

Air Quality and Dust Monitoring Monthly Report – March 2022 **Buckinghamshire** Council



Department for Transport

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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 March 2022.
- 1.1.2 Figure 1-7 in Appendix A indicate 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-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 phase of works commenced in March 2020. The current worksites, as presented in Appendix A, Figures 1-7, include:

CVV LTP1

- Jetty Piling: piling plant form, platforms, support plant and compound;
- Cofferdam Sheet Piling: piling plant and support plant;
- Permanent Main Piling Works: boring pile, de-sanding pile bore at pile position, installing reinforcement cage and concreting pile, bored pile break-down to prepare pile surface, grout curtain around viaduct pile groups maintenance plant and clean up around piles;
- North Embankment Compound: compound operation;
- Ground Investigation Works: GI works and overwater GI works;
- DWSC Compound: compound operation and de-sanding compound;
- River Colne Realignment; removal of RC Crossing;
- Core Drilling of Concrete;
- North Abutment: backfilling at abutment walls and masking walls /staircases /apron slab; tower installations;
- Pumping Water Management from ch 25.900 to 29.500;
- Maintenance of the haul road from ch 25.900 to 29.500;
- Satellite welfares;
- Generator farms;
- Core Drilling of Concrete;
- Pile Trimming;
- SCS Material Storage;
- Fencing Finishing Works;
- Utility Diversion;
- Environmental Maintenance;
- Bentonite Farms: base slab construction and RC slab demolition;

- Cofferdam Excavation; Dewatering, Waling Beams and Concrete Plugs;
- Utilities;
- Surfacing Works at P39 (Tarmac Haul Rd)
- Pier Construction;
- INNS – River Colne to GUC and GUC to Harvil Road (removal);
- A412 Gas Crossing Emergency Dismantling; and
- Launching Girder and Deck Works.

Chalfont St Peter Vent Shaft

- General Plant;
- Basement Secant Piling Works: excavate & cut contiguous & secant piles;
- Road Maintenance Works;
- Secondary Lining: concrete wall and floors;
- Connections to Tunnels: demolition and reinforced concrete works; and
- Basement Construction: reinforced concrete capping beam and ground beams, excavation of capping beam and basement and waterproofing works.

Amersham Vent Shaft

- General Site Activity: general plant;
- Ground Post Treatment: drilling and grouting;
- Dewatering;
- Temporary Capping Beam: ground monitoring;
- Shaft Excavation; and
- Basement Secant Piling: extended hours working.

Chalfont St Giles Vent Shaft

- General Site Activity: general plant; tower crane erection;
- Stockpile Management;
- Collar Construction;
- Dewatering;
- Secant Piling: secant piling, excavate and cut piles;
- Basement Secant Piling: extended hours working;
- Road Maintenance Works;
- Secondary Lining;
- Reinforced Concrete Internal Structure;
- Connections to tunnels; and
- Basement Construction.

Little Missenden Vent Shaft

- General site activity: general plant;
- Post Treatment: drilling and grouting;

- Dewatering; and
- Secant Piling: construct guide walls.

Chesham Road Vent Shaft

- General site activity: general compound power and stockpile management; and
- Shaft construction using In-Situ Casson Method: set-up cutting shoe, concrete pour of shaft walls and sinking of shaft to formation levels.

North Chilterns Area

- South Heath Earthworks;
- Great Missenden Compound;
- Mulberry Park Demolition Works;
- Durham Farm Demolition and De-vegetation Works;
- Surface Water Management Works (Attenuation ponds)
- Small Dean Compound;
- Sheet Piling;
- Wendover Compound;
- Wendover Batching Plant; and
- Nash Lee Road Diversion.

Calvert Area

- East West Rail OB: East and West abutment wall concrete pours, east pilecap concrete repairs and, west wingwall rebar fixing.
- Charndon Lodge UB: West and East abutment rebar fixing.
- Perry Hill OB: South abutment and south wingwall excavation for foundations, pilecap cropping and blinding prep work, and north abutment and wingwall piling.
- Addison Road OB: Piling, pile cropping, pilecap concrete pours and utility diversions.
- IMD West Culvert: temporary watercourse diversion.
- EWR Culvert: Culvert demolition.
- West Street: Temporary utility diversions.
- GUN28: Bridge demolition.
- OXD Line Earthworks: MCJ4 chord embankment removal, MCJ4 chord drainage, OXD West D&R ground improvements, OXD west 6C starter layer and MHR from IMF to OXD East.
- Hills Farm: Topsoil and subsoil strip, and material deliveries.
- Doddershall Earthworks: Embankment removal, topsoil strip and MHR construction.
- Site access roads: School Hill to FCC, School Hill to FCC BHs and GUN28 to CAG2.
- Quainton Utility Diversions: UTX3 platform, doddershall trench works, spur road and culvert crossings.
- FCC Sidings: Gantry crane demolition
- Creighton Road: traffic light system installation incl. communication ducting and concrete chambers.

