

HS2

March 2023

Air Quality and Dust Monitoring Monthly Report – March 2023 **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 2023.
- 1.1.2 Figures 1-7 in Appendix A present the current worksites together with the dust monitoring locations for March 2023.
- 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, 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;
- 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 and bulk earthworks fill;
- Pumping water management ;
- Satellite welfare;
- Generator farms;
- North Abutment Works: yard supporting activities and FRC works;
- 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 and filling of voids and top openings;
- Deck Finishes – In-deck Construction: diaphragm walls and concrete works within the deck; and
- Landscaping: advanced Works including removal of cofferdams.

Chalfont St Peter Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connection to Tunnels: concrete floors; and
- Basement Construction: excavate to formation and headhouse concrete works.

Amersham Vent Shaft

- General Site Activities;
- Internal Structure: concrete walls and floors;
- Tunnel Connections; and
- Basement Construction: excavation to B1 formation levels, headhouse basement internals and demolition of D-wall.

Chalfont St Giles Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connections to Tunnels: concrete floors;
- Basement Construction: excavate to formations and basement internals & headhouse concrete works; and
- Shaft Internal Structure: RC walls and slabs.

Little Missenden Vent Shaft

- General site activity;
- Shaft Base Slab: concrete pour;
- Internal Structures Core Slip-form: slipform;
- Internal Structures; remaining walls and slabs;
- Internal Structures: remaining walls and slabs; and
- Small basement construction; excavation to B1 formation level and headhouse basement internals.

Chesham Road Vent Shaft

- General site activity: general compound;
- Internal Structure: walls, slabs and staircases, and
- Ground Level Works: headhouse ATS concrete works.

North Portal work site

- Access Road: drainage and services, scrape formation, hardstanding and kerbing, asphalt and signage;
- Piling Platform Area 1: traffic management and temporary access from Firth Hill Road;
- North Portal Compound: general plant;
- North Portal Road: general plant;
- Temporary Access Haul Road: dismantling related to temporary access road;
- North-Portal Building Platform: scraping / hardstanding / surfacing / services / drainage;
- North-Portal Tracks Platform: scraping / hardstanding / surfacing / services / drainage;
- Piling Platform Removal: dismantling related to areas D.1,D.2 piling platforms;
- Headwall Capping-Beam and Excavation: excavation / RC works/ temporary propping;
- Portal Drainage: excavation / drainage installation / backfilling; and
- Porous Portal Structure: RC works and concrete pours.

Calvert Area

Station Road

- No works within 500m of monitor.

Woodlands Farm

- River Ray Culvert – installation of precast units
- Woodlands Culvert – waterproofing of precast units and construction of headwalls
- Mass haulage of aggregate
- Edgcott Road Overbridge – piling

FCC / School Hill

- Secant Retaining Wall – continuous fly augering (CFA) piling works
- Mass haulage of aggregate
- Shepherds Furze Culvert – dig and replace (D&R) under structure
- School Hill Batching Plant – production of concrete

Other works

- EWR Culvert
- Charndon Lodge Pumping Station

- Charndon Lodge Underbridge
- East West Rail Overbridge
- IMD West Culvert
- IMD East Culvert
- Addison Road Overbridge
- Addison Road permanent highway diversion
- SCL/08 Overbridge
- West Street utility diversions
- SGN pipeline diversion
- Gawcott Road temporary highway diversion
- Perry Hill Overbridge
- Portway Culvert
- OXD / EWR Line Earthworks
- Calvert Cutting
- IMD Earthworks
- Bat mitigation structure
- Sheephouse North Culvert
- Greatmoor No. 3 culvert
- GUN28 Overbridge
- Doddershall No. 6 culvert
- Doddershall No. 7 culvert

Twyford to Greatworth

Turweston North

- Long reach excavator-6C crossing the river
- Topsoil stripping
- Piling platform construction
- Hall road construction
- Road Diversion
- Aggregate deliveries
- Oatley Road utility diversions

Aylesbury

Moat Farm

- Stoke Mandeville Bypass piling
- PRA Overbridge piling
- Siltbuster setup

Westfield

- PRA Overbridge Piling
- Overhead utility diversion

Oat Close

Glebe House

- A418 Overbridge Piling
- Piling platform works

Meadoway

- A418 Overbridge piling
- Piling platform works

- 1.1.5 Thirty-eight (38) 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 a line chart 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 Data capture was below 90% at multiple monitors due to power issues. Grimms Ditch monitor has low data capture due to the monitor being retrieved and CHStG-AQMP1 and Chalfont St Giles monitors are due to a faulty controller/modem.

