

## Air Quality and Dust Monitoring Monthly Report – August 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 July and August 2022 respectively.
- 1.1.2 Figures 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:

## **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.

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

- Material movements - GWML;
- Rebar fixing, form work and shuttering;
- Drainage / utility installation;
- Site entrance works / kerb installation;
- D-wall breakdown – East;
- Capping beam construction – East Box;
- Capping beam construction / fixing rebar for propping beam and slabs – West Box;
- Breaking down of D-wall / excavation in - West Box; and
- Manhole construction / pipe jacking / tunnelling – Wormwood Scrubs

- 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 2, together with line charts of monthly data from each dust monitor, in 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 Dust trigger alerts were recorded during the monitoring period (August 2022) and are reported in Appendix B, Table 3.
- 1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) 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 NO<sub>2</sub> monitoring locations and results are presented in Appendix C, Table 4, together with the 2022 running mean.
- 1.1.12 Table 1 provides a summary of the complaint information relating to dust or air quality received during the reporting period, together with the findings of any related investigations.

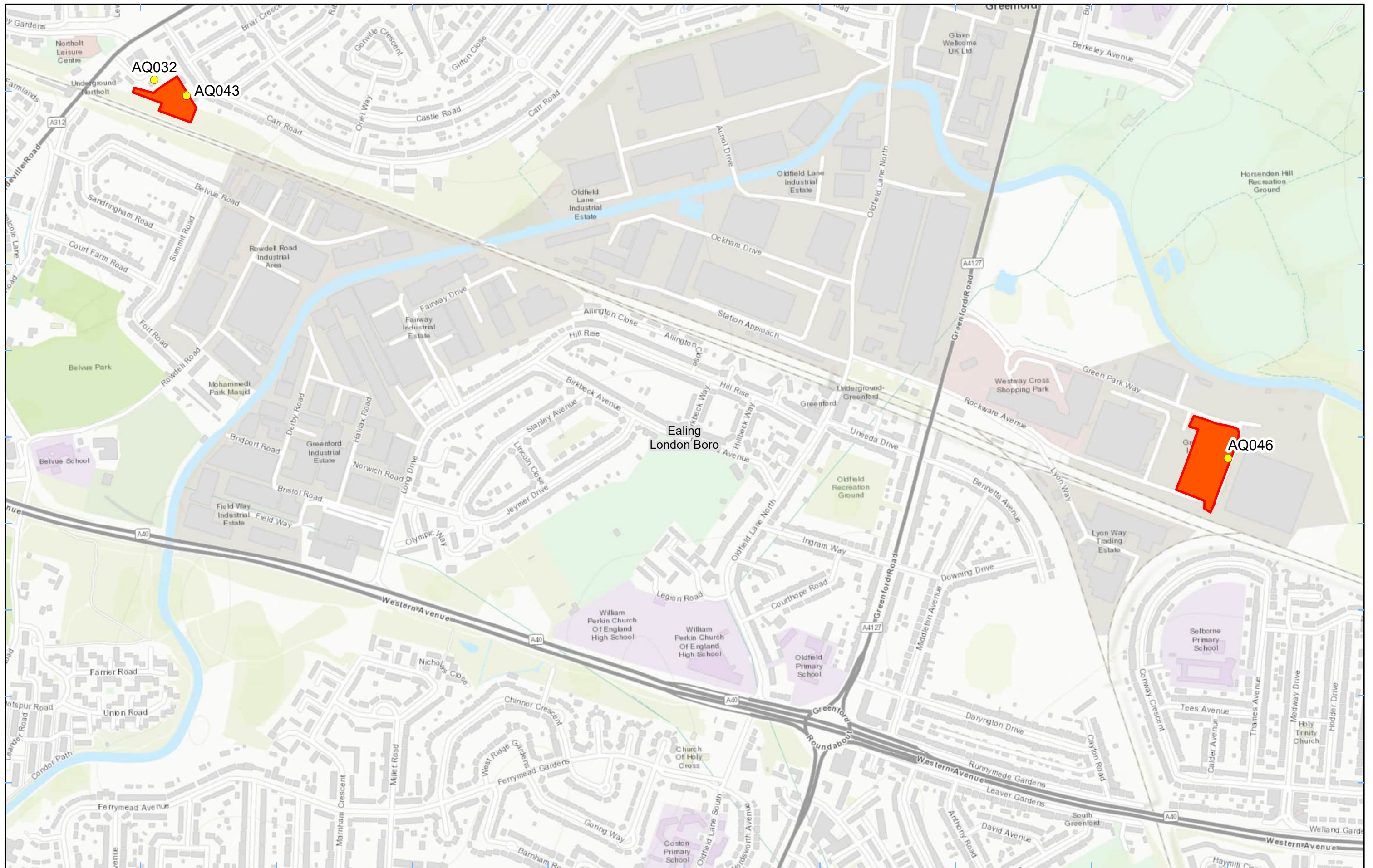
Table 1: Summary of complaints received during August 2022

