

## Air Quality and Dust Monitoring Monthly Report – February 2023

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 January 2023 and February 2023 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](http://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)

- Ground reduction and muck away - West Box / East Box;
- Intermediate level dig / D-wall breakdown / Excavation / Steel fixing – Station Box;
- Manhole construction – Stanford Brook Sewer;
- Site haul roads and public roads adjacent to site cleaning with a road sweeper;
- Formwork installation / concrete pour / ground reduction – Crossrail and Station Access Retaining Walls;
- Excavations – Satellite Site A / Old Oak common Lane Bridge; and
- Piling works – GWML.

**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**

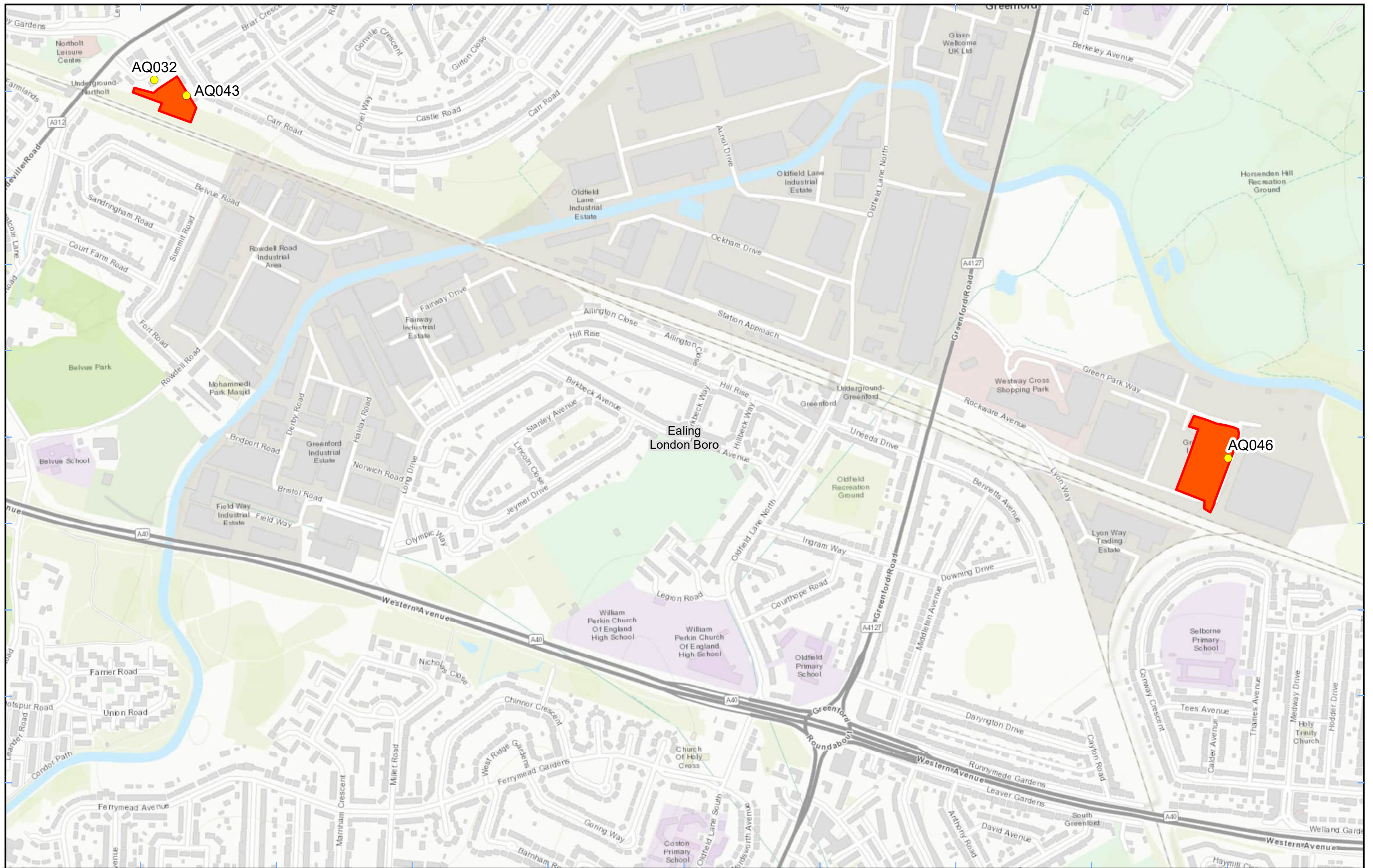
- Groundworks;
- Piling operations;
- Vent shaft construction; and
- Materials management.

- 1.1.5 Sixteen (16) 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 PM<sub>10</sub> concentrations of 190 µg/m<sup>3</sup>, 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 Two (2) dust trigger alerts were recorded during the monitoring period (February 2023) and are reported in Appendix B, Table 2.
- 1.1.9 Data capture was below 90% for monitor AQ024 in February 2023 due to a fault with monitor, which has subsequently been replaced.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) is undertaken at six (6) locations around highways within the LBE as part of the management of air quality where significant effects occur as a result of the scheme.

- 1.1.11 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.
- 1.1.12 NO<sub>2</sub> monitoring locations and results are presented in Appendix C, Table 3, together with the 2023 running mean.
- 1.1.13 There were no (0) complaints received during this reporting period.