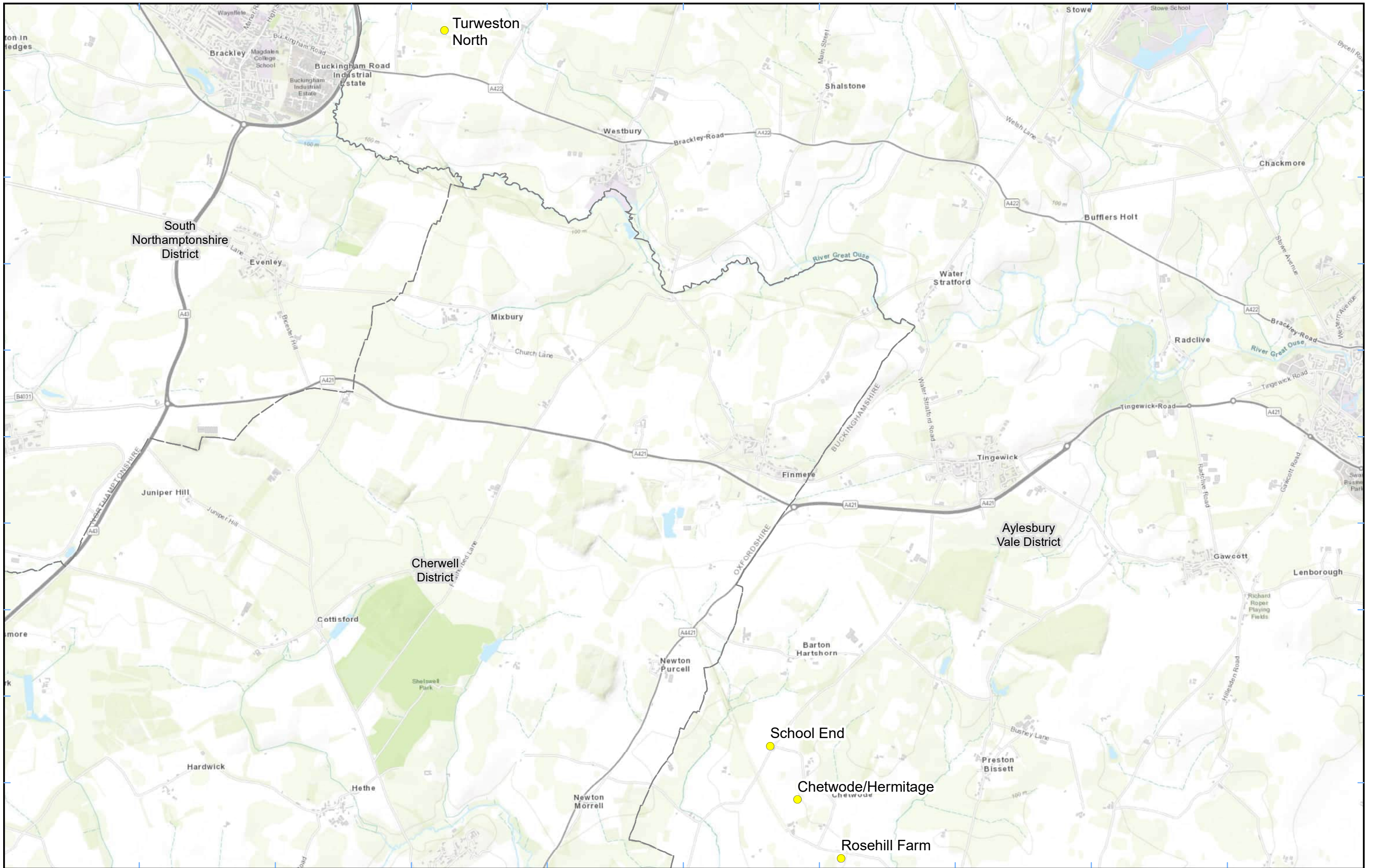
- 1.1.9 No (0) data was recorded for South Heath for the month of March 2023, due to the monitor being retrieved from site.
- 1.1.10 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 3.
- 1.1.11 Table 1 provides a summary of the complaint information related to dust or air quality received during the reporting period, together with the findings of any related investigations.

