

August 2023

Air Quality and Dust Monitoring Monthly Report – August 2023 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 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) area during August 2023.
- 1.1.2 Figure 1 to Figure 7 in Appendix A indicate the current worksites together with air quality and 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-environmental-effects-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, Figure 1 to Figure 7, include:

CVV LTP1

- North Embankment Compound: compound operation;
- DWSC Compound: compound operation;
- Haul Road and Jetty Maintenance River Colne to GUC: operation and maintenance;
- Ground Investigation Works: GI works;
- Pier Construction: arch form deck FRC works for pile cap and pier, standard piers FRC works for pile cap and pier, post-tensioning of AFD legs and tower crane mob / demob;
- ATFS: site preparation, installation of ducts and earthworks, bulk earthworks fill and permanent drainage;
- Water pumping management;
- Satellite welfare;
- Generator farms;
- Core Drilling of Concrete;
- Pile Trimming;
- A412 Gas Crossing Emergency Dismantling;
- Fencing;
- Environmental Maintenance;
- Cofferdam Excavation: cofferdam excavation, dewatering, waling beams and concrete plugs;
- River Colne Crossing: Emergency removal of obstruction to RC Crossing;

- Launching Girder and Deck Works: Span segmental erection with launching gantry, shoring steel structure erection and dismantling, internal post-tensioning (PT) and grouting and external PT;
- 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 accesses top of the deck (HAKI stairs) and foundation works in the north embankment, deck finishes support plan;
- Deck Finishes On-deck Construction: construction of robust kerbs, installation of parapets, construction of concrete stitch, filling of voids and top openings, verge deck waterproofing, trough installation and noise barriers installation;
- Deck Finishes In-deck Construction: diaphragm walls and concrete works within the deck, drainage works within the deck and steel works within the deck; and
- Landscaping: advanced Works including removal of cofferdams, early earthworks including ground profiling and cut, Initial ground drainage including manhole chamber and early soil (subsoil and topsoil) placement.

Chalfont St Peter Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connection to Tunnels;
- Shallow Basement Construction: basement internals & headhouse concrete works; and
- Ground Level Works: headhouse concrete works and external works.

Amersham Vent Shaft

- General Site Activities;
- Internal Structure: concrete walls and floors;
- Tunnel Connections;
- Basement Construction: headhouse basement internals;
- Headhouse Superstructure Concrete Works; and
- Permanent Drainage.

Chalfont St Giles Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connections to Tunnels;
- Shallow Basement Construction;
- Ground Level Works: headhouse concrete works and ATS buildings; and
- Building Trades: external works and internal works.

Little Missenden Vent Shaft

• General site activity;

- Internal Structures; remaining walls and slabs;
- Small basement construction; headhouse basement internals and demolition of D-wall; and
- Headhouse Superstructure Concrete Works.

Chesham Vent Shaft

- General site activity: general compound;
- Internal Structure: reinforced concrete works; and
- Ground Level Works: headhouse ATS concrete works.

North Portal

- General Plant: site support;
- Construct North Portal Building Platform: scraping/hardstanding/surfacing/services/drainage;
- Construct North Portal Tracks Platform: scraping/hardstanding/surfacing/services/drainage;
- Piling Platform Reinstatement: scraping/hardstanding/earthworks and dismantling piling platforms;
- Headwall Capping-Beam and Excavation: excavation/RC works/temporary propping;
- Portal Drainage: excavation / drainage installation / backfilling; and
- Porous Portal Structure: construct reinforced concrete frame and concrete works.

North Chilterns Area

Potters Row

• Grass strimming on stockpiles adjacent to Mulberry Park.

<u>Hunts Green</u>

• Hydroseeding at Field H.

<u>Grimms Ditch</u>

• Earthworks/materials movement.

Chesham Lane, Wendover Bus 55

- Stoning up of access routes;
- Clearing / installation of mastic across fuel slabs;
- Creation of platform area for cabins;
- Remedial works for backfilling / drainage; and
- Laying of tarmac for refuelling compound.

Ellesborough Road

- Installation of filter drain and fuel interceptor;;
- Ellesborough road bridge east and west embankment tie-in works;
- Site maintenance, stockpile relocation; and

• Utility diversion and backfilling.

Nash Lee Road, Nash Lee Lane

- Nash Lee Road de-vegetation works;
- Nash Lee Barn de-vegetation works;
- Construction of new SAR and signage installation Nash Lee Lane;
- Grass strimming at Stoke Mandeville South Embankment;
- Earthworks Stockpile maintenance and movement / excavate and replace;
- Risborough road temporary bridge construction works;
- Installing welfare units for Risborough bridge works; and
- GCN fence installation at mitigation area.

Bacombe Lane

- Construction of plant crossing stoning, scraping and trimming, laying of tarmac;
- Construction of platfrom for charity event;
- Installing Vehicle Crush Barriers at plant crossing; and
- Moving of stone stockpiles.

<u>Grove Farm</u>

- Excavate plant crossing to formation;;
- Construction of plant crossing stoning, scraping and trimming, laying of tarmac; and
- Installing Vehicle Crush Barriers at plant crossing.