# Appendix A – Worksites and Monitoring Locations


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



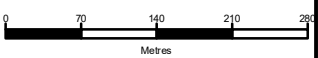
**Legend**  
 ● Dust Monitor □ District Borough Unitary Boundaries  
 ■ Worksite

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number  
 Map Name  
**Worksite and Monitoring Locations In LBE (Sheet 1)**  
 London Borough of Ealing

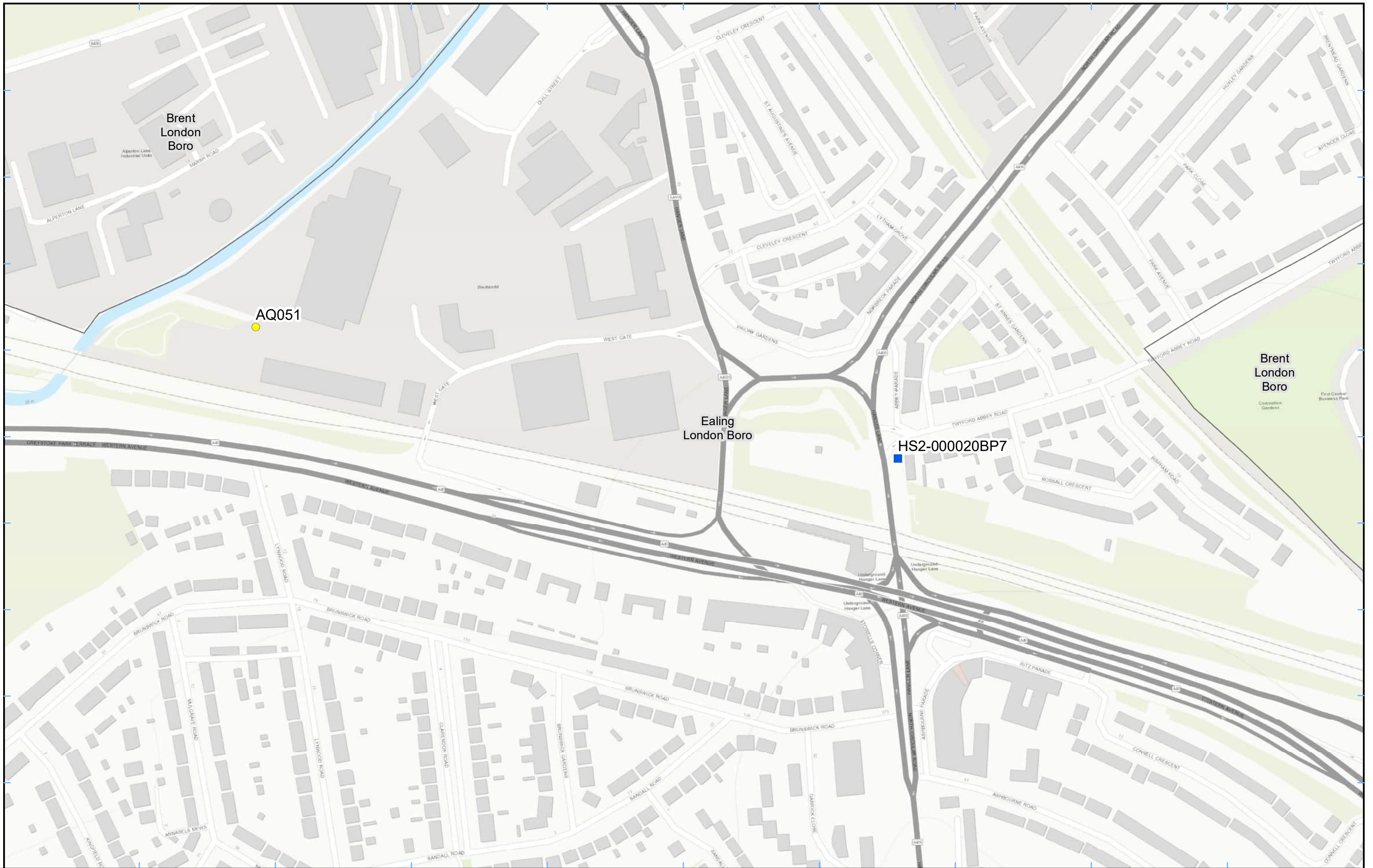

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**Legend**

- 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**