Table 1: Summary of complaints received during March 2023 in BC

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-23-44441-C	-	Resident reported a strong fishlike smell coming from nearby site.	After investigation contractors believe the odour is related to ground stabilization works. Infrequent but ongoing activities of this type will continue. Stakeholder has been informed of the findings.

Appendix A – Worksite and Dust Monitoring Locations

Figures 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

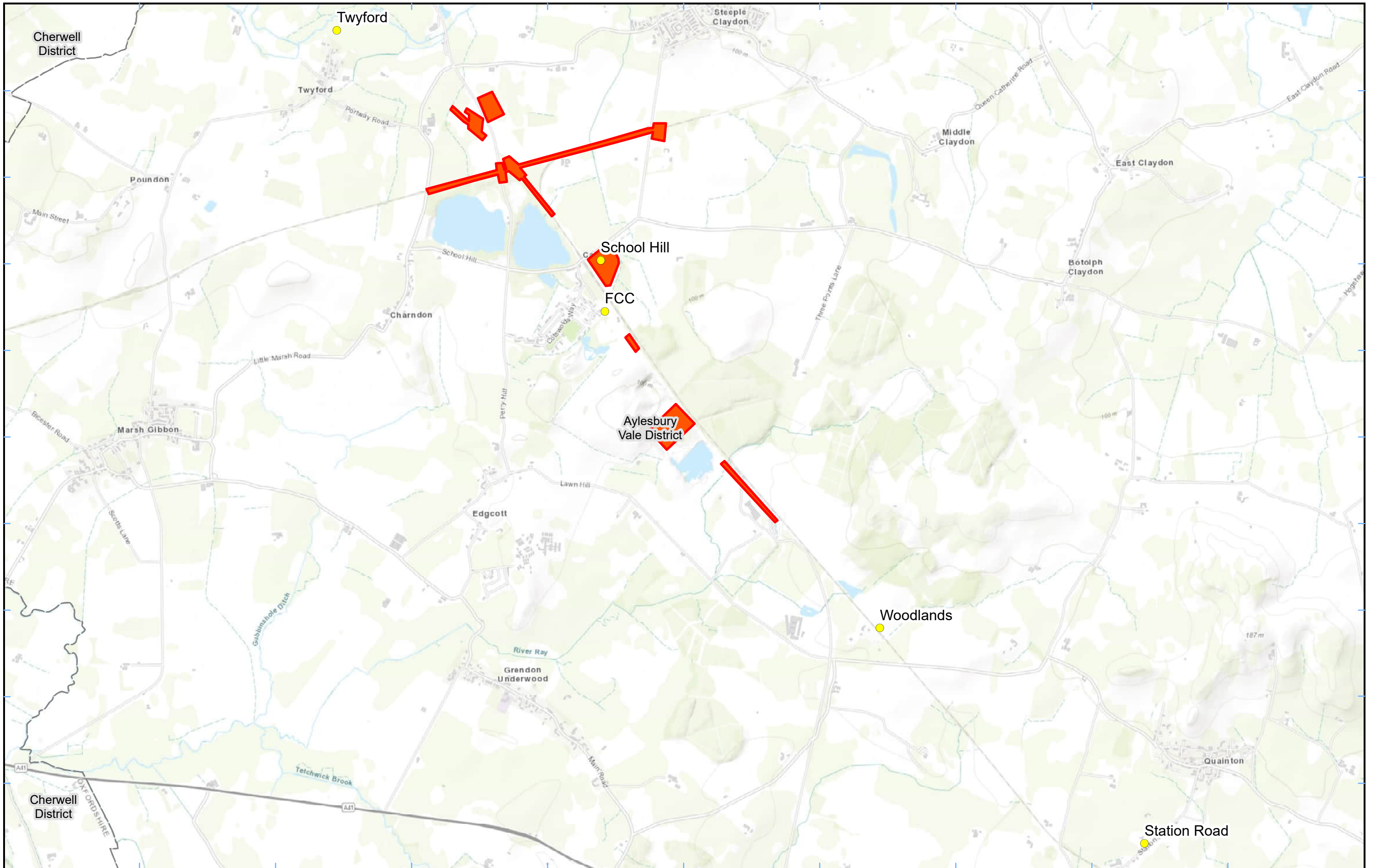
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Legend
 ● Dust monitor □ District Borough Unitary Boundaries
 ■ Worksite

