

Air Quality and Dust Monitoring Monthly Report – November 2022

London Borough of Ealing



Department for Transport

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 air quality and dust monitoring undertaken in the London Borough of Ealing (LBE) during October and November 2022 respectively.
- 1.1.2 Figure 1 to Figure 4 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 phase of construction works commenced in October 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 4, include:

Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham)

- Material movements, excavation, drainage and muck away - GWML;
- Ground Reduction and Muck away - West Box;
- Site entrance tarmac works;
- Intermediate level dig, Capping beam and propping beam construction.- Station Box;
- Manhole construction – Stanford Brook Sewer; and
- Site haul roads and public roads adjacent to site cleaning with a road sweeper.

Victoria Road Crossover Box and Flat Iron Site

- Groundworks;
- Piling operations;
- Shaft construction; and
- Conveyor construction.

Willesden Euro Terminal

- Excavated material spoil management; and
- Conveyor construction.

Atlas Road

- Piling operations;
- Groundworks;
- Conveyor construction; and

- Tunnel entrance construction.

Green Park Way Vent Shaft

- Groundworks;
- Piling operations;
- Vent shaft construction; and
- Materials management.

Mandeville Road Vent Shaft

- Groundworks;
- Piling operations; and
- Materials management.

Westgate Vent Shaft

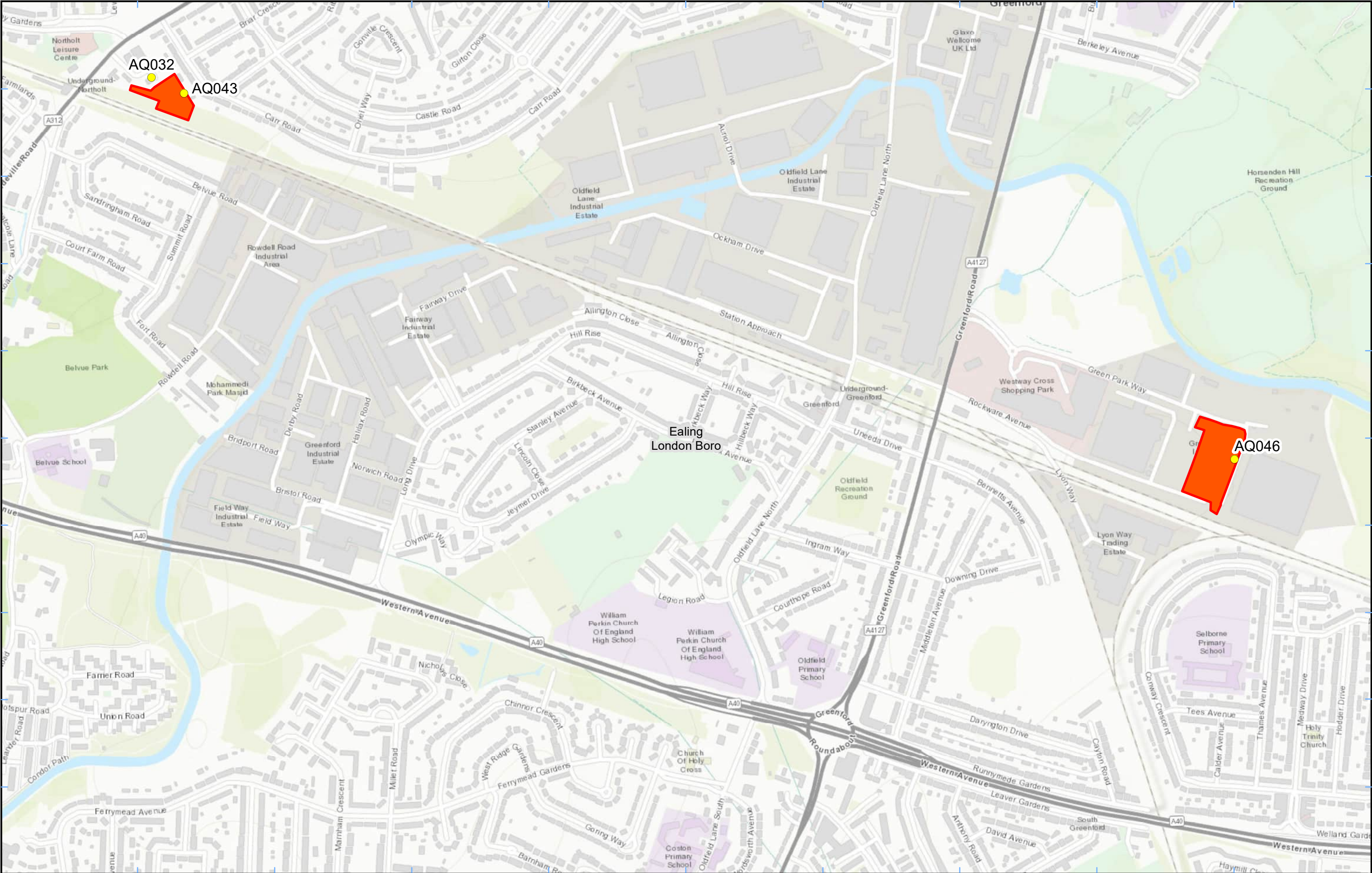
- Groundworks;
- Piling operations;
- Vent shaft construction; and
- Materials management.

- 1.1.5 Fifteen (15) dust monitors were 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, Figure 5. 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 Dust trigger alerts were recorded during the monitoring period (November 2022) and are reported in Appendix B, Table 2.
- 1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at ten (10) locations around highways within the LBE as part of the management of air quality where significant effects occur as a result of the scheme.
- 1.1.10 Diffusion tube monitoring results are as provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values were recorded during the monitoring period.