Small Dean Viaduct

- P1 Pile Cap: Retained Excavation;
- Small Dean South Embankment battering;
- Small Dean South Embankment Shape Array;
- Platform maintenance;
- TW utility drunk diversion;;
- P3 ramp construction/ construction of P3 working platform;
- A413 phase1 diversion;
- P4 GI works;;
- Construction of A0 Platform; and
- Earthworks/movement of materials.

<u>Wendover Town</u>

- Earthworks/movement of materials;
- Hydroseeding of stockpiles;;
- Construction of guide wall for Low Permeability Wall;
- De-vegetation and GCN fence installation;
- General House Keeping Continuing Installing Road speed bumps in front of the WGTNP Welfare to the vehicle coming from batching plant, Clearing the Batching plant channels;

- 4 locations within the Calvert Area (CA);
- 4 locations within the Twyford to Greatworth (T2G) area; and
- 3 locations within the Aylesbury Area (AA).

Calvert Area

Woodlands Farm (Woodlands)

- River Ray Culvert waterproofing and technical backfill;
- Adams Accommodation Underbridge Grouting and installation of scaffolding for concrete deck;;
- Woodlands Culvert concrete protection slab and technical backfill;
- Mass haulage of aggregate;
- Edgcott Road Overbridge pile excavation and cropping; and
- Finmere Retaining Wall sheet piling.

FCC / School Hill (Calvert)

- Secant Retaining Wall works paused;
- Mass haulage of aggregate;
- Shepherds Furze Culvert waterproofing and technical backfill;
- School Hill Batching Plant production of concrete;
- School Hill Culvert Installation of pre-cast unit; and
- Calvert cutting earthwork excavation and fill.

Other works going on in Calvert

- EWR Culvert scour protection and diversion tie-ins;
- Charndon Lodge Pumping Station drainage works;
- Charndon Lodge Underbridge technical backfill;
- East West Rail Overbridge technical backfill;
- IMD West Culvert no works (final diversion tie-ins outstanding);
- IMD East Culvert no works (final diversion tie-ins outstanding);
- Addison Road Overbridge complete;
- Addison Road permanent highway diversion approach embankments;
- SCL/08 Overbridge no works;
- West Street utility diversions works complete;
- SGN pipeline diversion trenching and installation of pipework;
- Gawcott Road temporary highway diversion road construction;
- Perry Hill Overbridge FRC works for concrete deck and approach earthwork embankments;
- Portway Culvert all works complete with exception of diversion tie-in;
- OXD / EWR Line Earthworks backfill between EWR east abutment and Charndon lodge west abutment;
- IMD Earthworks platform and landscape bund fill;
- Sheephouse Wood North Culvert no works;
- Bat mitigation structure excavation and fill for dig and replace (D&R) and mobilisation of FRC contractor;

- CAG2 Underbridge / Greatmoor No. 4 culvert excavation and fill for dig and replace (D&R);
- Greatmoor No. 3 culvert waterproofing and technical backfill;
- GUN28 Overbridge FRC works for abutments and wingwalls;
- Doddershall No. 6 culvert concrete protection slab and technical backfill;
- Doddershall No. 7 culvert concrete protection slab and technical backfill;
- Doddershall landscape bund fill;
- Hills farm stockpile maintenance;
- FCC Cell 6 stockpile maintenance; and
- Shepherds Furze stockpile maintenance.

Twyford to Greatworth

Turweston North

- Drainage works;
- Duo crushing;
- River Diversion; and
- Stockpile haulage.