Twyford to Greatworth

- School End: compound development and stone deliveries, topsoil stripping;
- Twyford: Access Road, causeway structure and stone deliveries; and
- Access road Maintenance, drainage, and ponds maintenance along SAR from ch 86;400 to 84;100.

Aylesbury

Meadoway

- Construction of the A418 Oxford Road Main Compound;
- Break from highway (located on north side of the A418 Oxford Road, opposite Glebe House);
- Construction of the A418 Security Plaza access road; and
- Earthworks (Aylesbury North Cutting excavation, stockpile construction) (located on north side of the A418 Oxford Road, within Aylesbury Golf Course).

Oat Close

- Earthworks (Aylesbury Embankment excavation, stockpile construction).

Glebe House

- Construction of the A418 Oxford Road Main Compound; and
- Earthworks (Aylesbury North Cutting excavation, stockpile construction) (located on north side of the A418 Oxford Road, within Aylesbury Golf Course).

Moat Farm

- Earthworks (Aylesbury South Cutting - drainage);
- PRA Overbridge piling works;
- PRA Rail Deliveries - maintenance of stockpile and access road; and
- PRA Rail Deliveries by Train and unloading, transport to stockpile area.

Westfield

- Earthworks (Aylesbury South Cutting, stockpiling);
- PRA Overbridge piling works;
- PRA Rail Deliveries - maintenance of stockpile and access road; and
- PRA Rail Deliveries by Train and unloading, transport to stockpile area.

1.1.5 Thirty-one (31) dust monitors are installed around the worksites, where works are underway. These sites returned a medium dust risk rating.

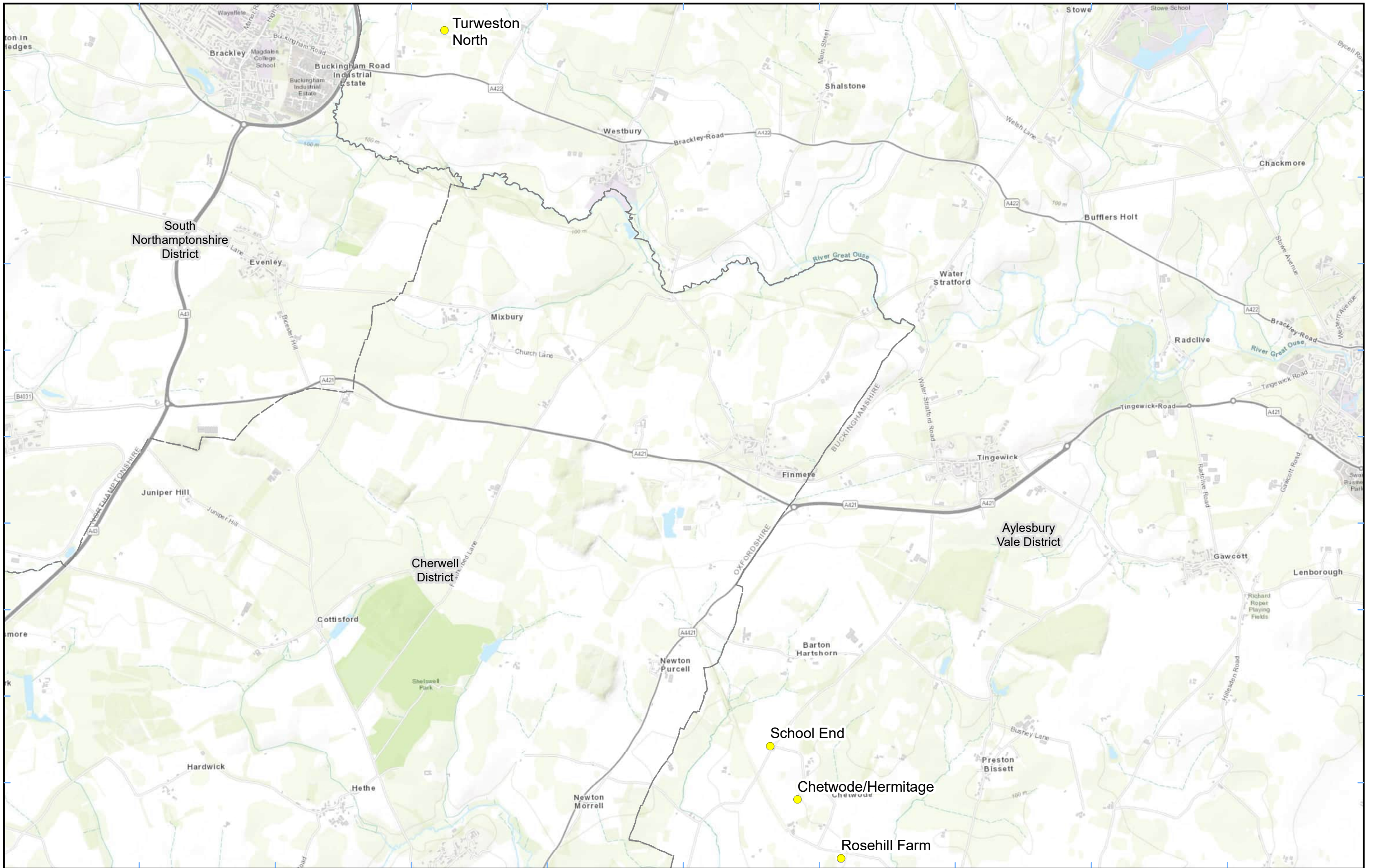
1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor presented in Figure 8. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative 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 – (October 2018)*' has been applied.
- 1.1.8 No (0) dust trigger alerts were recorded during the monitoring period (March 2022).
- 1.1.9 Data capture was below 90% for multiple monitors in March 2022 due to technical issues and/or loss of power.
- 1.1.10 No (0) complaints were received during the reporting period (March 2022).