- 1.1.11 NO₂ monitoring locations and results are presented in Appendix C, Table 3, together with the 2022 running mean.
- 1.1.12 No (0) complaints were received during the reporting period.

Appendix A – Worksites and Monitoring Locations

Figure 1 to 4: Worksites and monitoring locations within the LBE



Legend

Dust Monitor District Borough Unitary Boundaries

Worksite

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Map Number

Map Name

**Worksite and Monitoring Locations
In LBE (Sheet 1)**

London Borough of Ealing



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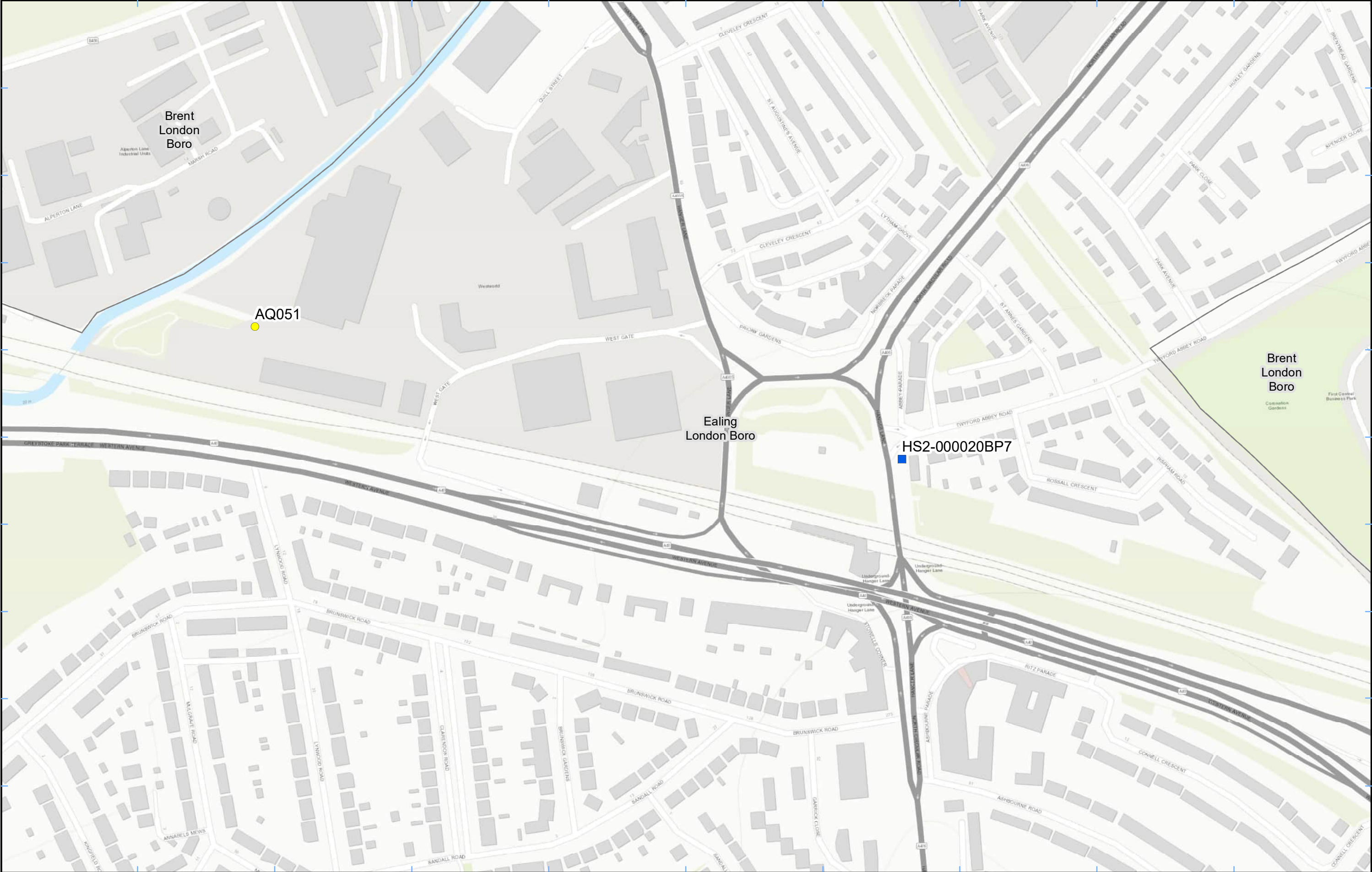
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Date: 26/04/22



- Legend**
-  Diffusion Tube
 -  Dust Monitor
 -  District Borough Unitary Boundaries