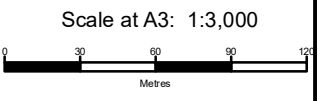
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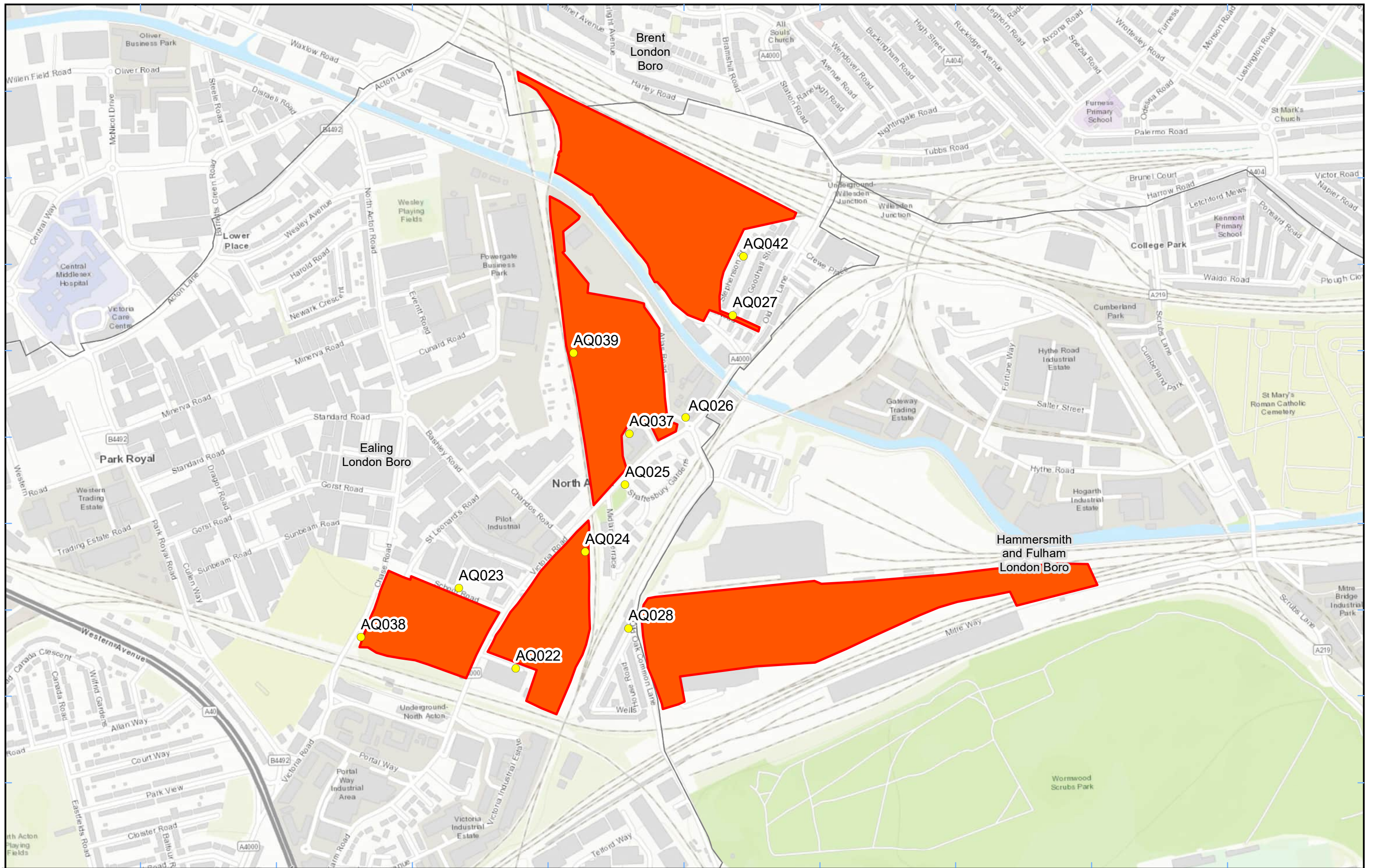
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**Legend**

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

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Map Number

Map Name  
**Worksite and Monitoring Locations  
 In LBE (Sheet 3)**

London Borough of Ealing

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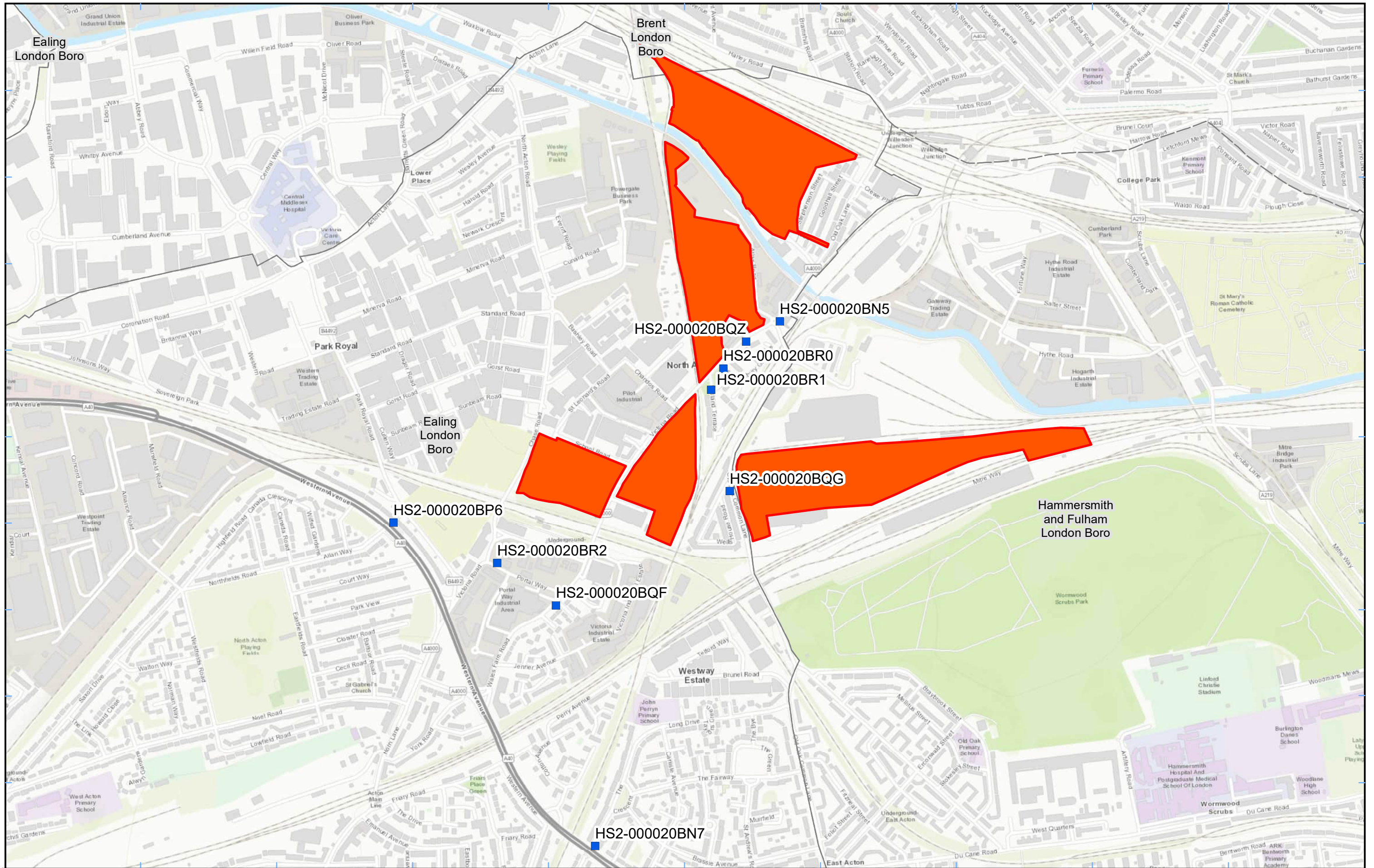
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Doc Number: Date: 23/06/22