Aylesbury

Glebe House

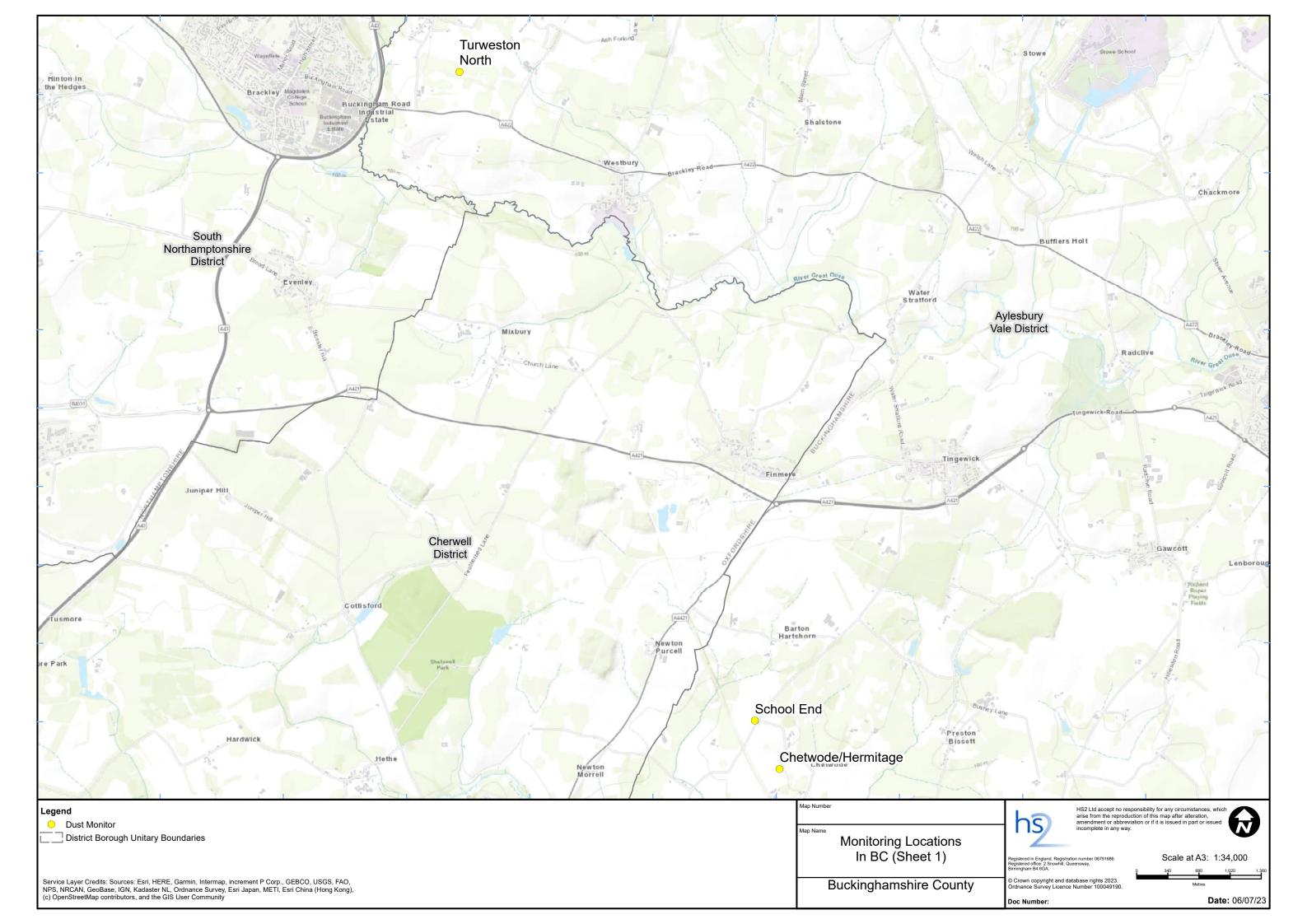
- A418 Realignment backfill; and
- A418 Overbridge main cutting excavation.
- 1.1.5 Thirty-Five (35) dust monitors are installed around worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor, 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, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (October 2018)*' has been applied.
- 1.1.8 No (0) dust trigger alerts were recorded during the monitoring period (August 2023).
- 1.1.9 Data capture was below 90% for multiple monitors in August 2023. For the monitors at Oat Close, Potters Row, Hunts Green and Grimms Ditch this was due to the monitors being retrieved for laboratory calibration. No data was captured for Meadoway due to components of the circuit being stolen. Data loss at LMS-AQMP1