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43894-C	n/a	Stakeholder & elderly father being impacted by amount of dust that is coming from site at the rear of their property.	Excavation work had been ongoing. Water cannons were being used to suppress dust across sites, in addition to localised damping down on specific operations. Noted that managing dust particularly difficult during the very dry spell. Further mitigation is being looked into.
HS2-22-43911-C	n/a	Ongoing dust pollution from Chandos Road site has impacted property and vehicles.	Construction site at Chandos Road not related to HS2 Ltd. Stakeholder referred to local authority air quality department for further assistance.

# 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

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Map Number
Map Name <b>Worksite and Monitoring Locations In LBE (Sheet 1)</b>
<b>London Borough of Ealing</b>

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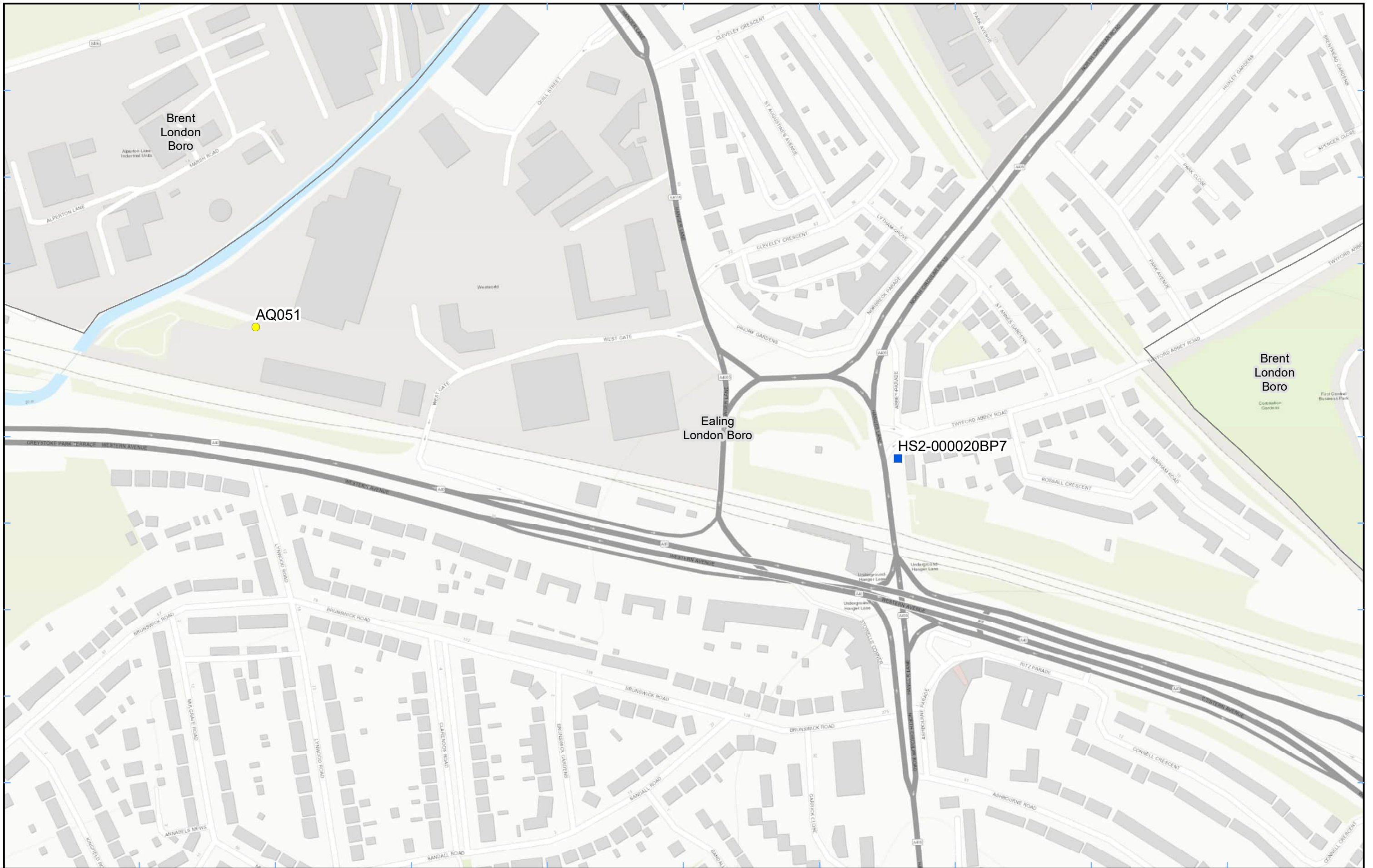
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Metres