**Legend**  
■ Diffusion Tube  District Borough Unitary Boundaries  
 Worksite

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Map Number  
 Map Name  
**Worksite and Monitoring Locations  
 In LBE (Sheet 4)**  
 London Borough of Ealing

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## Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and February 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 <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture
AQ022	521072, 181985	Boden House	M	Yes	N	13.5	1.0	63.7	0	100.0
AQ023	520956, 182149	School Road	M	Yes	N	13.3	1.2	56.3	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	21.9	1.7	144.2	0	79.4
AQ025	521295, 182360	Victoria Road	M	Yes	N	19.5	1.6	98.1	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	13.2	1.1	70.4	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	18.7	1.1	112.1	0	100.0
AQ028	521302, 182067	Wells House Road	M	Yes	N	13.2	0.9	190.8	1	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	12.8	0.8	85.6	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	15.7	1.6	68.3	0	100.0
AQ038	520756, 182049	Chase Road	M	Yes	N	18.0	0.9	94.3	0	99.1
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	13.5	1.1	50.7	0	100.0
AQ042	521537, 182826	Stephenson Road	M	Yes	N	17.4	1.0	100.9	0	98.8

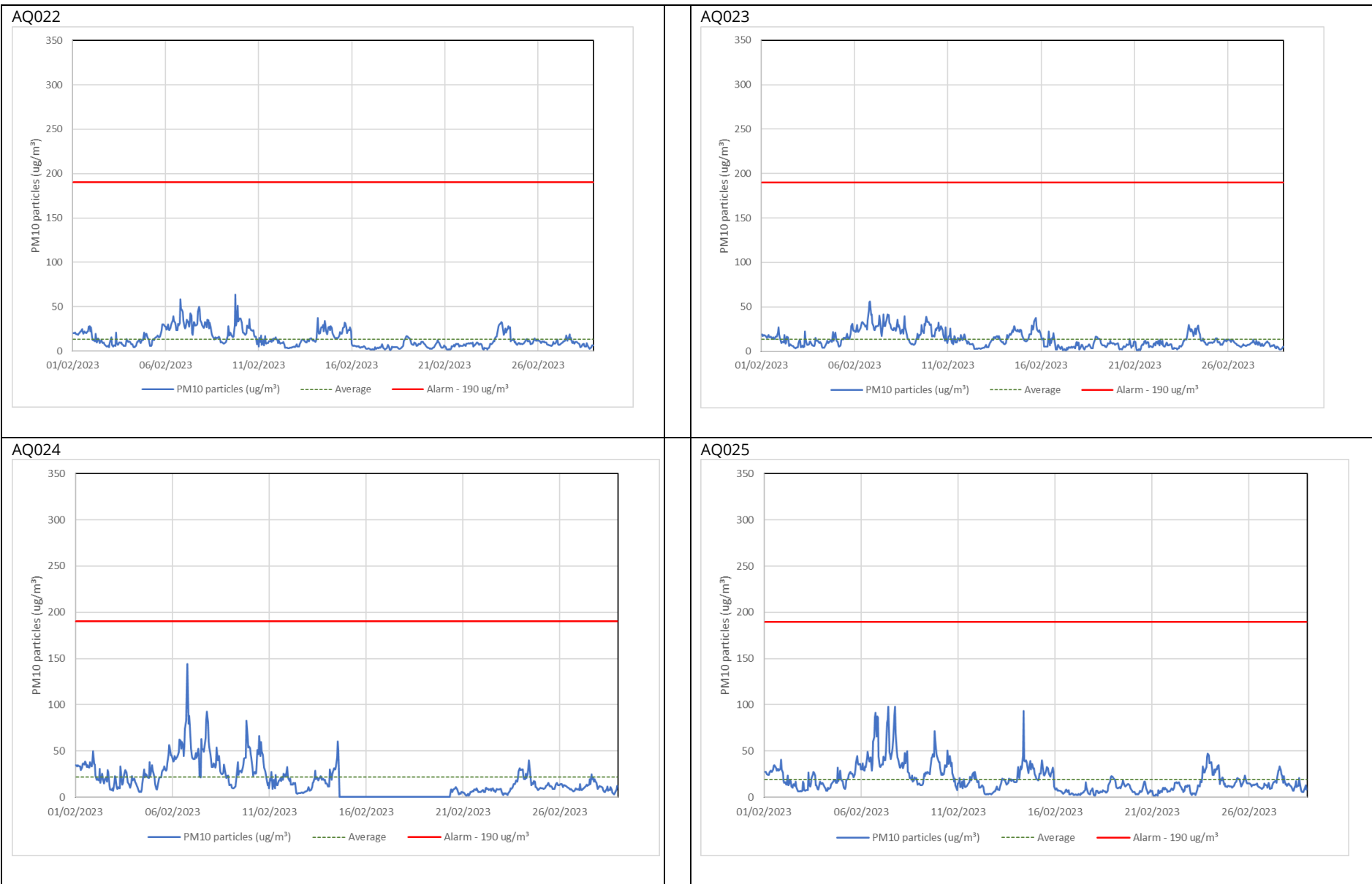
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture
AQ043	513468, 184504	Mandeville Road	M	Yes	N	11.6	0.7	82.0	0	100.0
AQ046	515593, 183764	Green Park Way	M	Yes	N	12.8	1.0	444.5	1	100.0
AQ051	517976, 182823	Westgate	M	Yes	N	17.8	2.1	152.7	0	100.0
AQ055	513359, 184488	Mandeville Road 2	M	Yes	N	13.9	1	98.4	0	100.0