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Map Number

Map Name

**Monitoring Locations
In LBE (Sheet 2)**

London Borough of Ealing

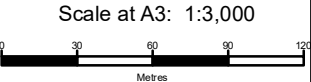


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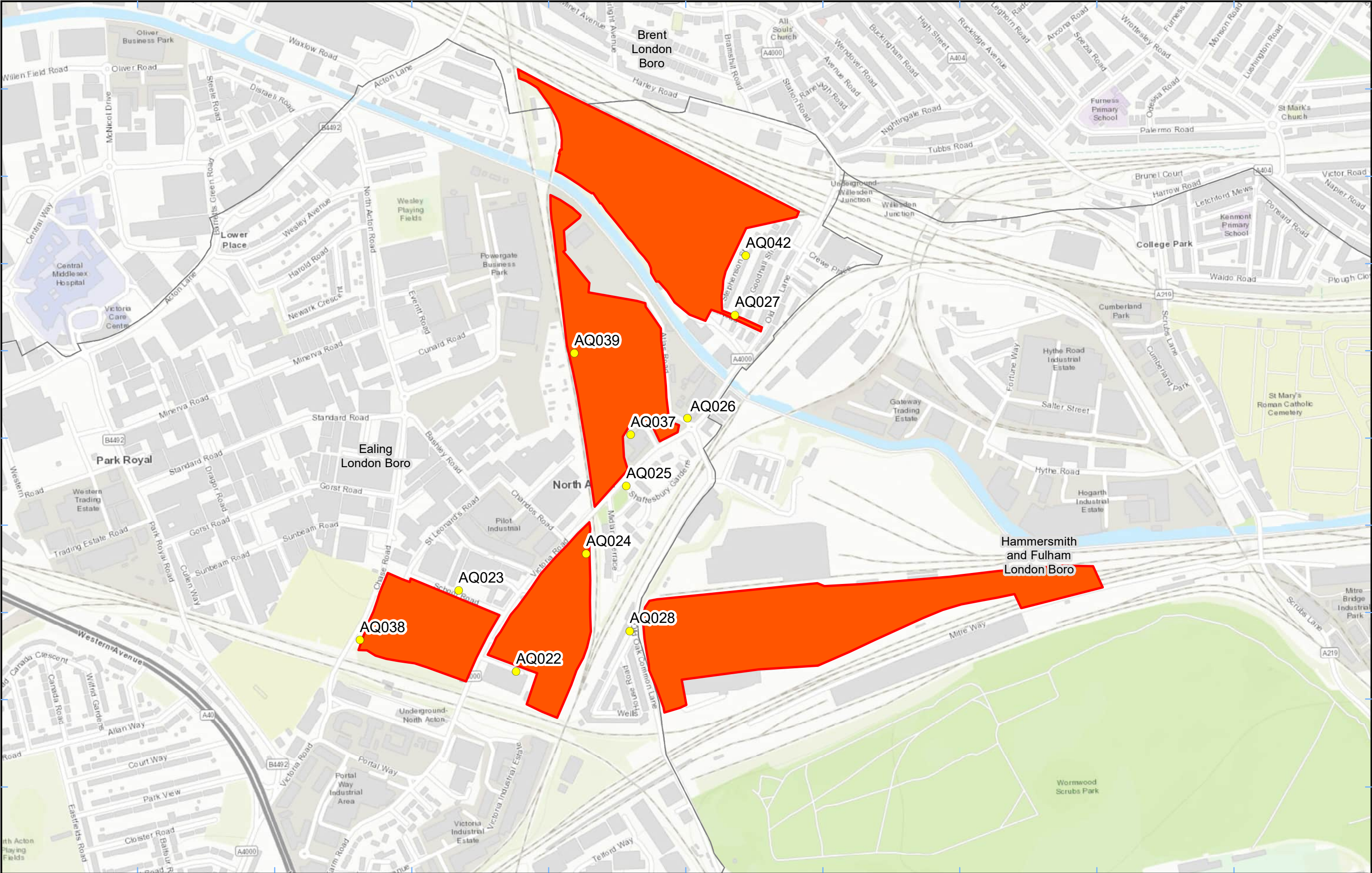
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Legend

Dust Monitor

District Borough Unitary Boundaries

Worksite

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Map Number

Map Name

Worksite and Monitoring Locations
In LBE (Sheet 3)

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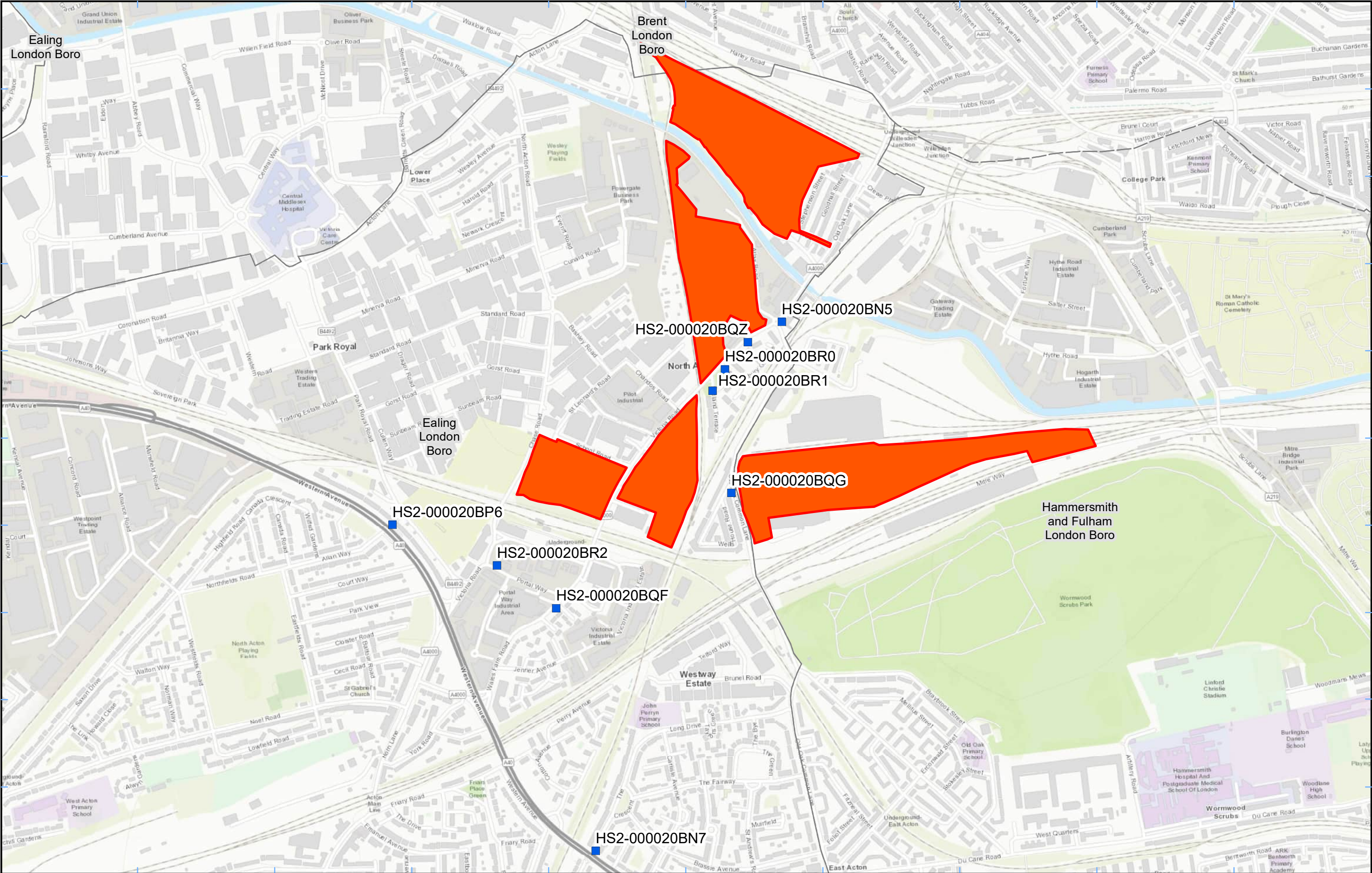
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Date: 23/06/22