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

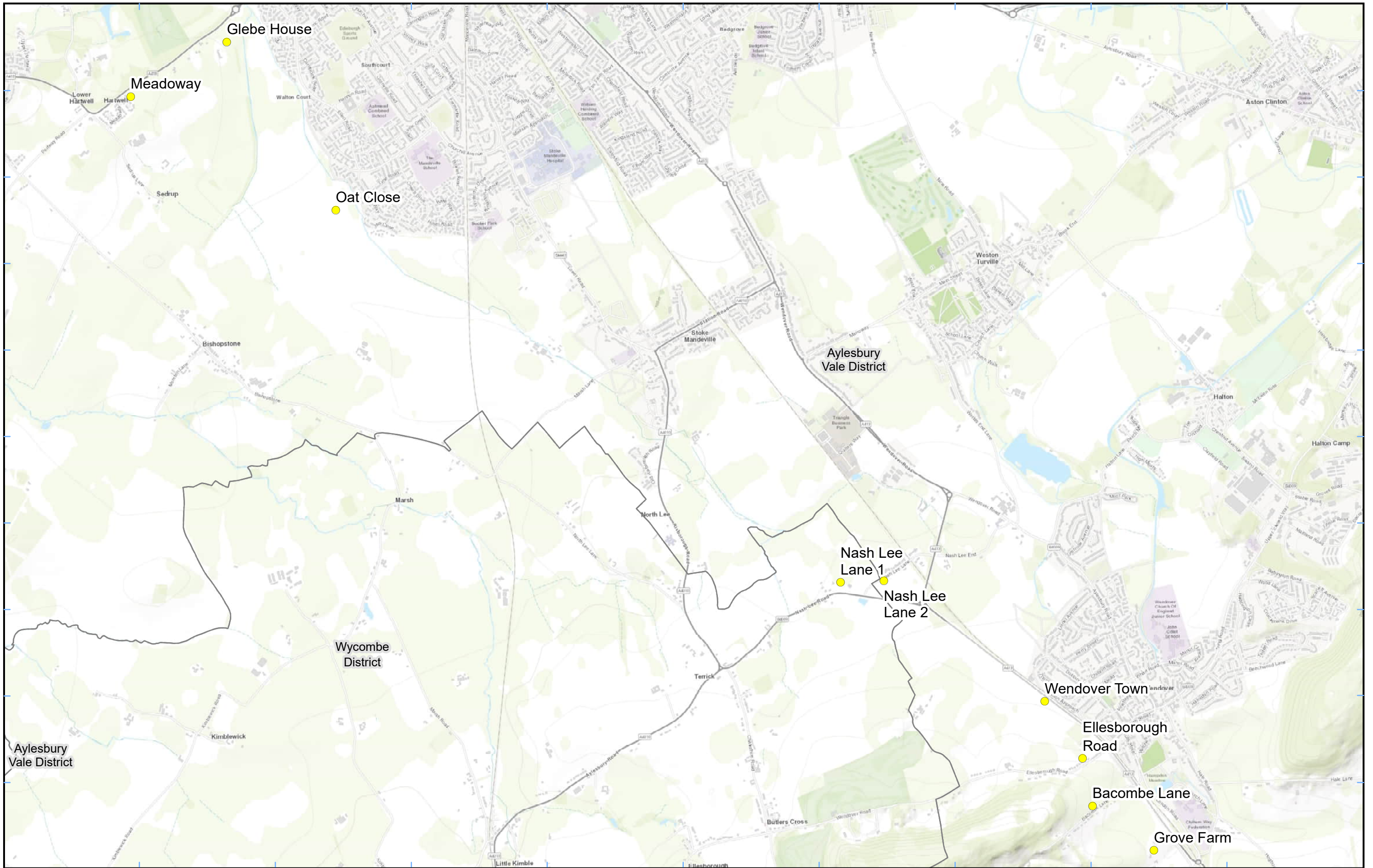

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 District Borough Unitary Boundaries

