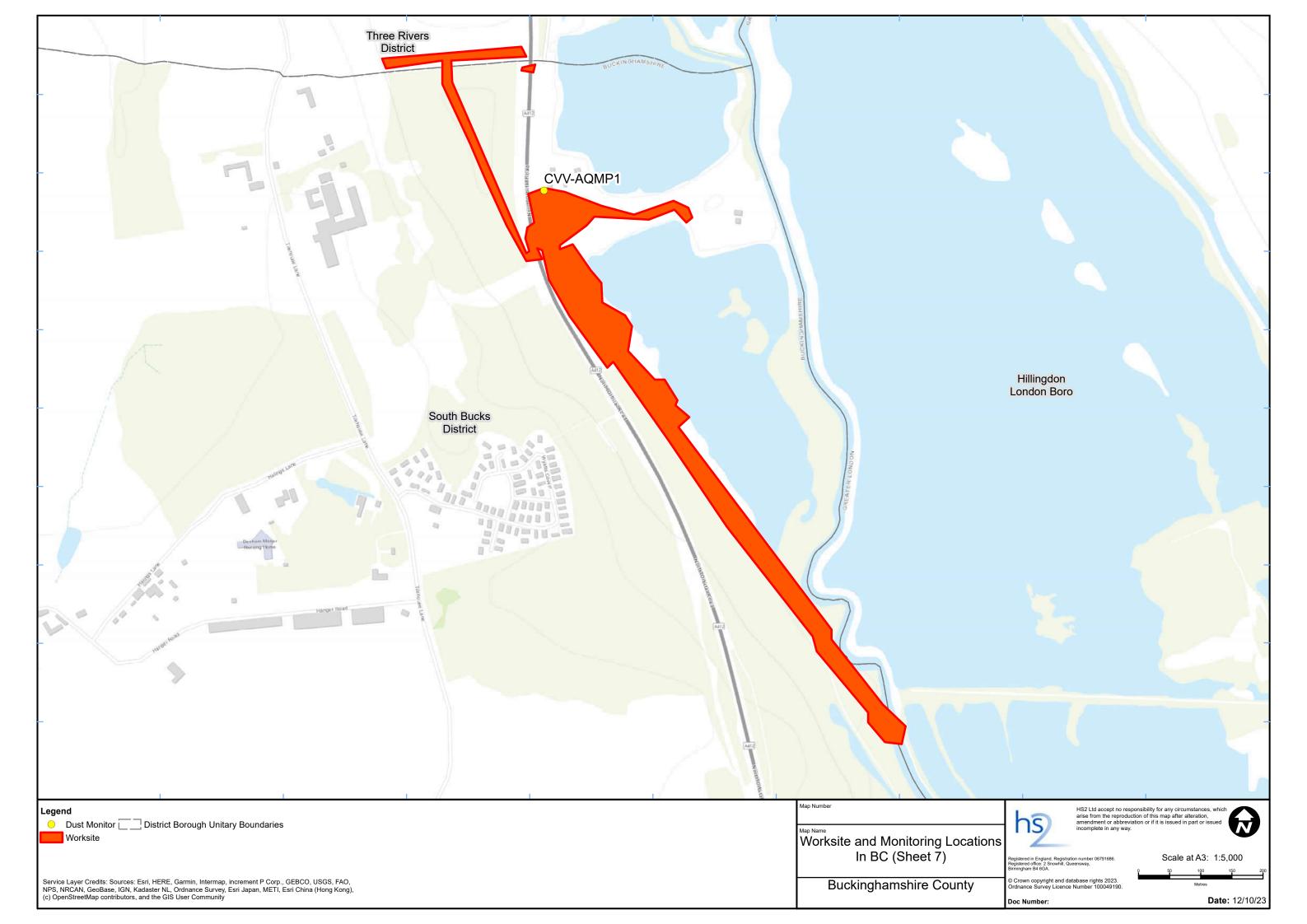








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Appendix B – Dust Monitoring Results