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**

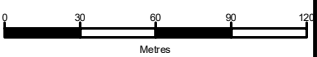


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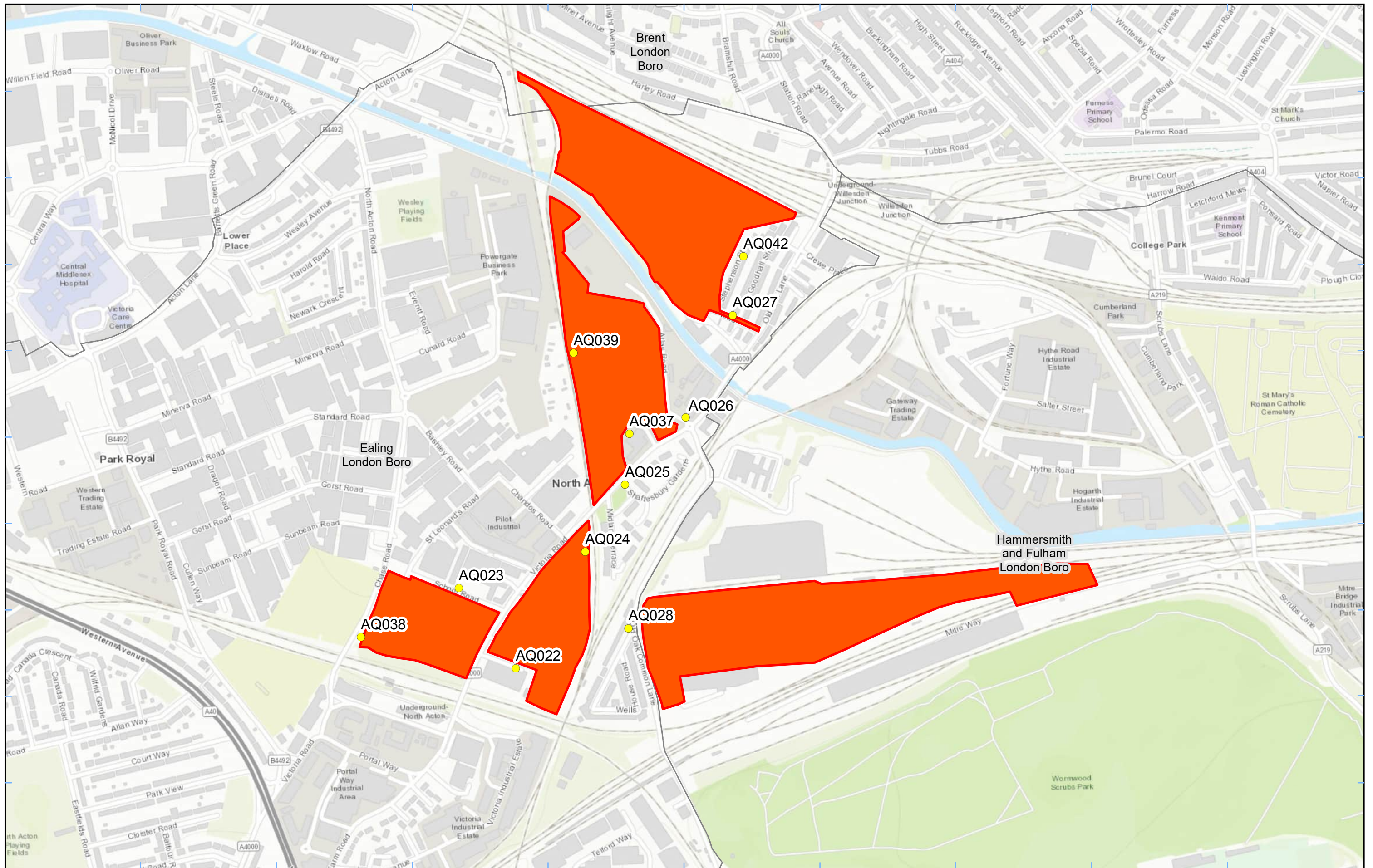