Legend

Diffusion Tube

District Borough Unitary Boundaries

Worksite

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Map Number

Map Name

**Worksite and Monitoring Locations
In LBE (Sheet 4)**

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Date: 28/04/22

Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and November 2022 results

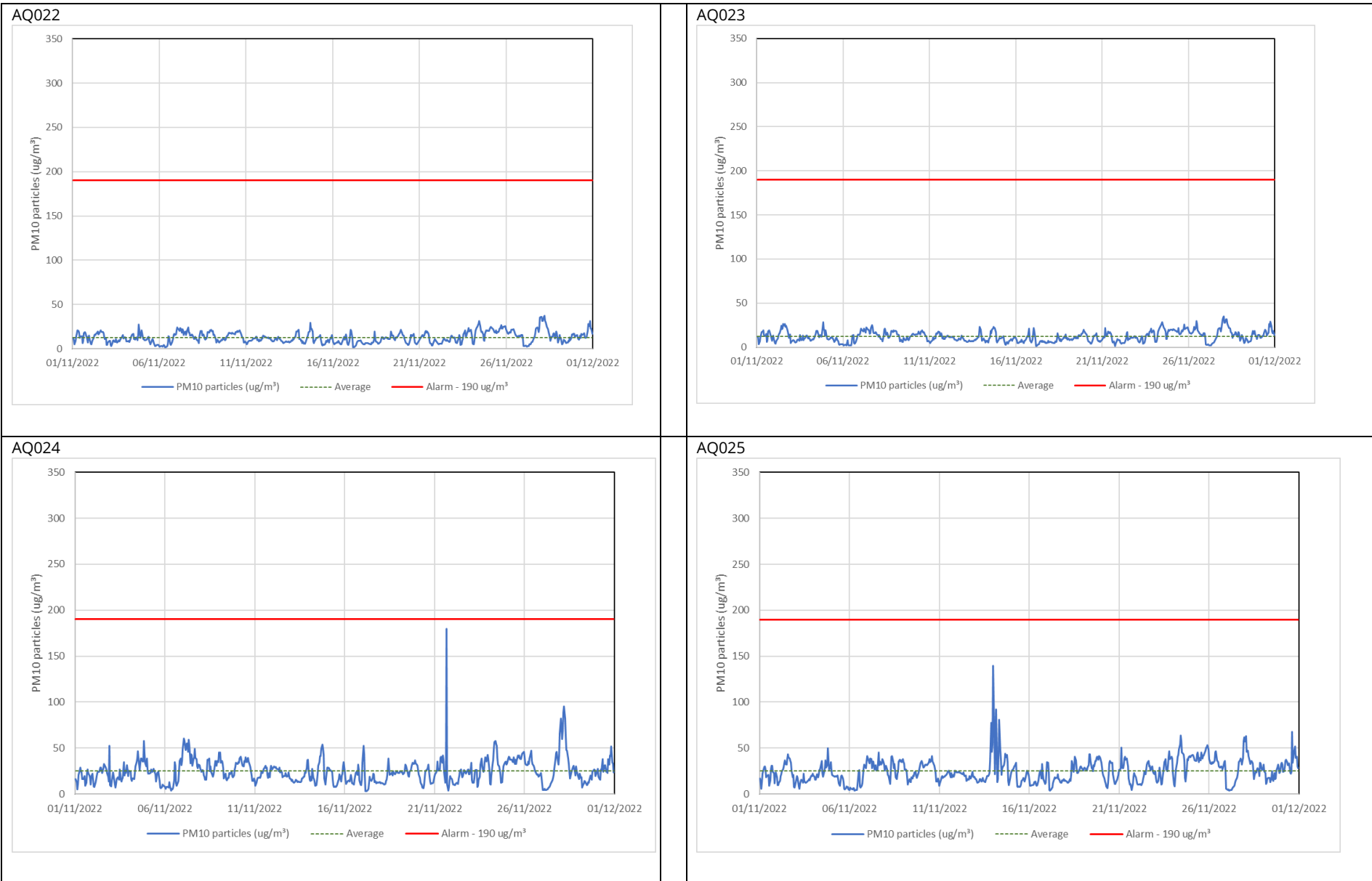
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture
AQ022	521072, 181985	Boden House	M	Yes	N	12.8	1.4	37.1	0	100.0
AQ023	520956, 182149	School Road	M	Yes	N	12.2	1.3	35.1	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	24.8	3.0	179.7	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	25.1	3.5	139.4	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	12.2	1.2	47.4	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	17.7	2.1	207.7	2	100.0
AQ028	521302, 182067	Wells House Road	M	Yes	N	20.5	2.7	130.2	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	14.0	1.4	76.1	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	15.5	2.0	90.3	0	100.0
AQ038	520756, 182049	Chase Road	M	Yes	N	14.2	1.4	400.6	3	100.0
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	14.4	2.9	43.8	0	100.0
AQ042	521537, 182826	Stephenson Road	M	Yes	N	15.1	1.8	71.8	0	100.0
AQ043	513468, 184504	Mandeville	M	Yes	N	13.0	1.4	68.1	0	98.9