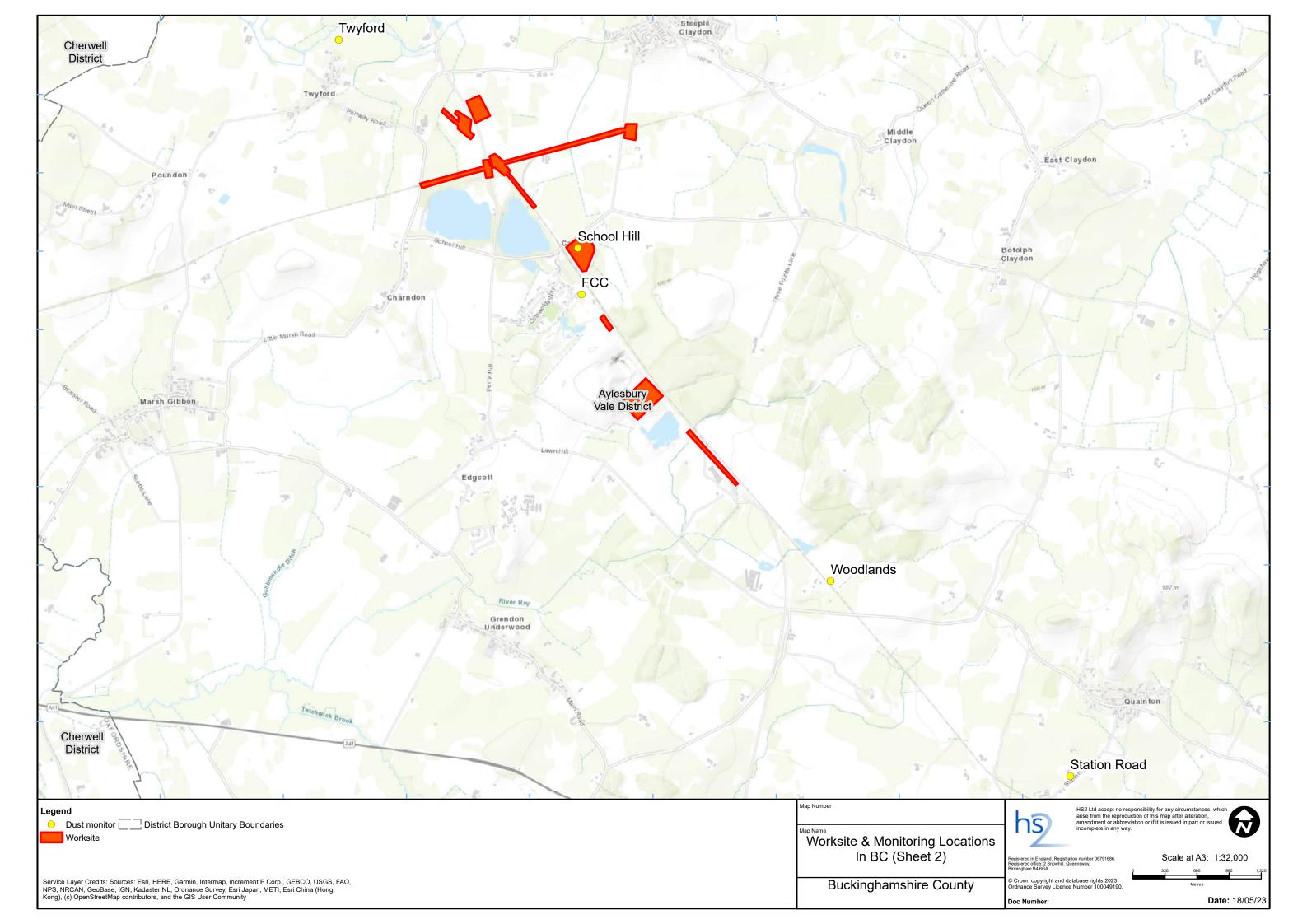
was due to power supply issues that have since been resolved. The data loss for the monitors at Ellesborough Road, Nash Lee Lane, Nash Lee Road, Bacombe Lane, and Wendover Town was due to the monitors recording intermittent dust data, the issue was raised with