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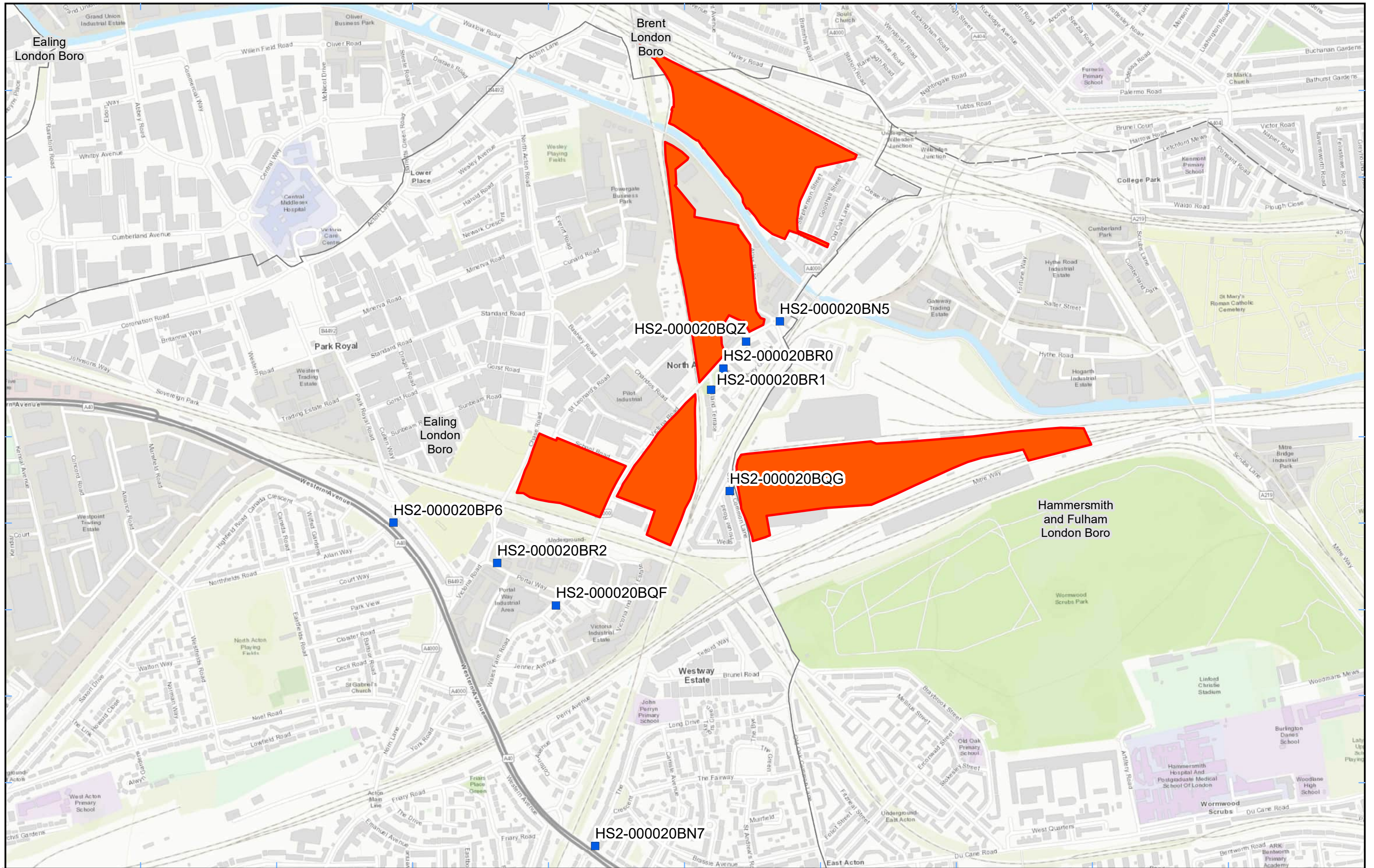
- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