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
		Road								
AQ046	515593, 183764	Green Park Way	M	Yes	N	12.9	1.4	54.5	0	100.0
AQ051	51.531688, -0.300934	Westgate	M	Yes	N	8.0	1.0	53.6	0	100.0

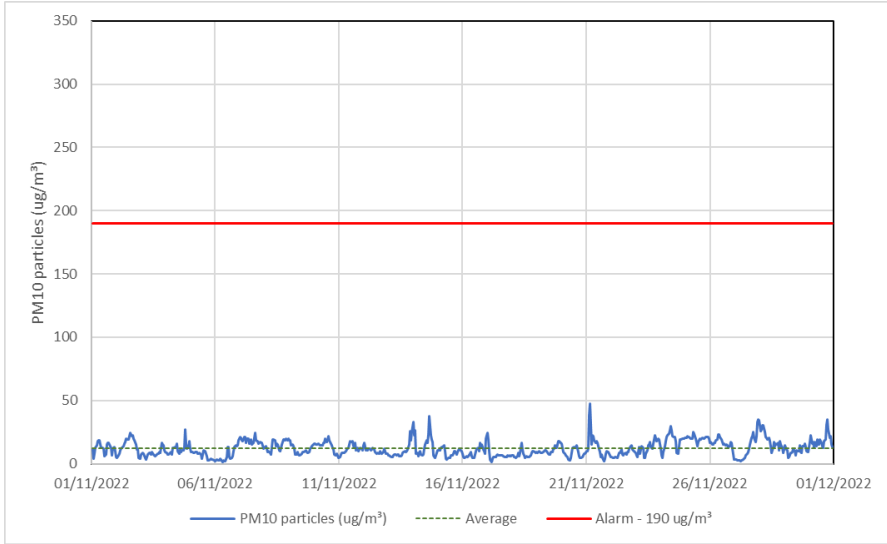
Table 2: Summary of exceedances of trigger level in November 2022

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ038	05/11/2022 15:01 – 16:00; 400.6 µg/m ³ 16:01 – 17:00; 227.6 µg/m ³	At the time of the first trigger alert the site was shut, as was the adjacent utilities site on Chase Road. The triggers were isolated so they may have been caused by a tiny amount of dislodged debris in the inlet.	n/a
AQ038	09/11/2022 16:00 – 17:00; 238.9 µg/m ³		
AQ027	12/11/2022 07:00 – 08:00; 207.69 µg/m ³	The trigger was received during the early hours of the morning when the site was shut no activities were taking place and weather conditions were damp/ wet / high humidity. Triggers are considered to be associated with high moisture content in the air. No similar spikes were observed at the same time from AQ042 on the same site boundary.	Monitoring data will continue to be reviewed as the assumed wetter weeks, and months ahead continue.
AQ027	28/11/2022 06:00 – 07:00; 203.9 µg/m ³		

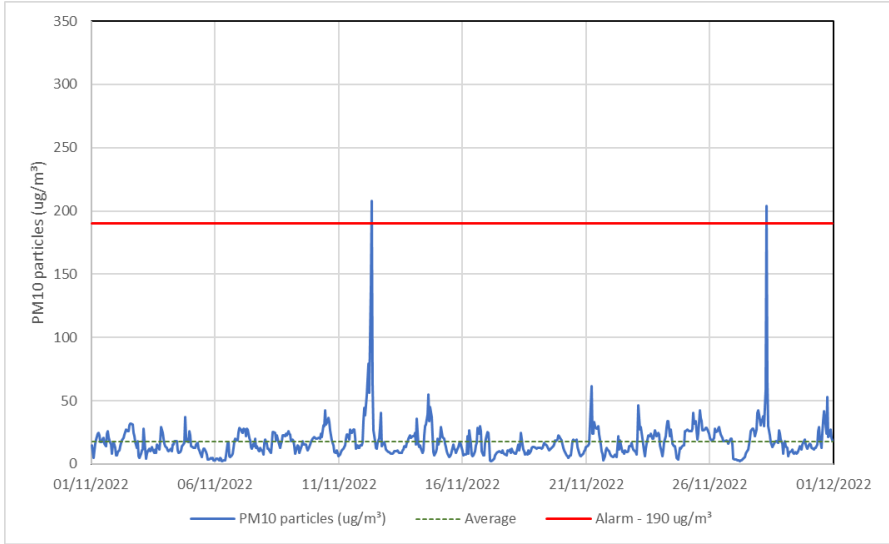
Figure 5: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors