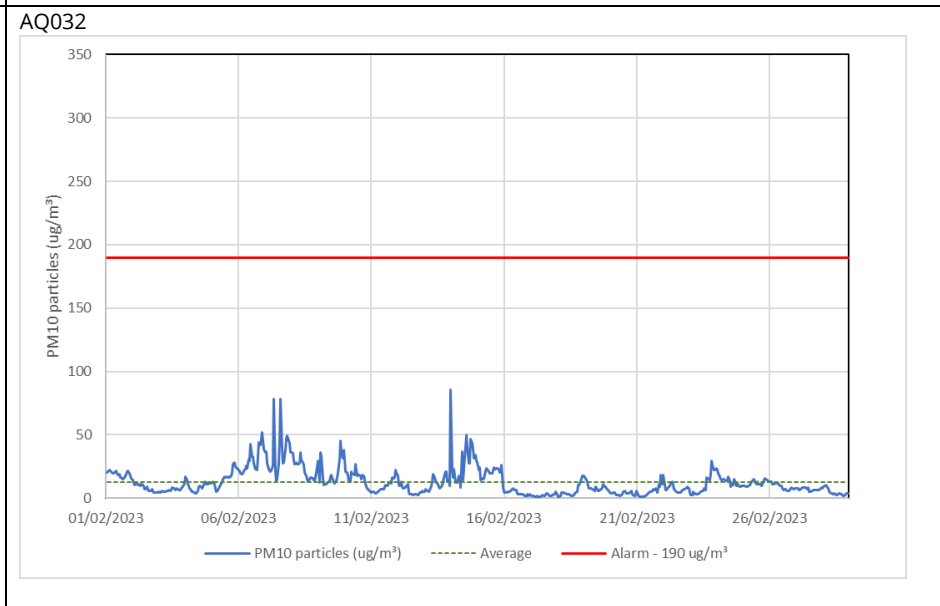
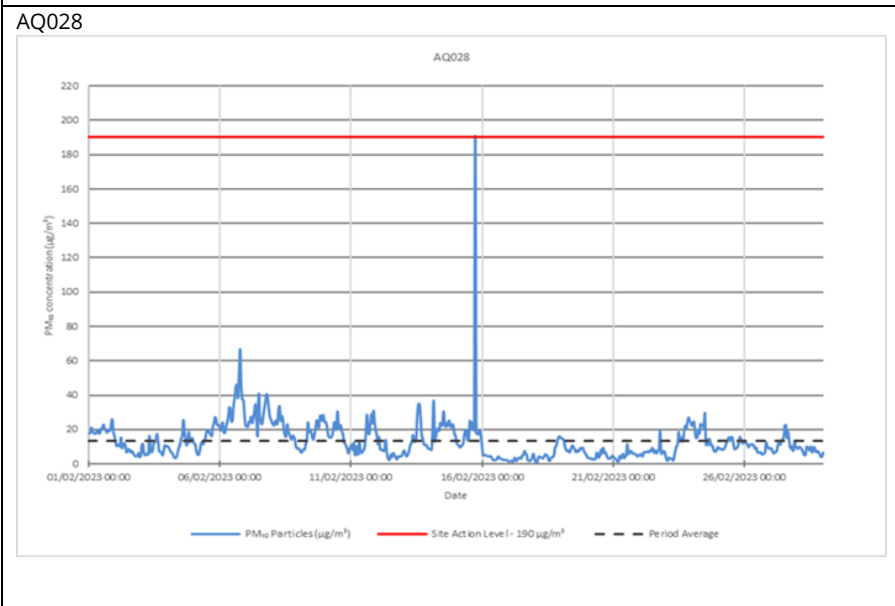
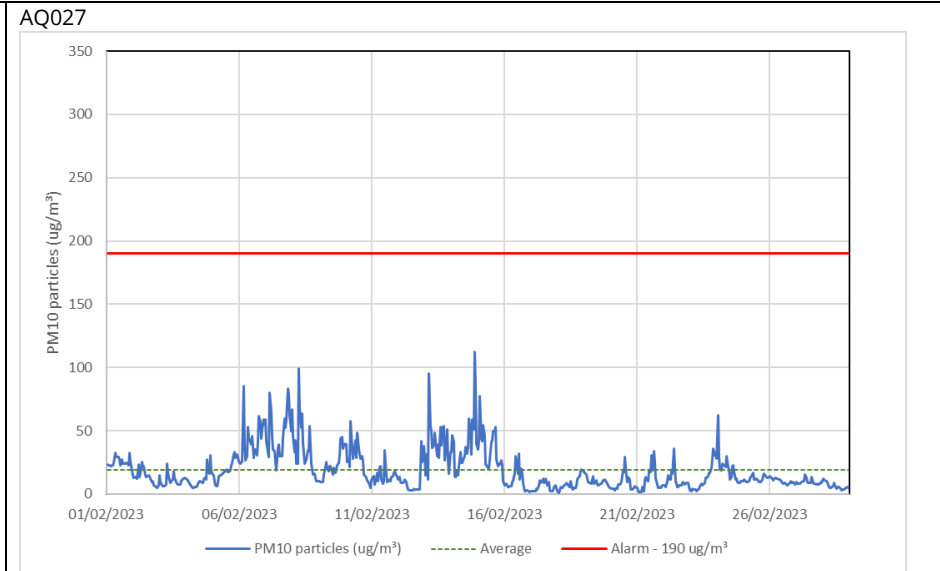
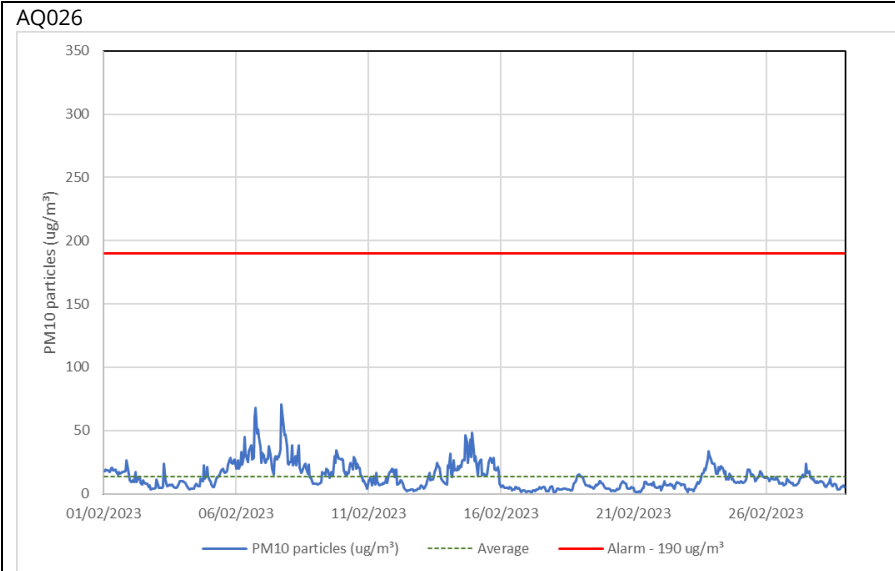
Table 2: Summary of exceedances of trigger level in February 2023