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/m ³)	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	5.7	1.0	111.0	0	99.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	7.4	1.0	41.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	7.6	1.0	41.0	0	100.0
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	8.0	1.0	40.0	0	98.9
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	7.8	1.0	46.0	0	98.9
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	М	Yes	Yes	5.5	1.0	37.0	0	100.0
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	6.9	0.0	42.0	0	97.6
LMS-AQMP1	493190, 198848	On the south-west of the site	м	Yes	Yes	7.4	1.0	39.0	0	100.0
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	6.9	0.0	36.0	0	96.0
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	м	Yes	Yes	8.3	1.0	45.0	0	98.2

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ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	6.3	1.0	35.0	0	100.0
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	8.3	1.0	43.0	0	98.5
SH-AQMP1	490152, 202395	Park Farm	М	Yes	Yes	23.5	7.9	74.2	0	100.0
SH-AQMP2	489564, 202757	King's Lane	М	Yes	Yes	23.3	6.8	80.3	0	88.9
SH-AQMP3	489569, 203654	Leather Lane	М	Yes	Yes	23.3	7.4	74.0	0	95.4
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	9.0	1.0	50.0	0	99.7
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	8.6	1.0	36.0	0	93.5
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	6.2	1.0	34.0	0	99.3
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	7.6	1.0	40.0	0	99.6
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	3.1	1.0	13.0	0	94.6
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	9.1	1.0	45.0	0	95.4
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	8.8	1.0	42.0	0	98.8
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Yes	7.7	1.0	40.0	0	99.7
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	-	-	-	-	-
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Yes	7.9	1.0	38.0	0	99.2

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	8.6	1.0	42.0	0	99.7
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	м	Yes	Yes	8.9	1.0	40.0	0	91.5
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	м	Yes	Yes	9.0	1.0	42.0	0	100.0
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Yes	8.5	1.0	42.0	0	99.6
Station Road – Dust	474068, 219307	Station Road, Quainton	м	Yes	Yes	9.1	1.0	135.0	0	98.9
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	м	Yes	Yes	8.5	1.0	41.0	0	98.6
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	М	Yes	Yes	8.1	1.0	40.0	0	99.0
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	10.1	1.0	42.0	0	71.3

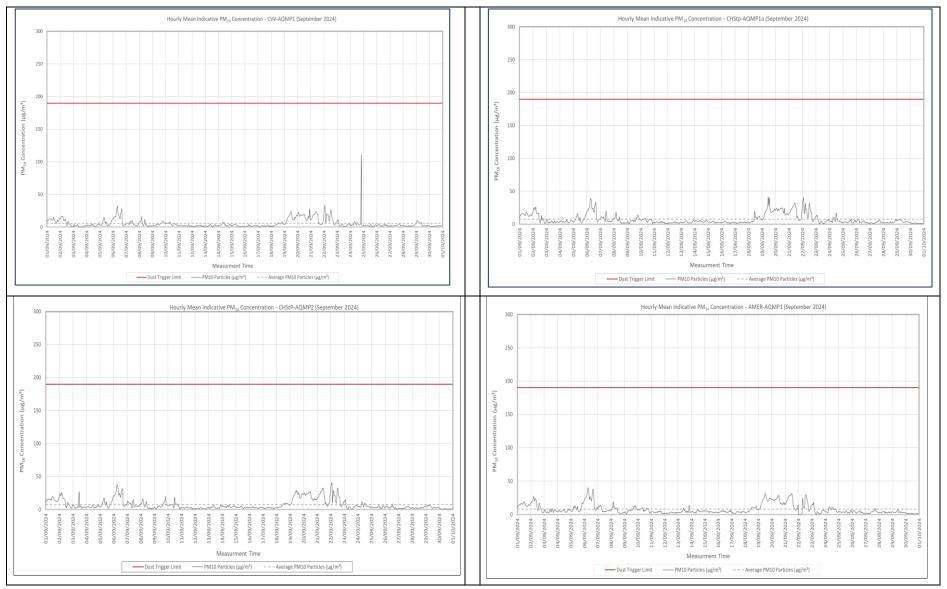


Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentration for all dust monitors