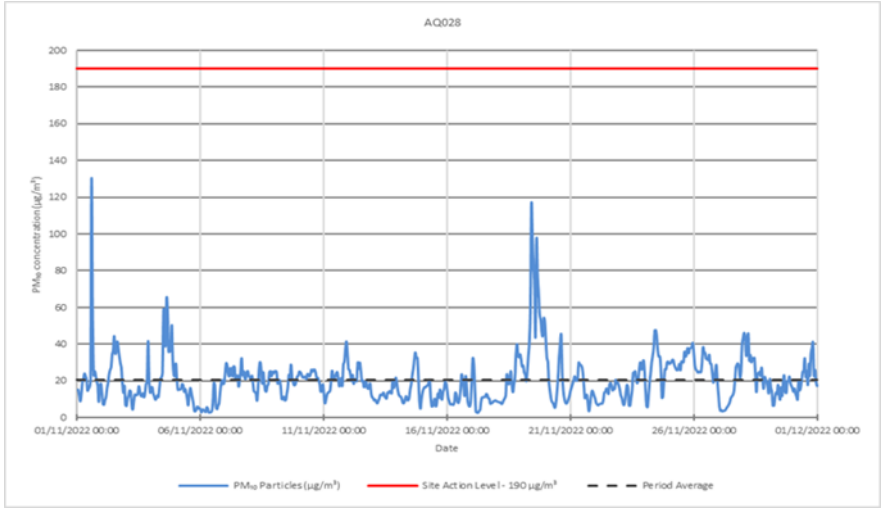
AQ026



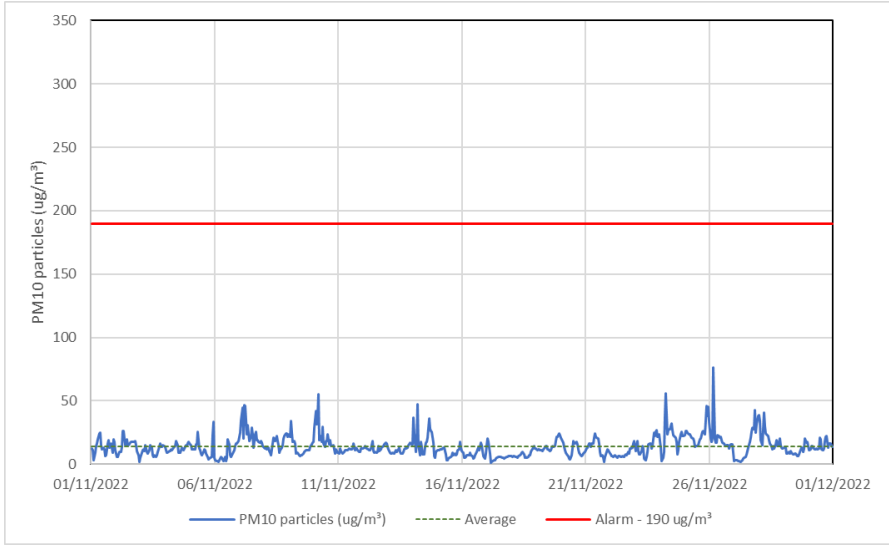
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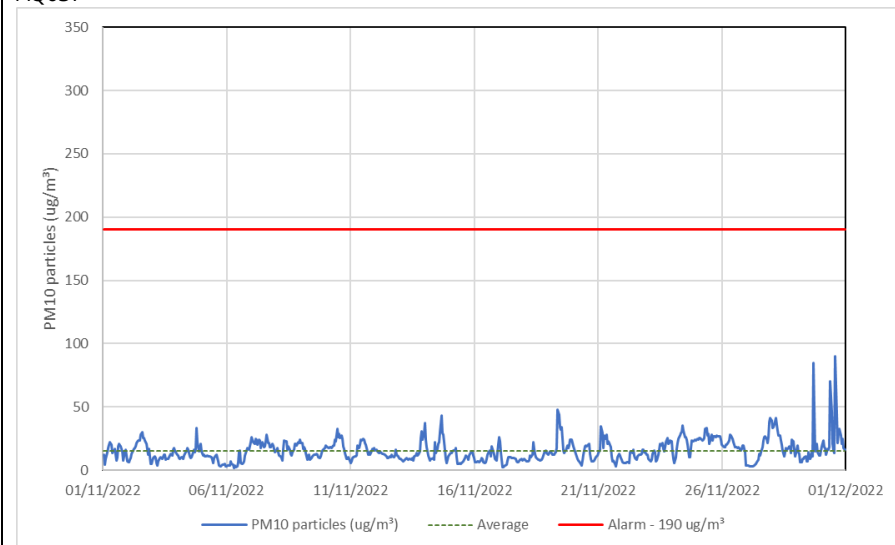
AQ028