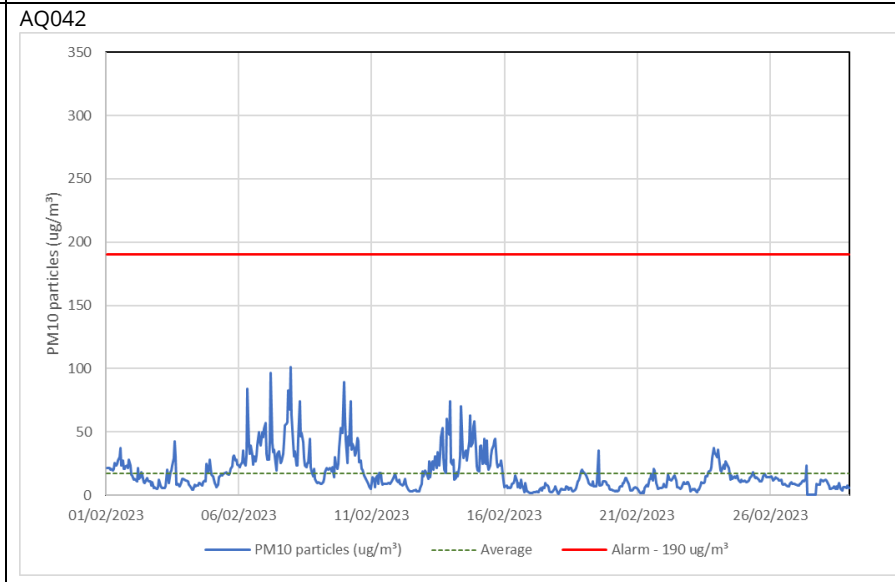
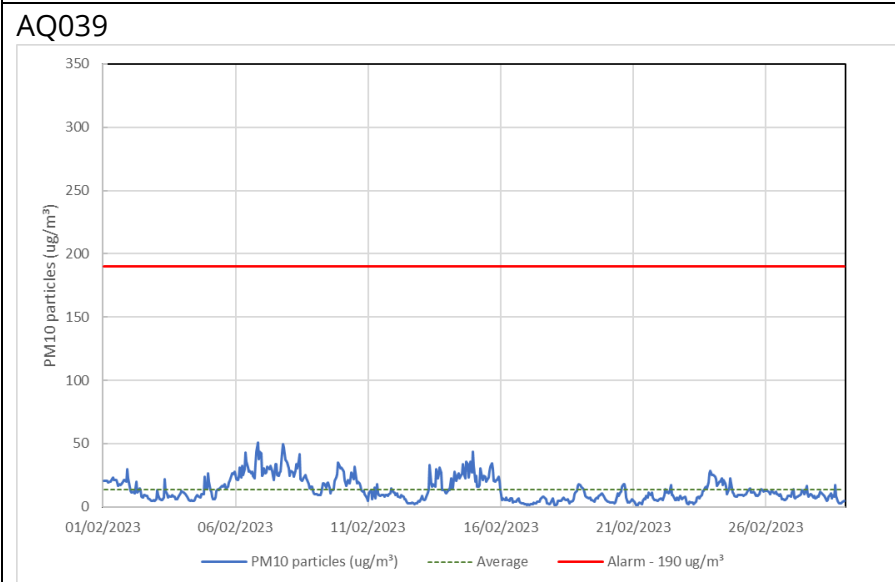
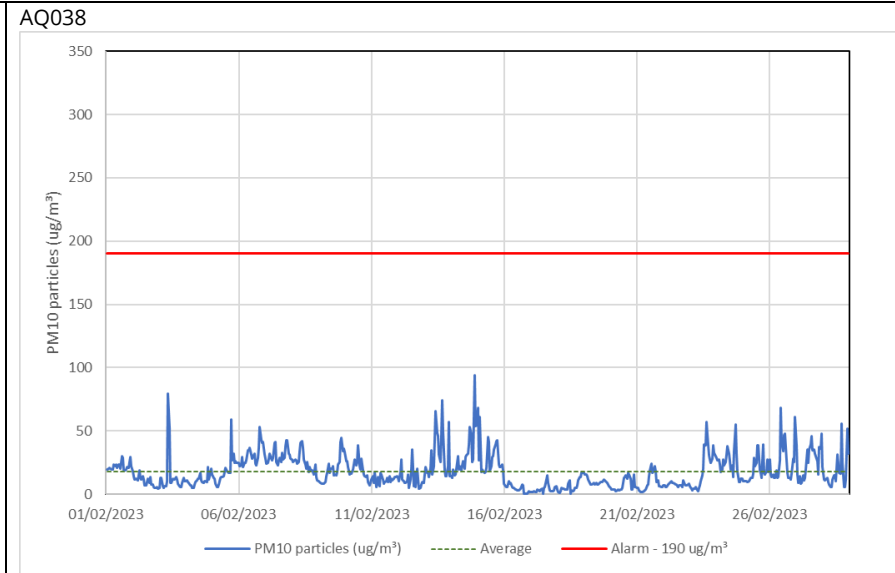
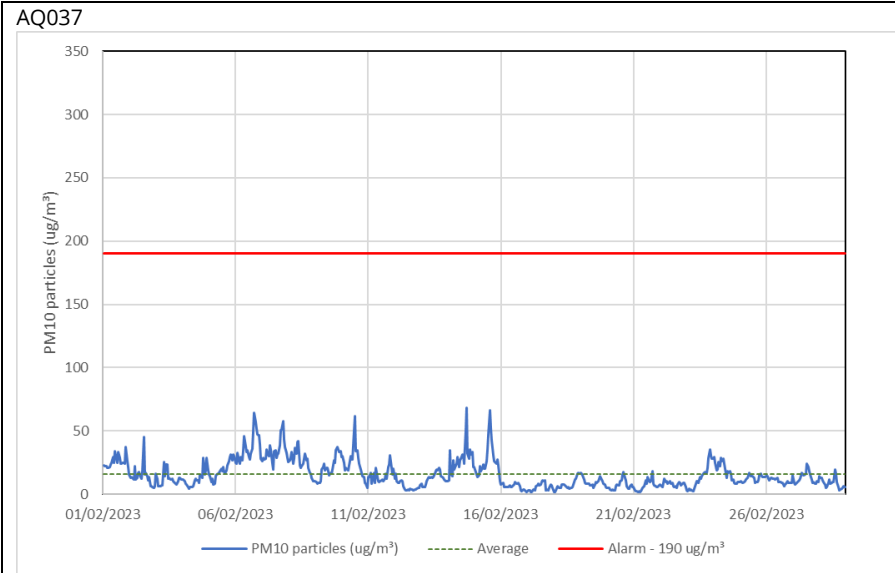
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ028	15/02/2023 17:00 – 18:00; 190.8 µg/m <sup>3</sup>	<p>London clay excavation in West Box during the day – minimal risk of dust from material movement due to nature of clay.</p> <p>There were also SAB - piling LDA work, GWML - piling CFA work, and SBS - mobilisation of BG39 and guide wall construction during the day.</p> <p>However, these works had stopped by the time of the alert, and there were no activities being undertaken on site. The cause is not known and is not likely to have been caused by site activities.</p>	<p>1200 Litre Bowsers x2 on rotation plus dust suppression additive.</p> <p>Contractors will ensure dust suppression is in use during the working hours.</p> <p>Other nearby sites were considered but were found to be too distant to have contributed to the alert.</p>
AQ046	06/02/2023 16:00 – 17:00; µg/m <sup>3</sup>	<p>At the time of the trigger alert from dust monitor (AQ046), which is located on the site hoarding eastern boundary of the Green Park Vent Shaft site, there were no dusty works being undertaken at the time of the trigger and the weather was cold and damp.</p>	n/a