Appendix A – Worksite and Dust Monitoring Locations

Figure 1-7: Worksite and monitoring locations within the BC



Legend
 ● Dust Monitor
 □ District Borough Unitary Boundaries

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Map Number
 Map Name
**Monitoring Locations
 In BC (Sheet 1)**
 Buckinghamshire County

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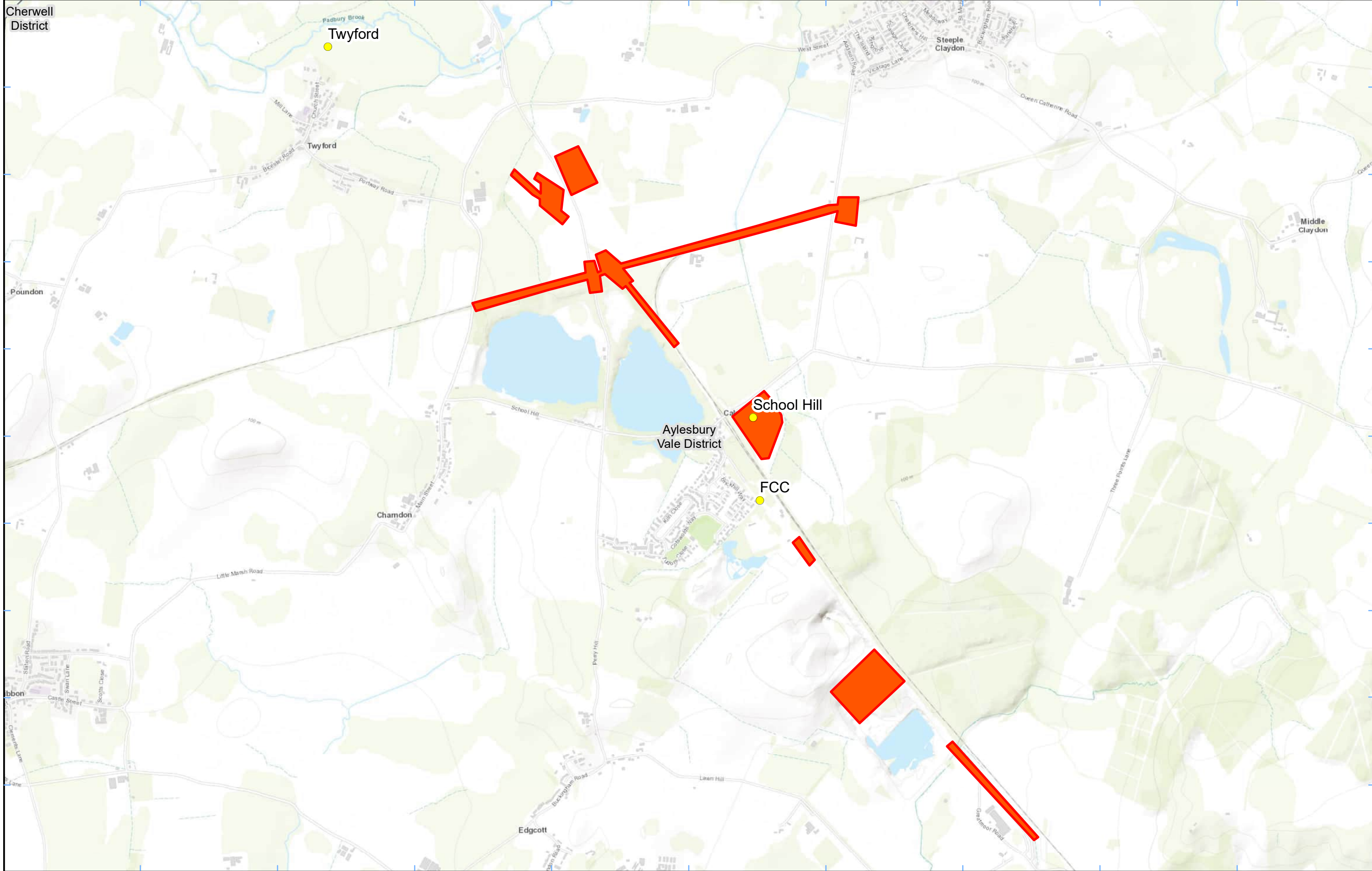
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0 340 680 1,020 1,360
 Metres