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

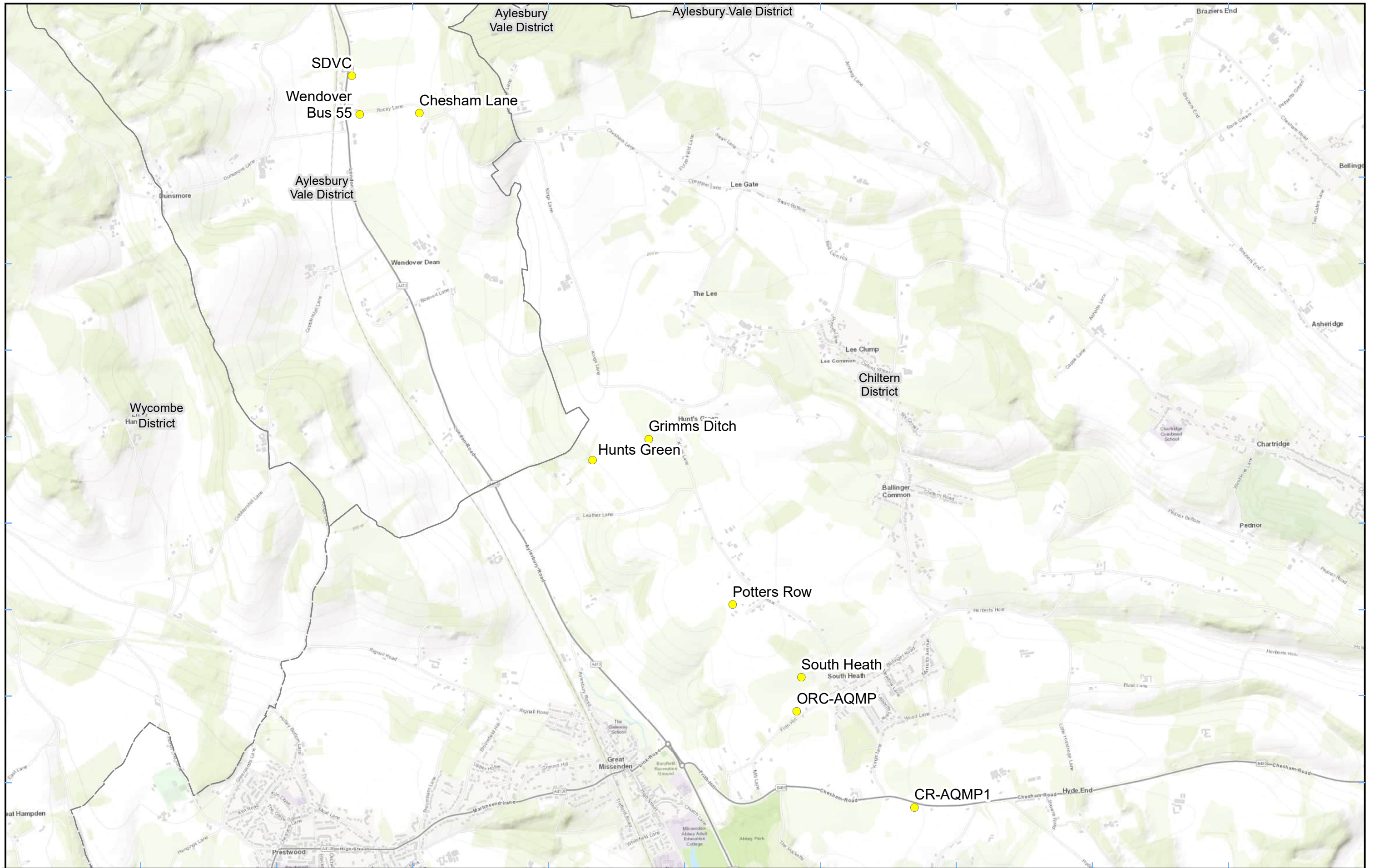
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Legend