consultants and maintenance was done on them. However, they have been scheduled in as priority in the recent ongoing calibrations. Data loss at School Hill was due to a sim card fault.

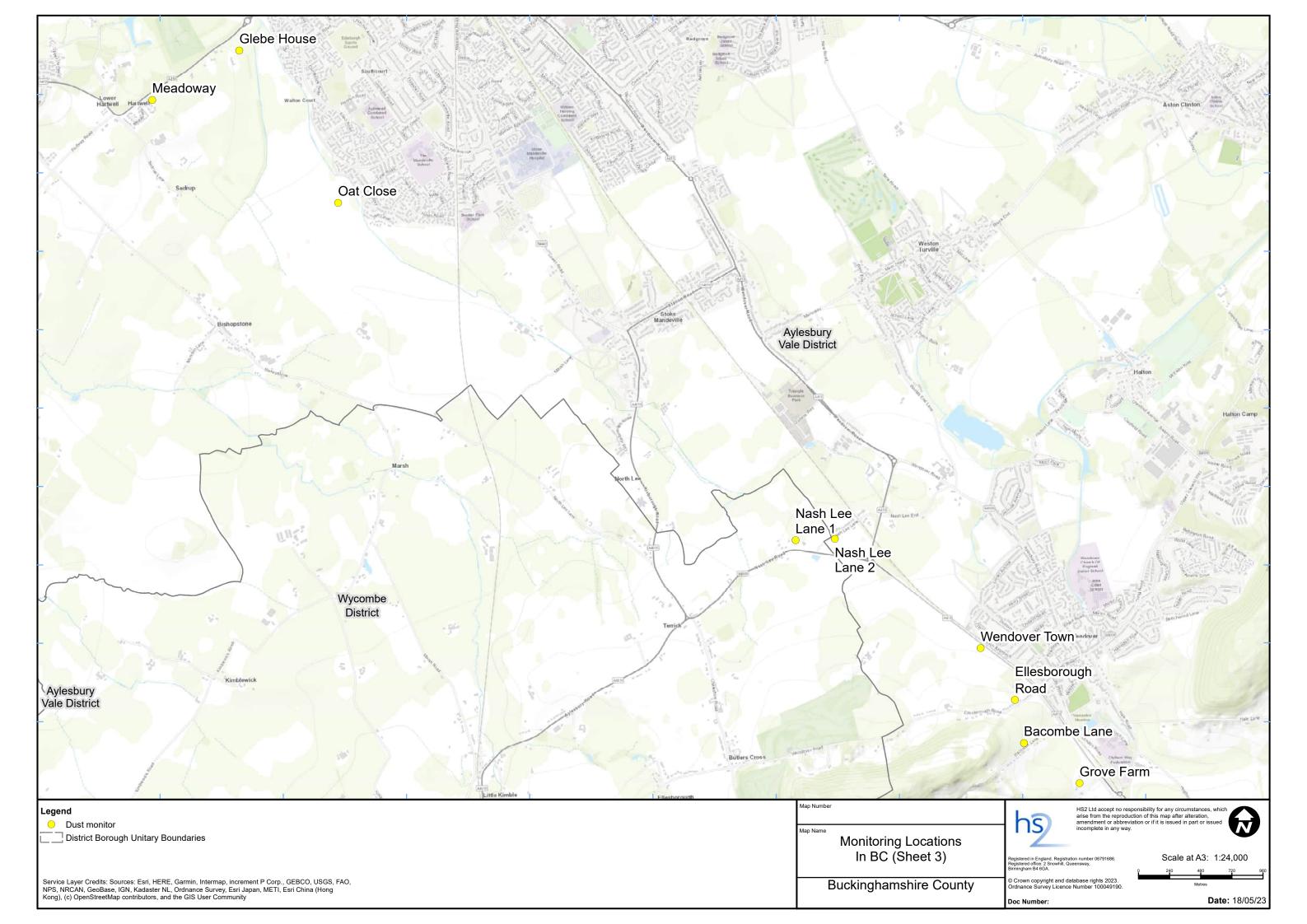
1.1.10 There were no (0) complaints received during this reporting period.