Doc Number:
Date: 22/02/22



Legend
 ● Dust Monitor □ District Borough Unitary Boundaries
 ■ Worksite

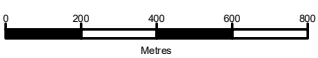
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Map Number
 Map Name
**Worksite and Monitoring Locations
 In BC (Sheet 2)**
 Buckinghamshire County

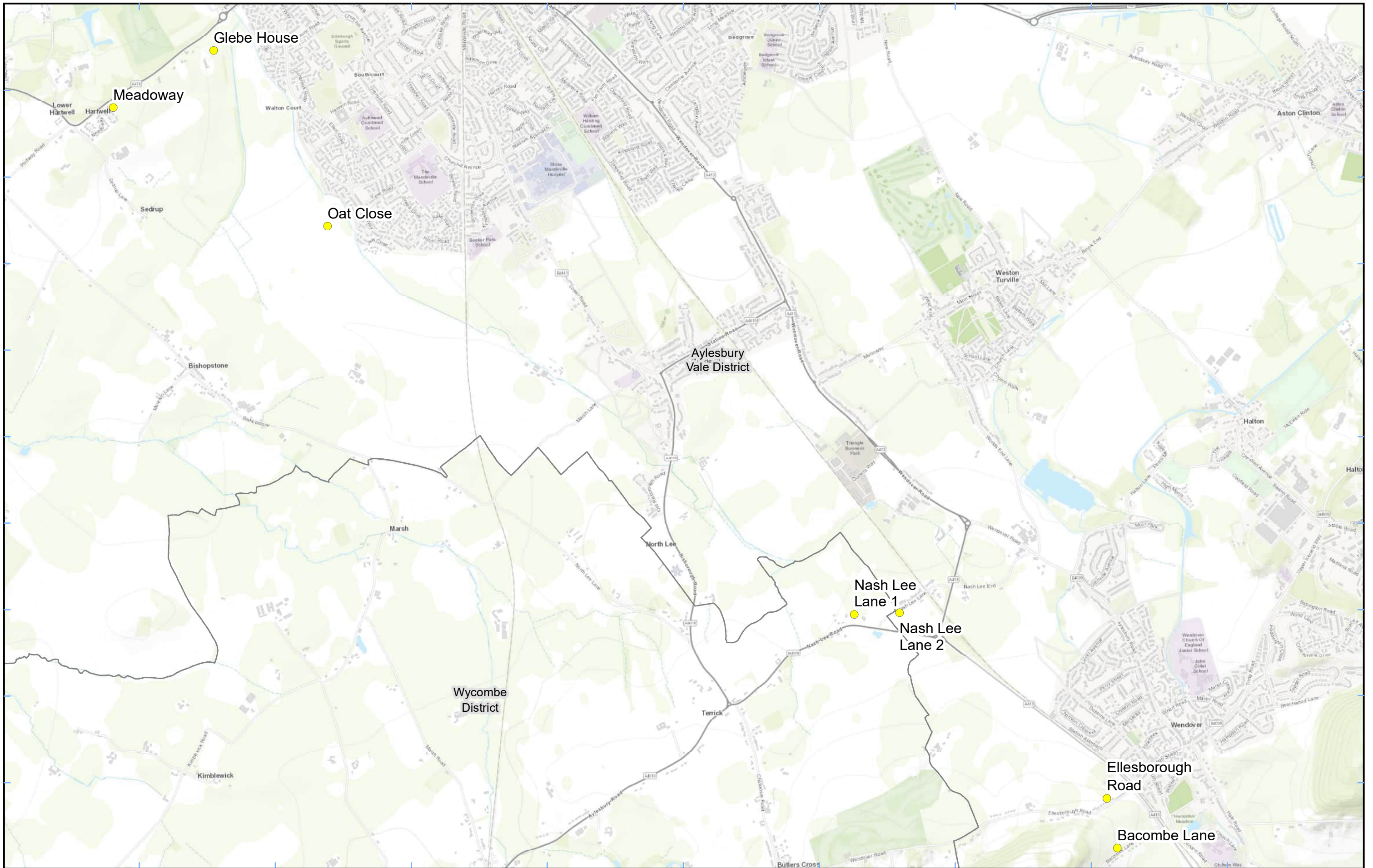

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Map Number
 Map Name
**Monitoring Locations
 In BC (Sheet 3)**
 Buckinghamshire County

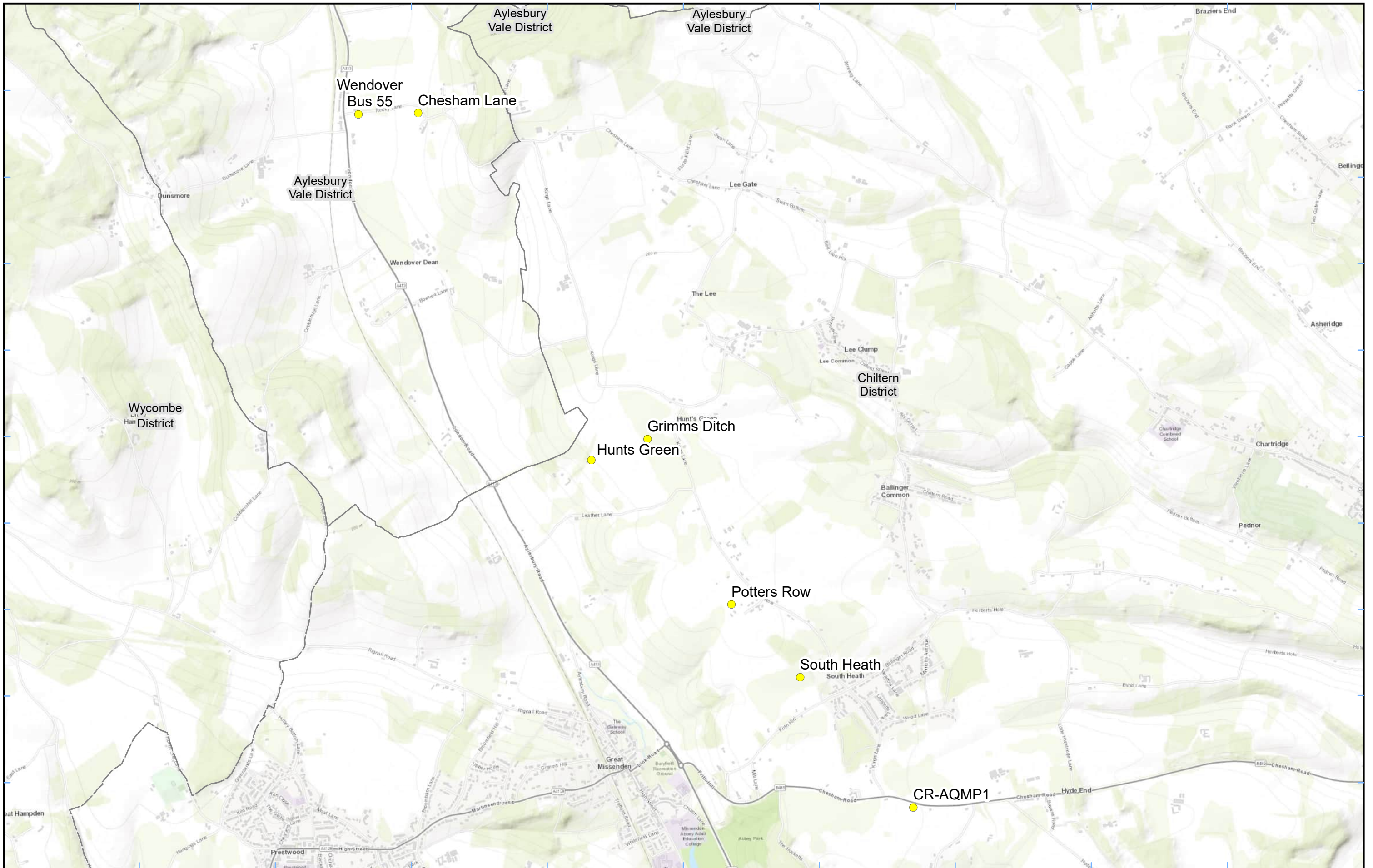
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- Dust Monitor
- District Borough Unitary Boundaries