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Map Number
Map Name <b>Worksite and Monitoring Locations In LBE (Sheet 3)</b>
<b>London Borough of Ealing</b>

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**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 2: Dust monitoring locations and August 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 <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	14.0	3.0	45.7	0	100.0
AQ023	520956, 182149	School Road	M	Yes	N	10.6	2.1	36.6	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	15.4	2.9	48.0	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	20.9	3.6	87.6	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	14.9	2.3	119.1	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	22.1	4.4	190.8	1	100.0
AQ028	521302, 182067	Wells House Road	M	Yes	N	26.3	2.4	147.0	0	100.0
AQ029	521455, 181664	Old Oak Common Lane	H	Yes	N	16.4	1.3	172.3	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	12.1	2.5	46.9	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	11.1	1.7	53.5	0	100.0
AQ038	520756, 182049	Chase Road	M	Yes	N	11.7	2.1	191.0	1	99.6
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	17.5	3.2	95.8	0	100.0
AQ042	521537, 182826	Stephenson	M	Yes	N	12.9	2.9	52.2	0	100.0

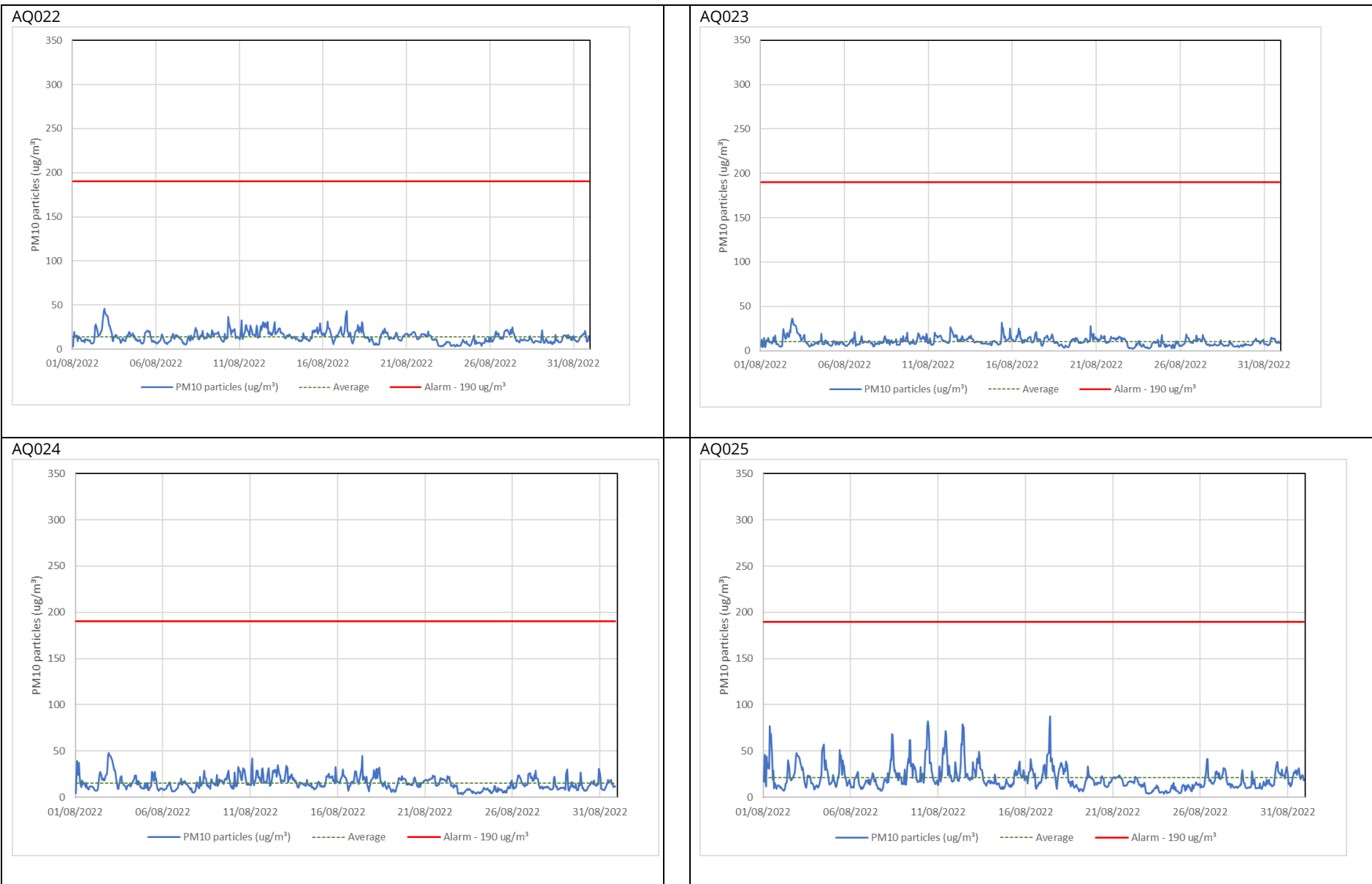
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 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 (%)
		Road								
AQ043	513468, 184504	Mandeville Road	M	Yes	N	10.3	1.7	56.8	0	96.5
AQ046	515593, 183764	Green Park Way	M	Yes	N	11.1	2.0	57.6	0	100.0
AQ051	517976, 182823	Westgate	M	Yes	N	9.3	2.2	97.3	0	100.0