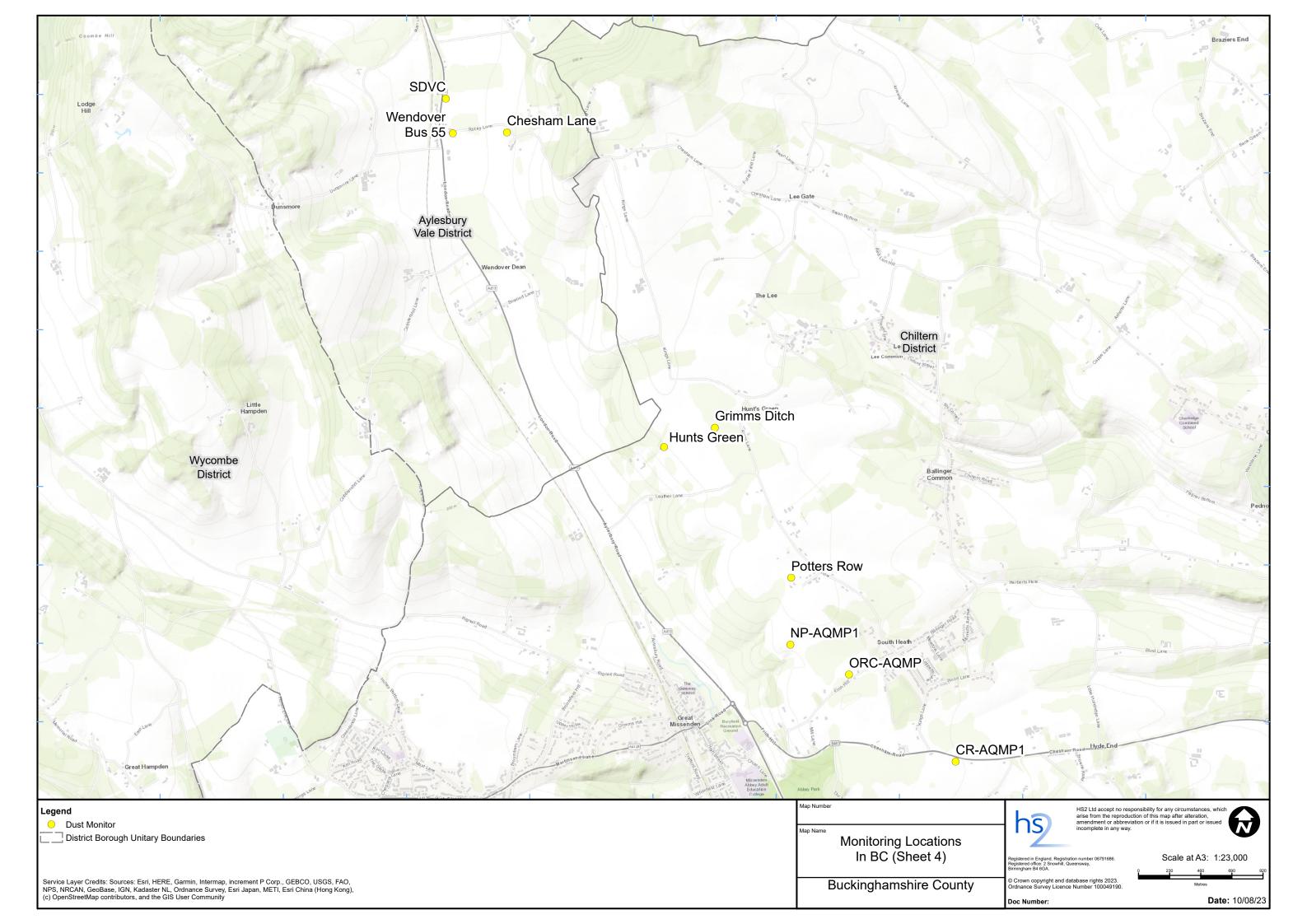
Appendix A – Monitoring Locations

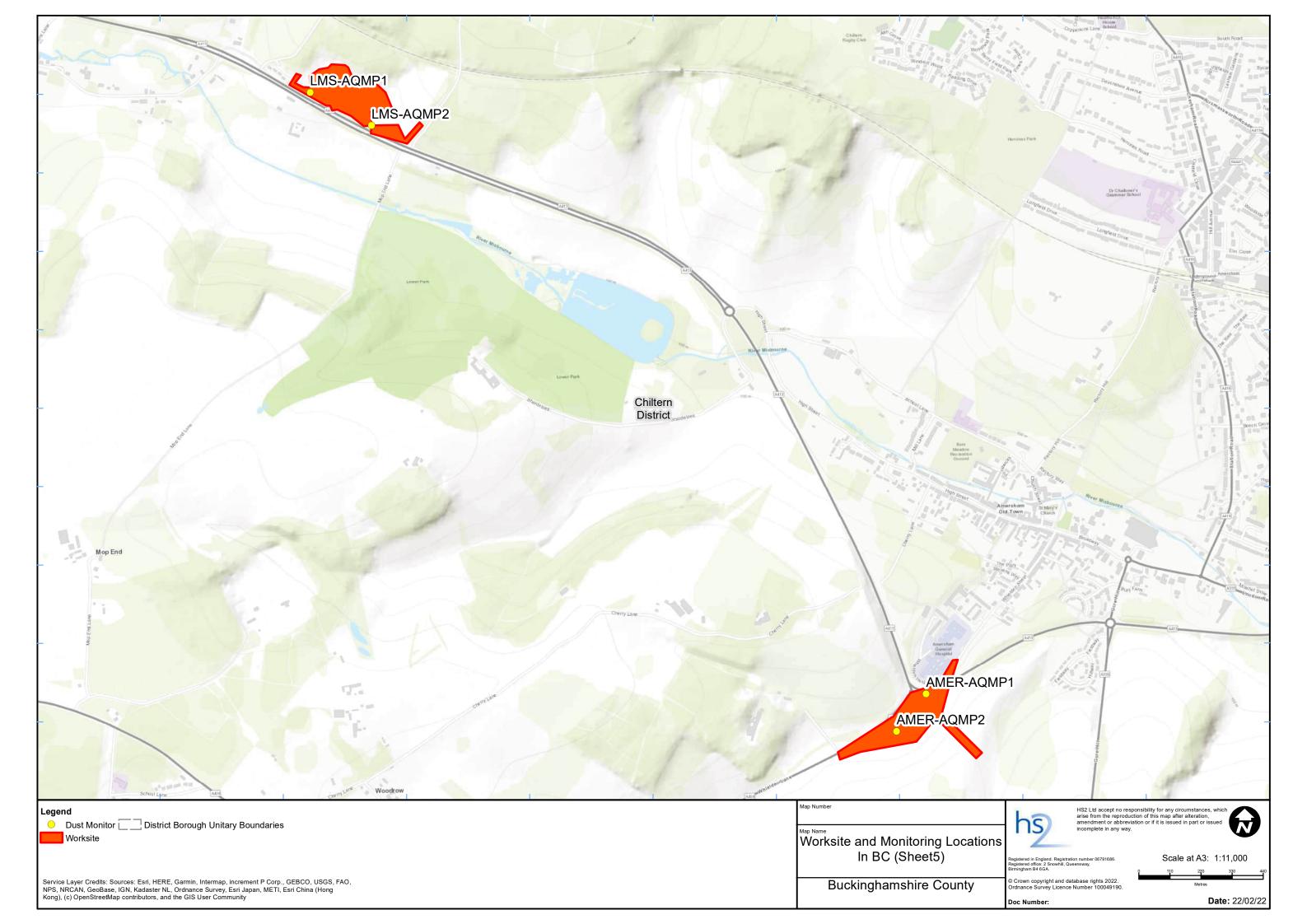
Figure 1 to Figure 7: Worksite and Monitoring locations within BC