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Map Number

Map Name

**Monitoring Locations
In BC (Sheet 4)**


Buckinghamshire County



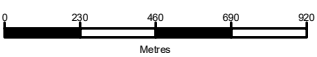
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Metres

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Legend
 Dust Monitor
 Worksite
 District Borough Unitary Boundaries

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Map Number
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**Worksite and Monitoring Locations
 In BC (Sheet5)**
 Buckinghamshire County

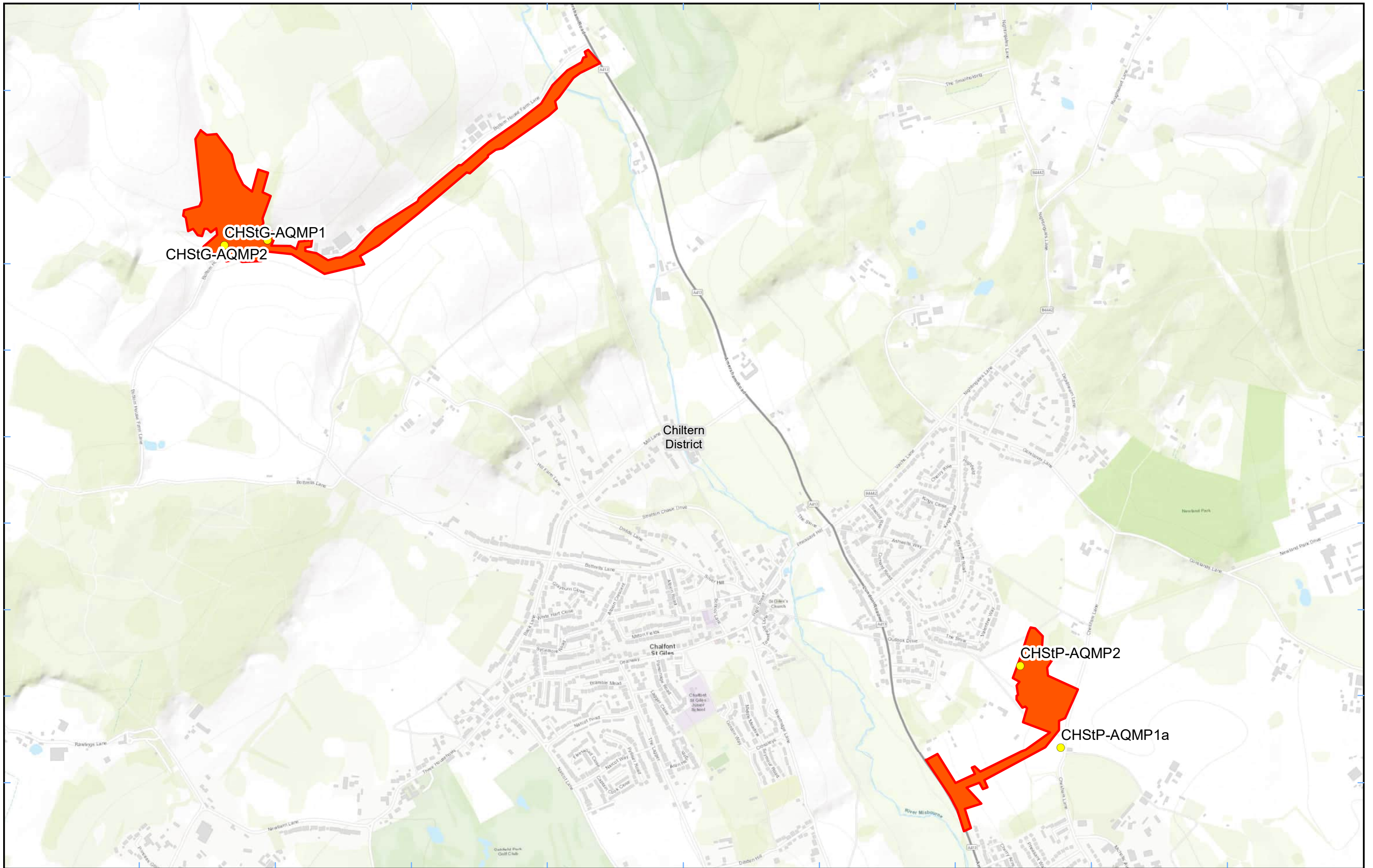
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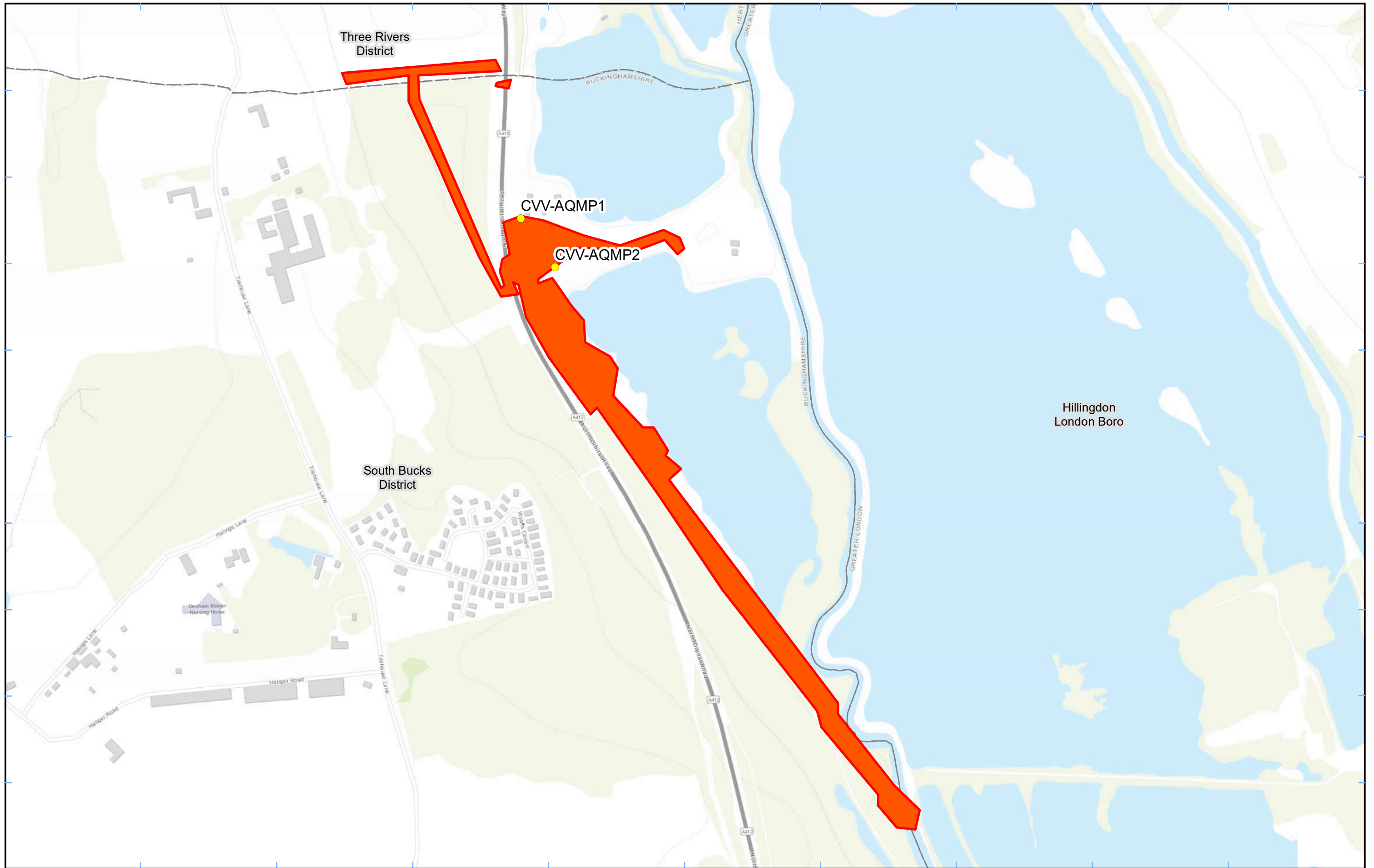
Legend
 ● Dust Monitor □ District Borough Unitary Boundaries
 ■ Worksite