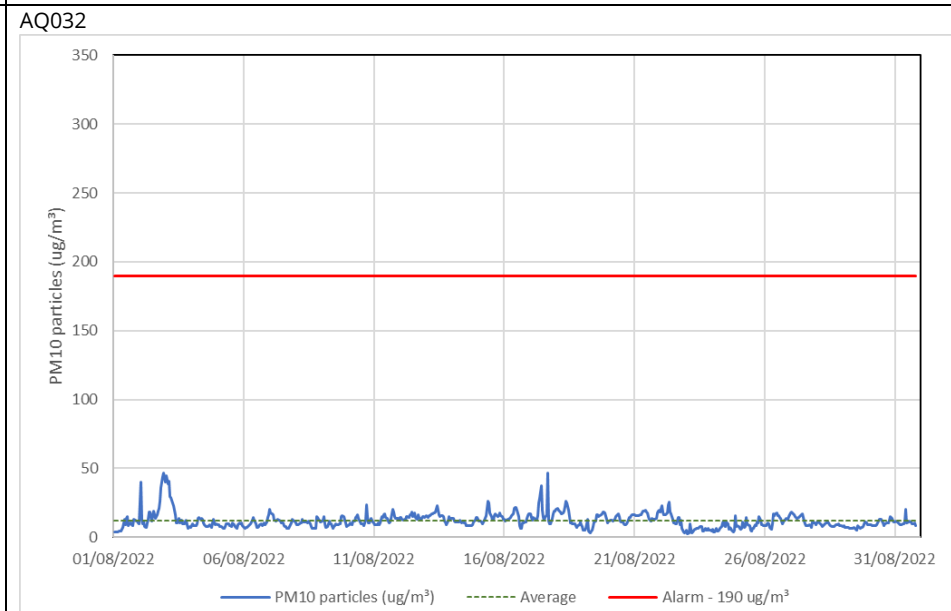
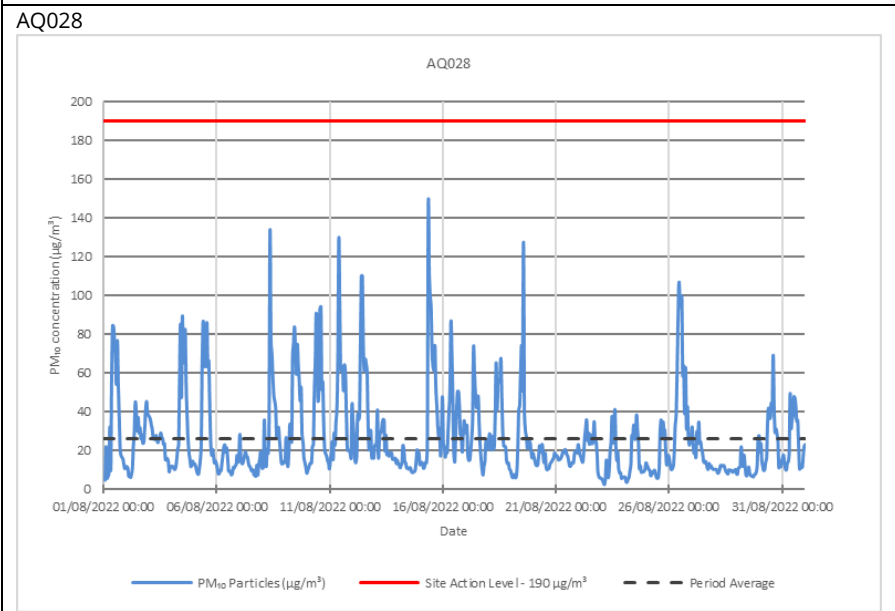
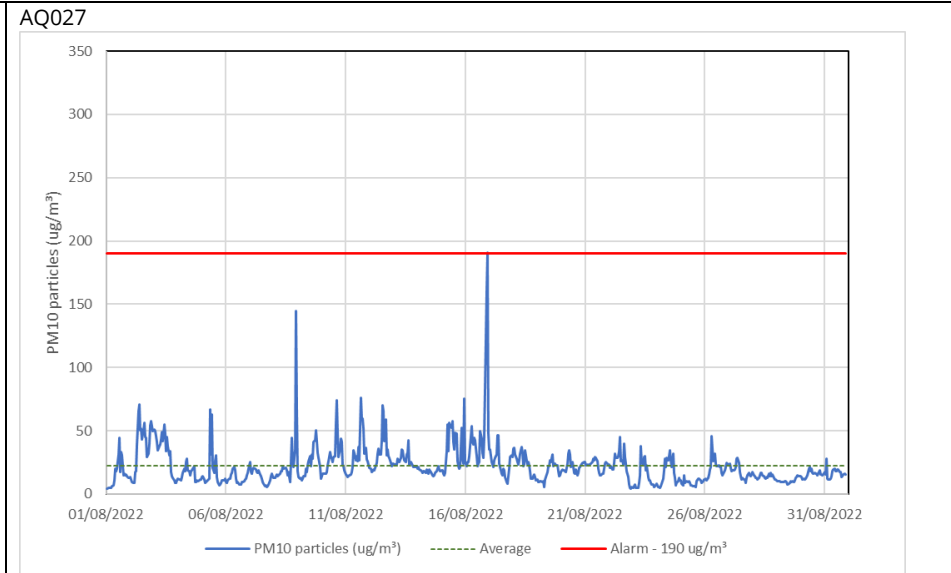