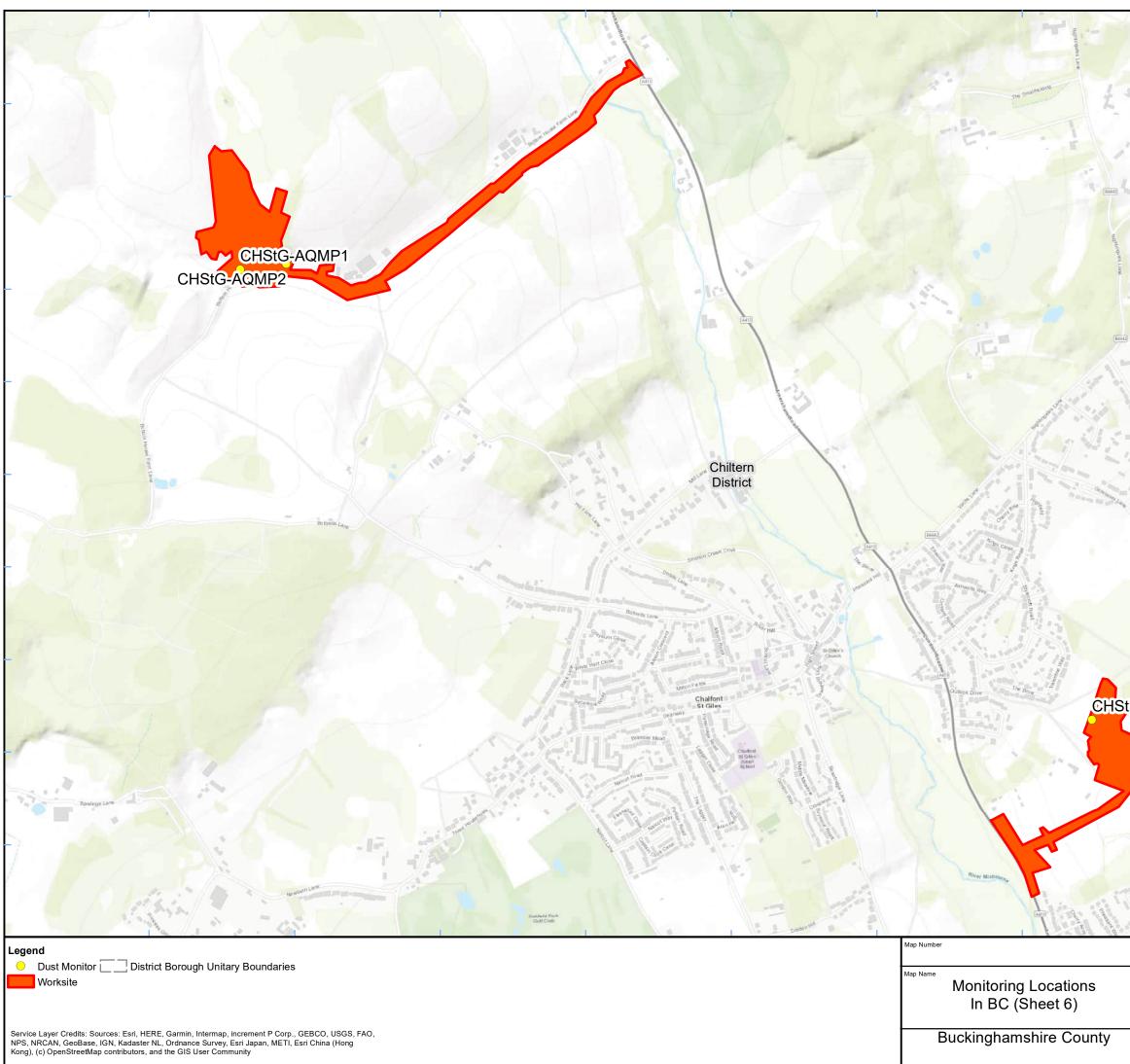




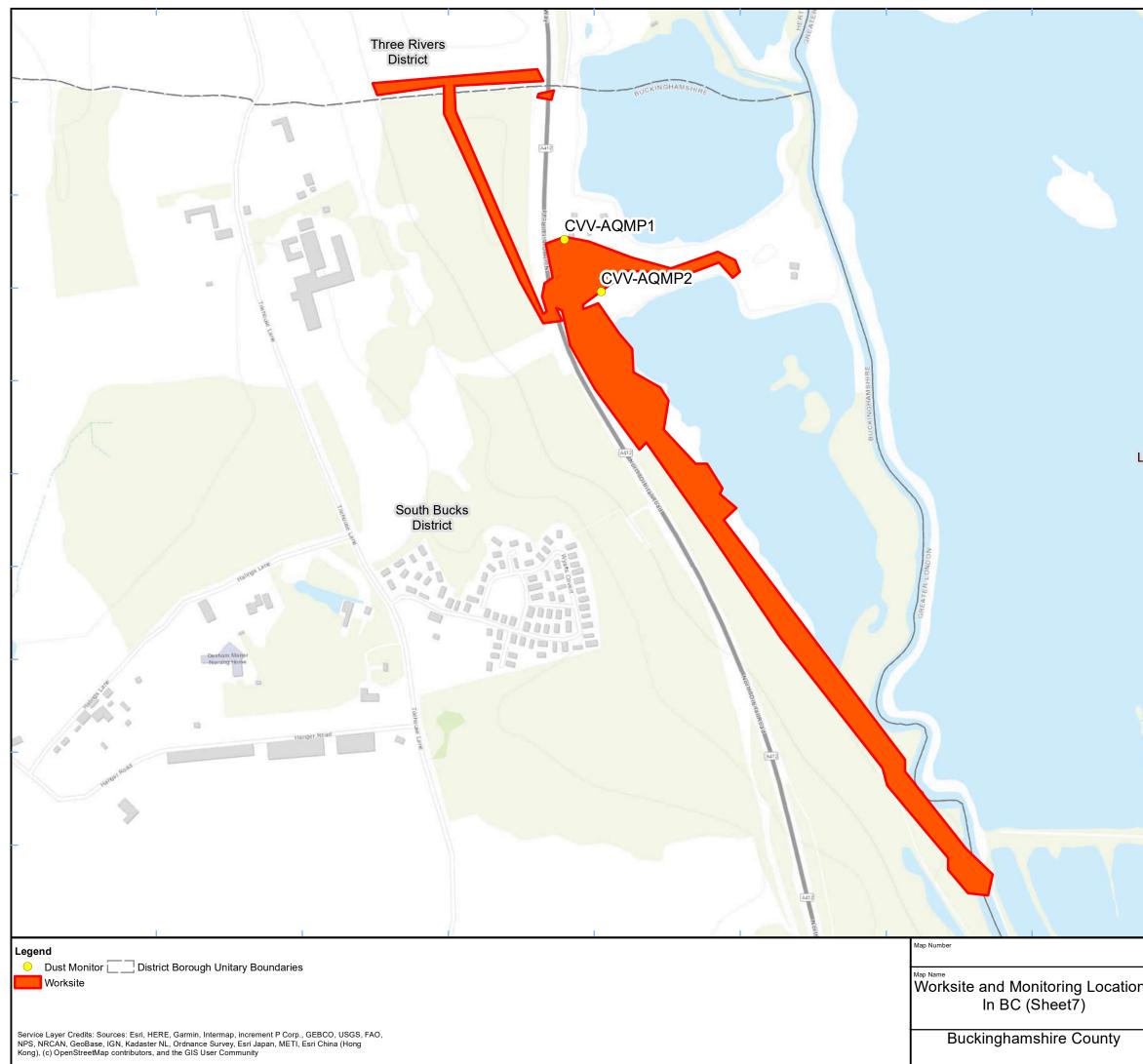








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Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and August 2023 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/m ³)	Minimum 1- hour PM ₁₀ concentration (μg/m ³)	Maximum 1- hour PM ₁₀ concentration (μg/m ³)	Number of 1- hour periods exceeding trigger level of 190 µg/m ³	1-hour data capture (%)
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Y	6.5	4.0	9.0	0	1.48
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Y	6.3	1.0	90.0	0	99.73
Potter Rows – Dust	490075, 202502	Potters Row, South Heath	М	Yes	Y	7.0	4.0	12.0	0	1.75
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Y	5.5	3.0	8.0	0	1.75
Hunts Green – Dust	489511, 203611	The Lee, South Heath	М	Yes	Y	5.4	4.0	8.0	0	1.88
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Y	4.4	1.0	64.0	0	99.33
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Y	4.9	1.0	73.0	0	99.87
Meadoway – Dust	479803, 212178	Aylesbury, Buckinghamshire	М	Yes	Y	-	-	-	-	-
Oat Close – Dust	481237, 211384	Oat Close, Bishopstone, Aylesbury	Μ	Yes	Y	-	-	-	-	-
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Y	4.1	1.0	69.0	0	83.20
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Y	4.6	1.0	69.0	0	99.87
Glebe House - Dust	480475, 212560	A418 Aylesbury	М	Yes	Y	4.5	1.0	66.0	0	75.54
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Υ	4.0	1.0	62.0	0	99.87

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	1-hour data capture (%)
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Y	5.1	1.0	64.0	0	100.00
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Y	4.7	1.0	67.0	0	64.65