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

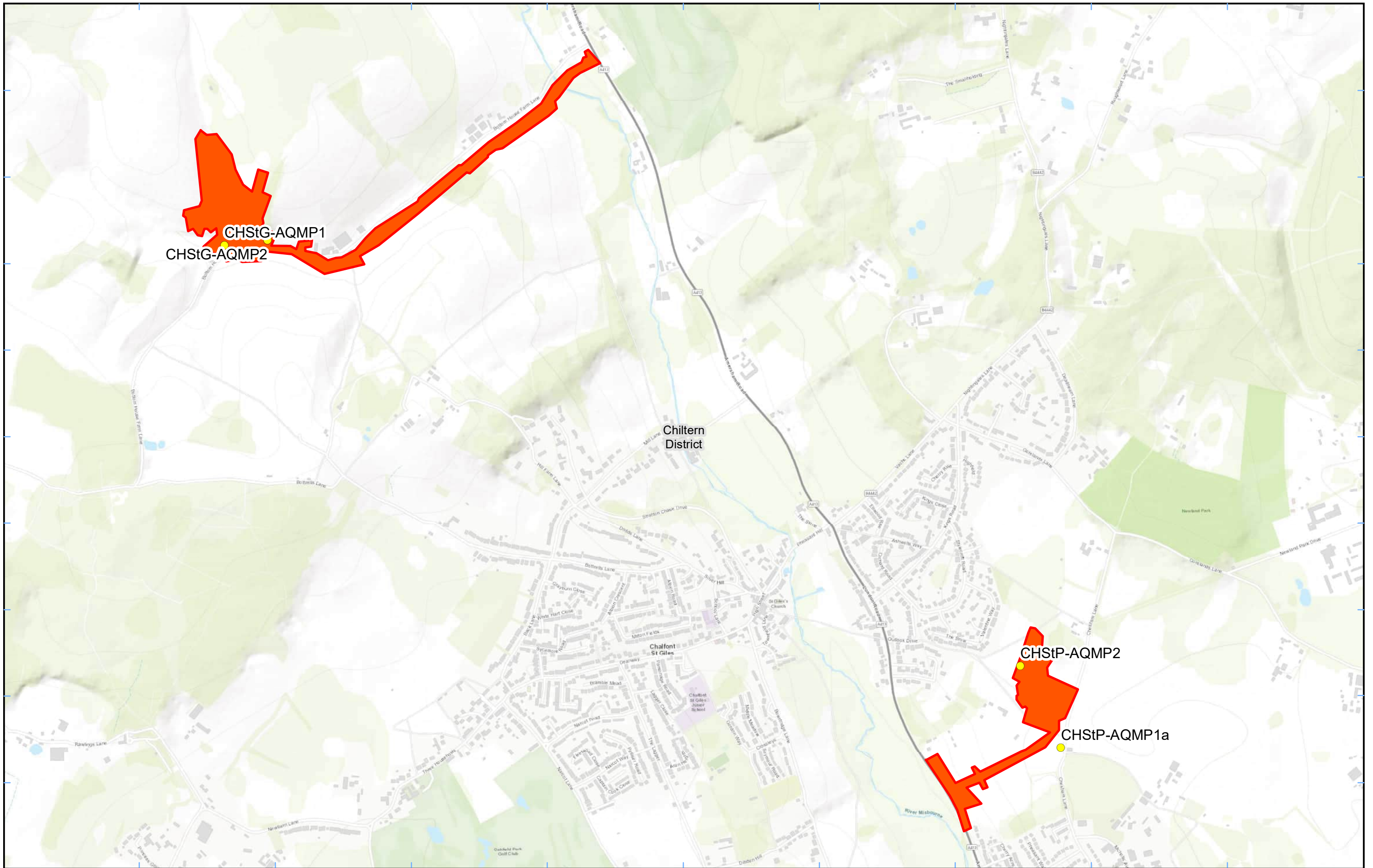
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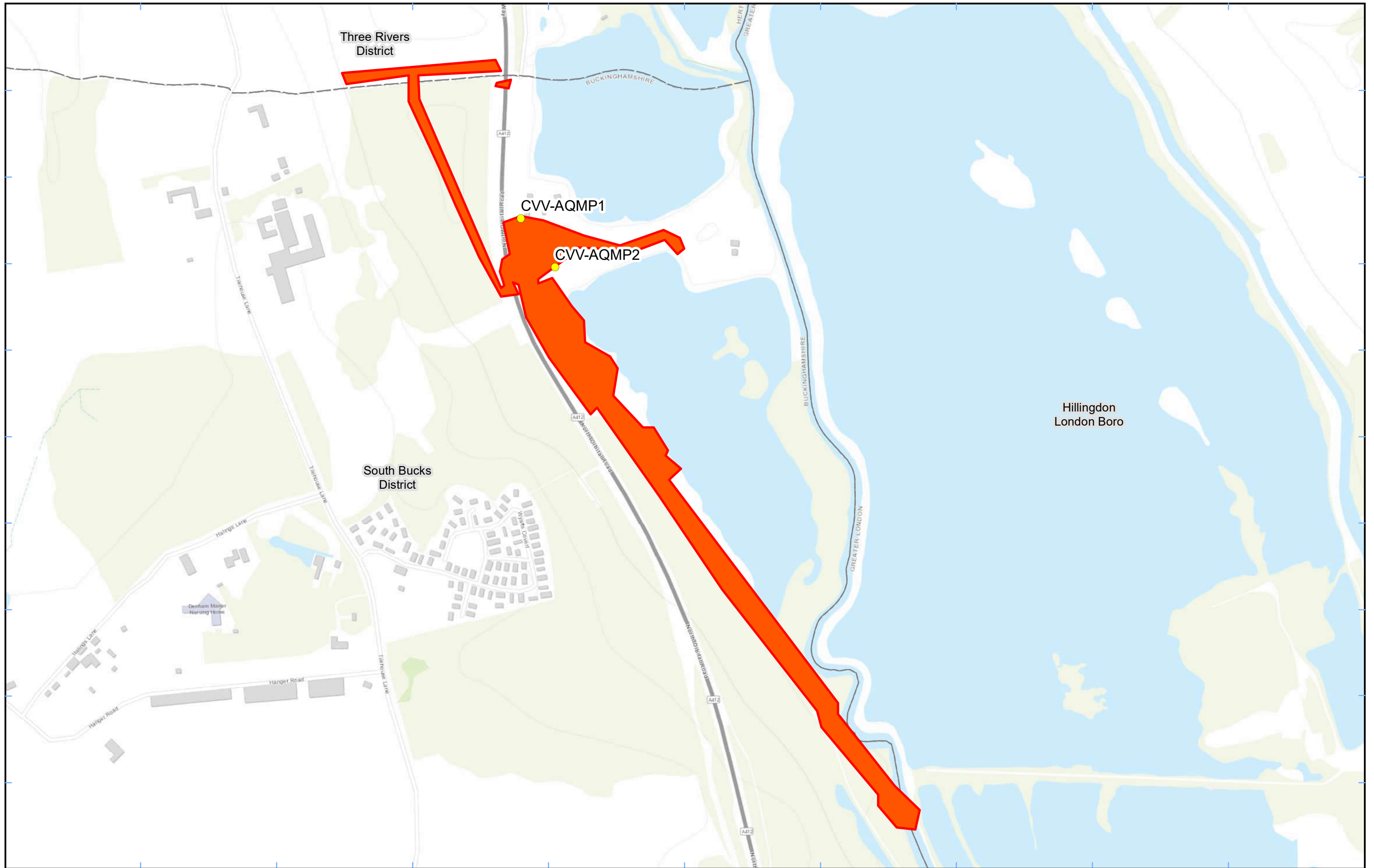
Legend
 Dust Monitor
 Worksite
 District Borough Unitary Boundaries