		It is considered the trigger may have been caused by the low temperature and high humidity or the tiniest bit of loose debris within the monitor inlet.	
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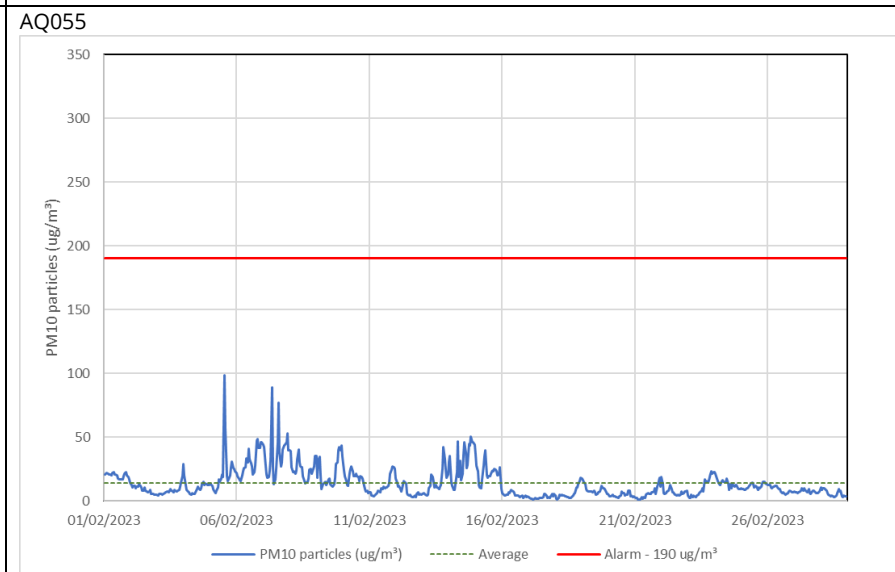
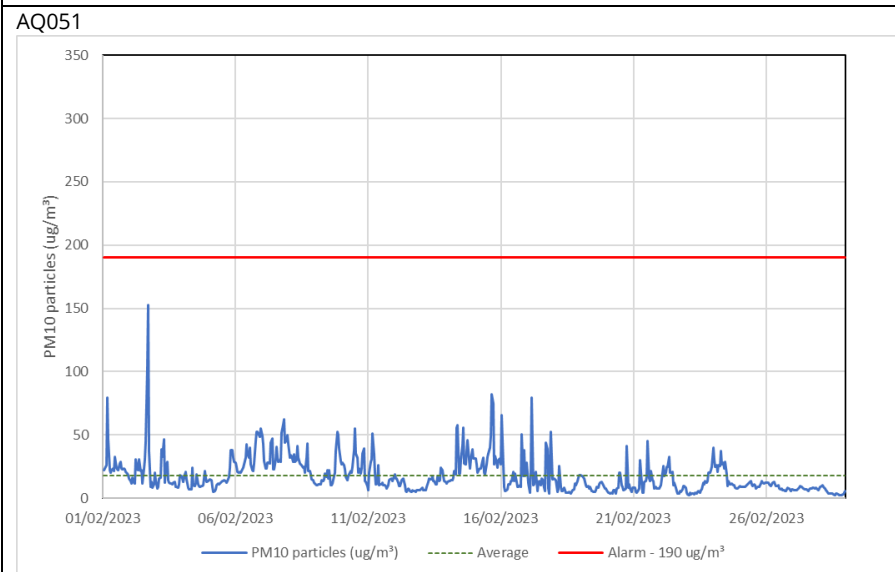
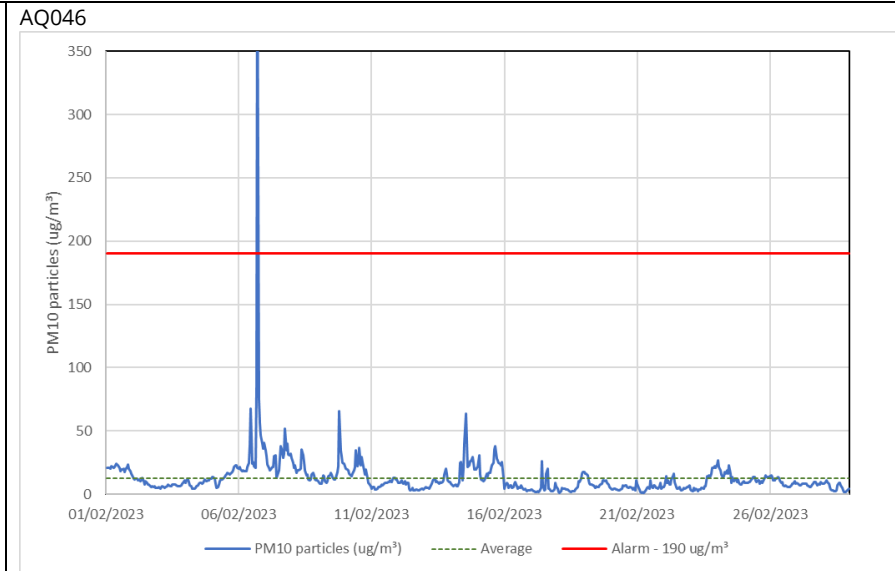
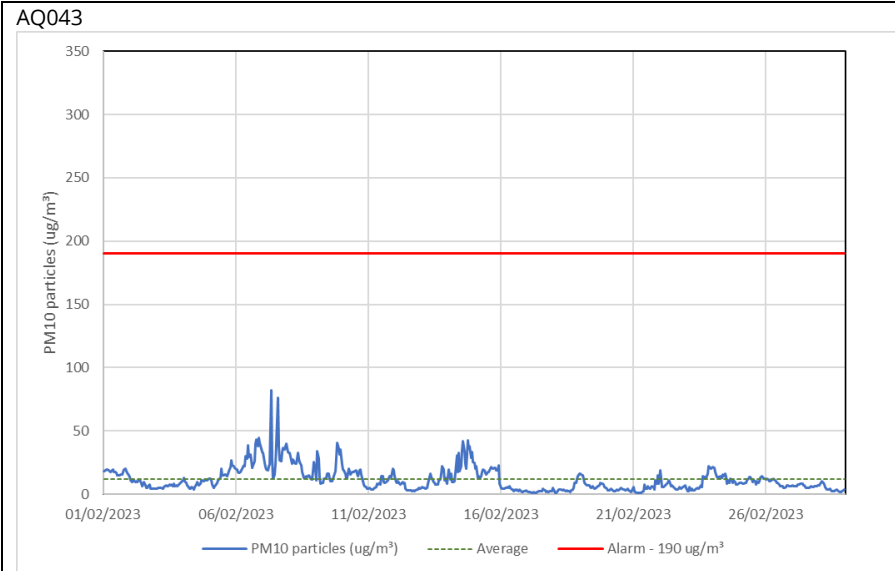
Figure 5: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitors











## Appendix C – Air Quality Monitoring Results

Table 3: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2023 (µg/m<sup>3</sup>)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	57												57
HS2-000020BN7	The Approach street sign	520959, 181102	50												50
HS2-000020BQF	Conway Drive sign post	520856, 181733	58												58
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	53												53
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	44												44
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	71												71

<sup>1</sup> 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.