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	М	Yes	Y	4.8	1.0	68.0	0	88.04
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	М	Yes	Y	5.0	1.0	77.0	0	70.56
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	М	Yes	Y	3.5	1.0	13.0	0	80.78
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Y	4.9	1.0	69.0	0	99.60
Station Road – Dust	474068, 219307	Station Road, Quainton	М	Yes	Y	4.5	1.0	64.0	0	99.06
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	М	Yes	Y	4.9	1.0	65.0	0	68.28
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	Μ	Yes	Y	4.1	1.0	54.0	0	98.66
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	Μ	Yes	Y	4.7	1.0	68.0	0	99.87
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	Μ	Yes	N	5.0	1.0	59.0	0	100.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	Μ	Yes	Y	2.7	1.0	59.0	0	100.0

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	1-hour data capture (%)
CHStP-AQMP2	499951, 193282	On the western boundary of the site	Μ	Yes	Y	4.8	1.0	67.0	0	100.0
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	Μ	Yes	Y	5.0	1.0	61.0	0	99.0
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Y	4.9	1.0	66.0	0	98.0
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	Μ	Yes	Y	4.5	1.0	59.0	0	94.0
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	Μ	Yes	Y	4.6	0.0	67.0	0	100.0
LMS-AQMP1	493190, 198848	On the south-west of the site	Μ	Yes	Y	4.9	1.0	67.0	0	73.0
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Y	4.6	1.0	64.0	0	100.0
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	м	Yes	Y	4.8	1.0	73.0	0	99.0
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Y	4.2	1.0	62.0	0	99.0
NP-AQMP1	490069, 202008	North Portal Site Entrance	Μ	Yes	Y	4.5	1.0	64.0	0	100.0