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Map Number
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**Monitoring Locations
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 □ District Borough Unitary Boundaries
 ■ Worksite

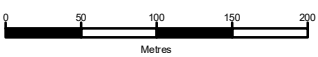
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Map Number
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**Worksite and Monitoring Locations
 In BC (Sheet7)**
 Buckinghamshire County


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Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and March 2022 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	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	M	Yes	Yes	17.7	1.0	108.0	0	99.7
CVV-AQMP2	503662, 189775	On the south boundary of LTP1	M	Yes	Yes	17.9	1.0	114.0	0	98.4
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	M	Yes	Yes	17.5	1.0	87.0	0	99.7
CHStP-AQMP2	499951, 193282	On the western boundary of the site	M	Yes	Yes	25.9	1.0	101.0	0	49.5
AMER-AQMP1	495367, 196722	On the north-eastern boundary of Amersham	M	Yes	Yes	17.3	1.0	91.0	0	99.9
AMER-AQMP2	495263, 196590	On the south-western boundary of Amersham	M	Yes	Yes	17.0	1.0	100.0	0	98.5
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	M	Yes	Yes	16.2	1.0	85.0	0	81.7
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	M	Yes	Yes	17.0	1.0	93.0	0	95.6

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	Data capture (%)
LMS-AQMP1	493190, 198848	On the south-west of the site	M	Yes	Yes	16.8	1.0	105.0	0	97.7
LMS-AQMP2	493407, 198731	On the south-east of the site	M	Yes	Yes	16.2	1.0	99.0	0	99.2
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	M	Yes	Yes	21.1	1.0	88.0	0	67.1
School Hill (CAL-AQMP2) - Dust	469003, 224740	School Hill Compound	M	Yes	Yes	17.4	1.0	91.0	0	99.9
School End - Dust	463666, 230049	School End, Chetwode	M	Yes	Yes	16.6	1.0	129.0	0	99.5
Rosehill Farm - Dust	464368, 228939	Rosehill Farm, Chetwode	M	Yes	Yes	12.9	1.1	106.9	0	90.2
South Heath - Dust	490534, 202014	Bury Farm, South Heath	M	Yes	Yes	18.2	1.0	102.0	0	97.6
Potters Row - Dust	490075, 202502	Potters Row, South Heath	M	Yes	Yes	19.1	2.0	103.0	0	46.6
Hunts Green - Dust	489135, 203468	Leather Lane, The Lee, South Heath	M	Yes	Yes	18.1	1.0	101.0	0	95.7
Grimms Ditch - Dust	489511, 203611	The Lee, South Heath	M	Yes	Yes	21.1	2.0	76.0	0	15.7
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	M	Yes	Yes	14.8	1.0	150.0	0	82.4

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	Data capture (%)
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	M	Yes	Yes	19.2	2.0	95.0	0	37.9
Meadoway - Dust	479803, 212178	Aylesbury, Buckinghamshire	M	Yes	Yes	18.5	1.0	107.0	0	98.8
Oat Close - Dust	481237, 211384	Oat Close, Bishopstone, Aylesbury	M	Yes	Yes	6.7	2.0	23.0	0	63.4
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	M	Yes	Yes	16.0	1.0	103.0	0	99.6
Chetwode/Hermitage - Dust	463936, 229521	Hermitage, Chetwode	M	Yes	Yes	18.4	1.0	127.0	0	41.5
Glebe House - Dust	480475, 212560	A418 Aylesbury	M	Yes	Yes	6.6	1.0	39.0	0	72.0
Turweston North - Dust	460439, 237140	Turweston, Buckinghamshire	M	Yes	Yes	16.9	1.0	109.0	0	99.7
FCC - Dust	469042, 224263	Adjacent Red Kite View, Calvert	M	Yes	Yes	24.4	1.0	93.0	0	58.5
Ellesborough Road	486458, 207550	Ellesborough Road, Wendover	M	Yes	Yes	21.6	1.0	75.0	0	52.3
Nash Lee Lane 1	484766, 208782	Nash Lee Lane (west)	M	Yes	Yes	27.8	1.0	78.0	0	26.9
Nash Lee Lane 2	485069, 208793	Nash Lee Lane (east)	M	Yes	Yes	37.4	7.0	78.0	0	12.1

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	Data capture (%)
Bacombe Lane	486528, 207217	Bacombe Lane, Wendover	M	Yes	Yes	24.3	1.0	59.0	0	27.0

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