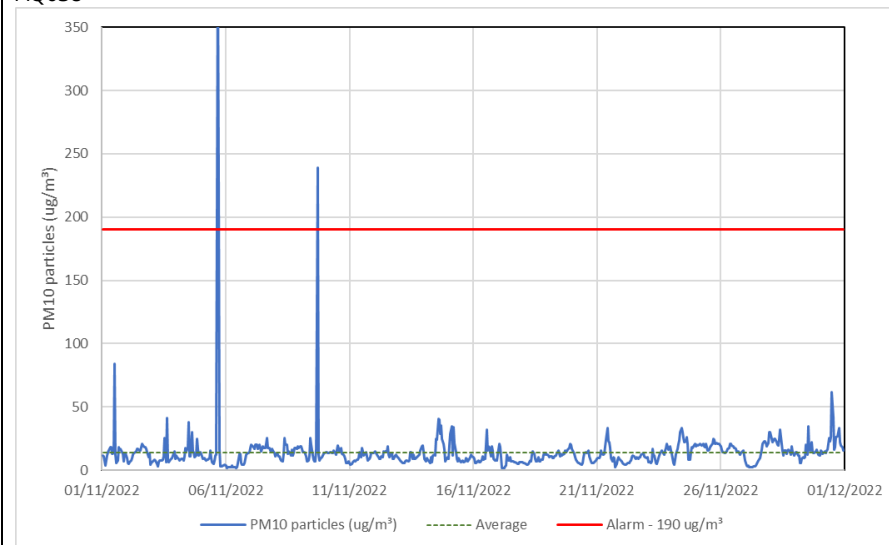
AQ032



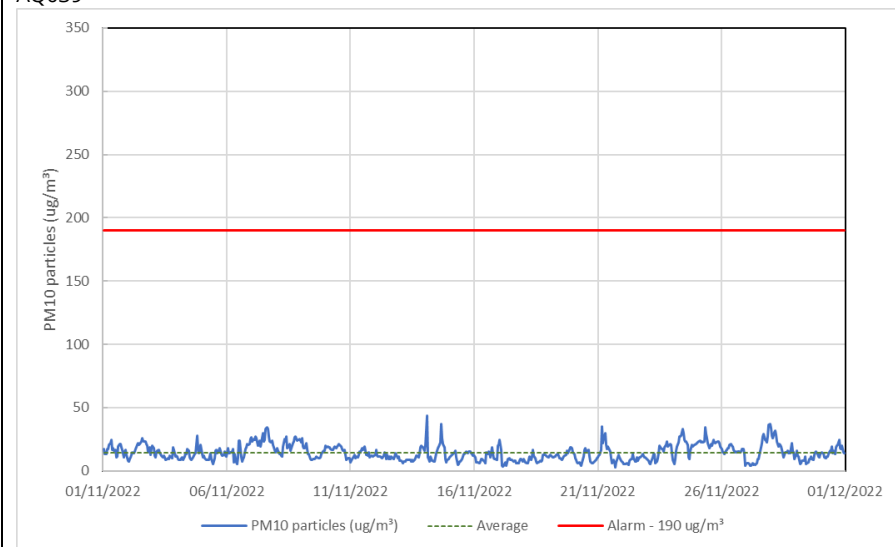
AQ037



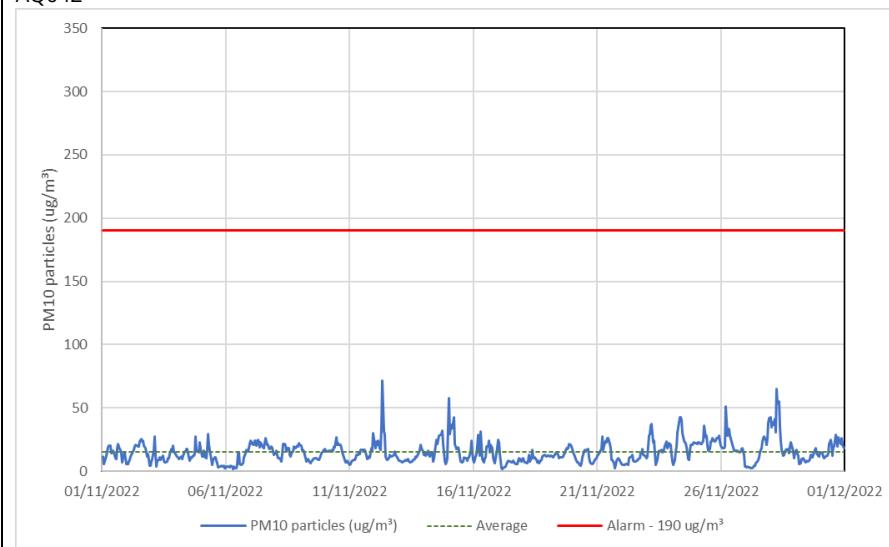
AQ038



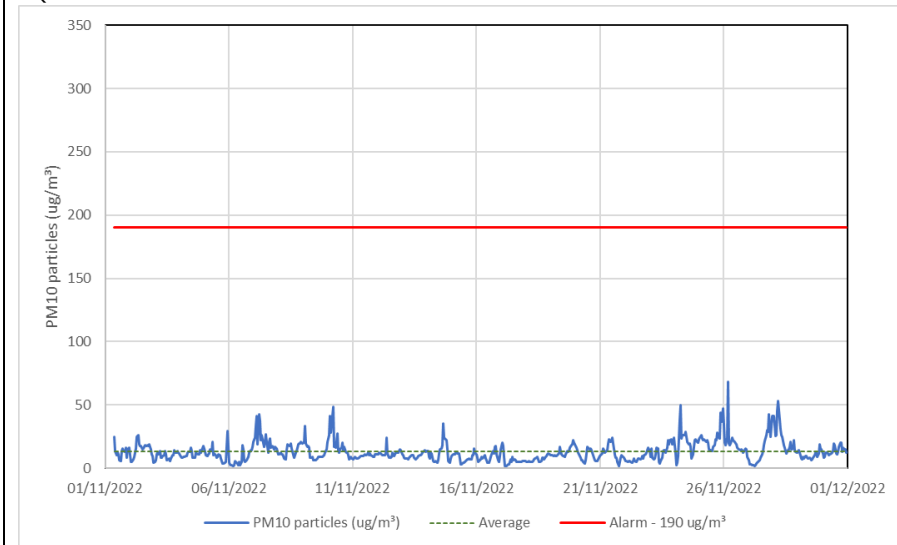
AQ039



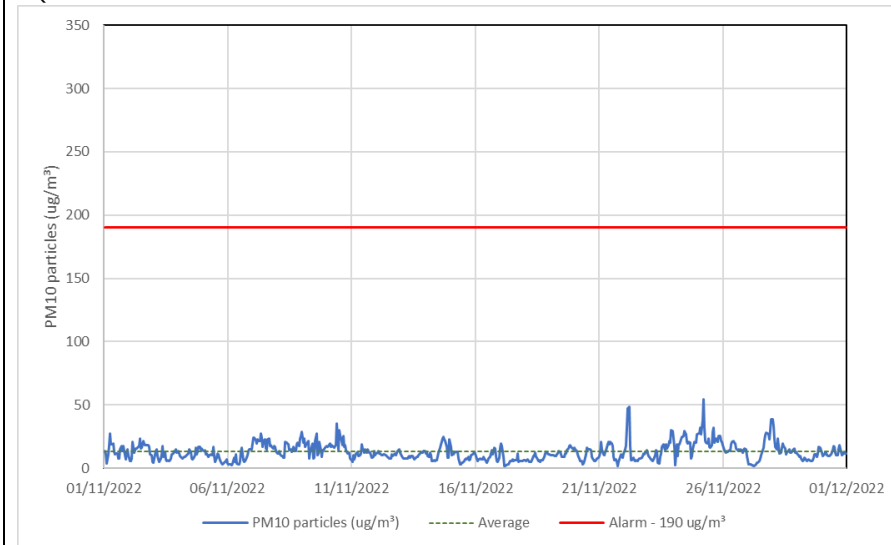
AQ042



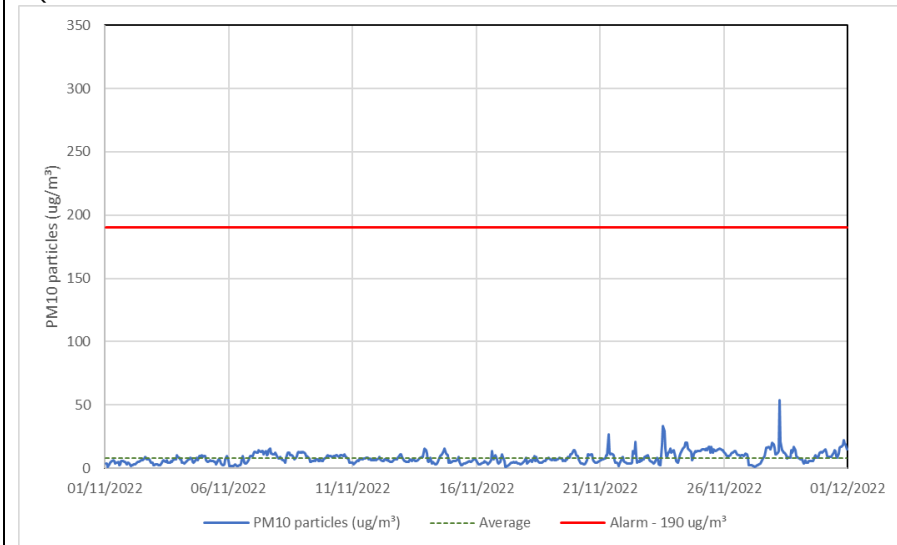
AQ043



AQ046



AQ051



Appendix C – Air Quality Monitoring Results

Table 3: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2022 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	65	52	55	39	36	37	45	51	55	53			49
HS2-000020BN7	The Approach street sign	520959, 181102	76	Tube Missing	46	41	45	39	41	38	49	Tube Missing			47
HS2-000020BQF	Conway Drive sign post	520856, 181733	66	44	62	55	No data	40	47	51	49	46			46
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	Tube Missing	38	50	37	37	33	36	38	43	45			40
HS2-000020BQZ	Lamp post on Victoria Road opposite Tudor House	521354, 182425	49	45	57	47	42	45	48	51	55	51			49
HS2-000020BR0	Sign post on Shaftesbury Gardens	521295, 182354	50	33	40	30	24	21	27	29	33	27			31
HS2-000020BR1	Lamp post on Midland Terrace	521263, 182298	43	30	38	30	21	24	24	26	33	30			30
HS2-000020BR2	Lamp post on Victoria Road outside Papa John's	520702, 181844	Tube Missing	Tube Missing	62	Tube Missing	Tube Missing	Tube Missing	Tube Missing	44	44	Tube Missing			50

¹ Note: to aid interpretation and conform with best practice, the monthly measurements in this table are reported rounded to the nearest whole number. The annual mean presented here is calculated based on laboratory data to 4 significant figures, rounded to a whole number, and therefore may differ slightly to a mean derived from averaging the rounded monthly measurements in the table.

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	63	45	50	37	38	37	40	39	48	51			45
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	87	67	65	Tube Missing	66	66	62	54	71	68			67