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Map Number
 Map Name
**Monitoring Locations
 In BC (Sheet 6)**
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Legend

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

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Map Number

Map Name
**Worksite and Monitoring Locations
 In BC (Sheet7)**

Buckinghamshire County

Map Name
**Worksite and Monitoring Locations
 In BC (Sheet7)**


Buckinghamshire County



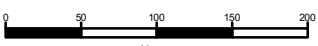
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Metres

Date: 22/02/22

Appendix B – Dust Monitoring Results

Table 2: 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/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 (%)
CVW-AQMP1	503612, 189846	On the north boundary of LTP1	M	Yes	Yes	6.6	1.0	33.0	0	99.7
CVW-AQMP2	503662, 189775	On the south boundary of LTP1	M	Yes	Yes	6.8	1.0	28.0	0	98.4
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	M	Yes	Yes	5.7	1.0	21.0	0	99.7
CHStP-AQMP2	499951, 193282	On the western boundary of the site	M	Yes	Yes	6.4	1.0	31.0	0	99.7
AMER-AQMP1	495367, 196722	On the north-eastern boundary of Amersham	M	Yes	Yes	7.5	1.0	64.0	0	98.4
AMER-AQMP2	495263, 196590	On the south-western boundary of Amersham	M	Yes	Yes	6.3	1.0	31.0	0	98.4
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	M	Yes	Yes	6.8	1.0	34.0	0	42.2
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	M	Yes	Yes	5.9	1.0	24.0	0	99.7
LMS-AQMP1	493190, 198848	On the south-west of the site	M	Yes	Yes	6.4	1.0	29.0	0	99.6
LMS-AQMP2	493407, 198731	On the south-east of the site	M	Yes	Yes	6.4	1.0	25.0	0	83.7

CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	M	Yes	Yes	6.1	1.0	39.0	0	99.9
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	M	Yes	Yes	5.6	1.0	28.0	0	99.7
NP-AQMP1	490069, 202008	North Portal Site Entrance	M	Yes	Yes	5.7	1.0	28.0	0	99.7
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	M	Yes	Yes	6.0	1.0	30.0	0	81.0
School End - Dust	463666, 230049	School End, Chetwode	M	Yes	Yes	5.7	1.0	27.0	0	99.7
Rosehill Farm - Dust	464368, 228939	Rosehill Farm, Chetwode	M	Yes	Yes	37.7	0.5	4043.4	7	53.9
South Heath - Dust	490534, 202014	Bury Farm, South Heath	M	Yes	Yes	-	-	-	-	-
Potter Row - Dust	490075, 202502	Potter Row, South Heath	M	Yes	Yes	6.6	1.0	33.0	0	98.1
Grimms Ditch - Dust	489135, 203468	Leather Lane, The Lee, South Heath	M	Yes	Yes	6.5	1.0	26.0	0	18.5
Hunts Green - Dust	489511, 203611	The Lee, South Heath	M	Yes	Yes	5.7	1.0	30.0	0	99.6
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	M	Yes	Yes	5.5	1.0	23.0	0	98.9
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	M	Yes	Yes	6.7	1.0	144.0	0	91.0
Meadoway - Dust	479803, 212178	Aylesbury, Buckinghamshire	M	Yes	Yes	7.9	1.0	162.0	0	99.5
Oat Close - Dust	481237, 211384	Oat Close, Bishopstone, Aylesbury	M	Yes	Yes	6.0	1.0	33.0	0	99.2
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	M	Yes	Yes	5.5	1.0	31.0	0	96.0
Chetwode/Hermitage - Dust	463936, 229521	Hermitage, Chetwode	M	Yes	Yes	6.8	1.0	27.0	0	34.8
Glebe House - Dust	480475, 212560	A418 Aylesbury	M	Yes	Yes	6.2	1.0	32.0	0	96.2
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	M	Yes	Yes	5.5	1.0	26.0	0	97.6

FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	M	Yes	Yes	5.9	1.0	34.0	0	99.3
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	M	Yes	Yes	6.0	1.0	31.0	0	95.4
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	M	Yes	Yes	6.0	1.0	32.0	0	99.2
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	M	Yes	Yes	5.8	1.0	31.0	0	89.2
Bacombe Lane - Dust	486528 , 207217	Bacombe Lane, Wendover	M	Yes	Yes	5.8	1.0	64.0	0	93.8
SDVC - Dust	487522, 206043	Small Dean Viaduct, London Road	M	Yes	Yes	6.6	1.0	42.0	0	96.6
Station Road - Dust	474068, 219307	Station Road, Quainton	M	Yes	Yes	6.1	1.0	30.0	0	99.6
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	M	Yes	Yes	6.2	1.0	32.0	0	97.6
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	M	Yes	Yes	5.6	1.0	34.0	0	99.3
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	M	Yes	Yes	6.0	1.0	31.0	0	99.3

Table 3: Summary of exceedances during period (March 2023)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
Rosehill Farm - Dust	09 March 2023 17:00-17:59: 194.9 µg/m ³ 18:00-18:59: 1714.5 µg/m ³ 19:00-19:59: 4043.4 µg/m ³ 20:00-20:59: 549.5 µg/m ³ 21:00-21:59: 2319.4 µg/m ³	No works on site were undertaken at the time of the exceedances.	N/A
	29 March 2023 02:00-02:59: 1820.6 µg/m ³ 03:00-03:59: 244.9 µg/m ³	No works on site were undertaken at the time of the exceedances.	N/A

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