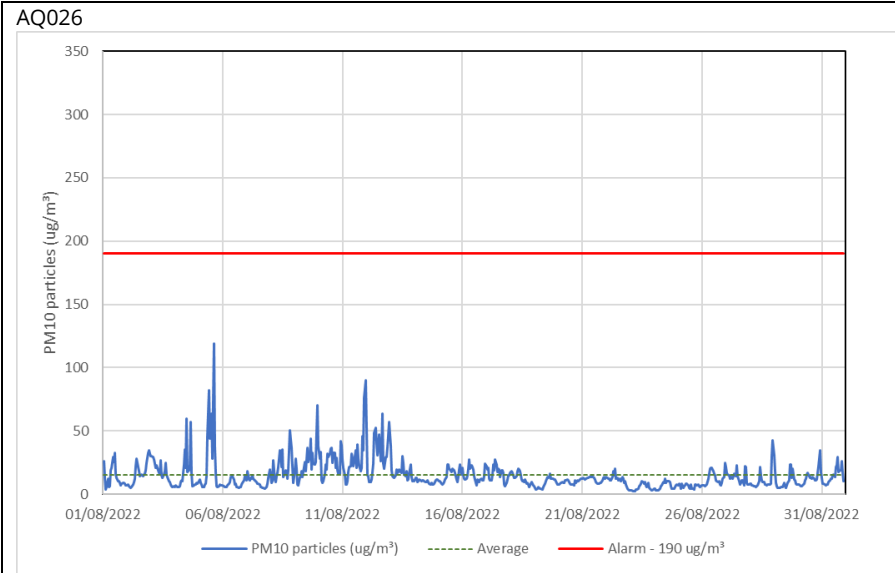
Table 3: Summary of exceedances of trigger level in August 2022

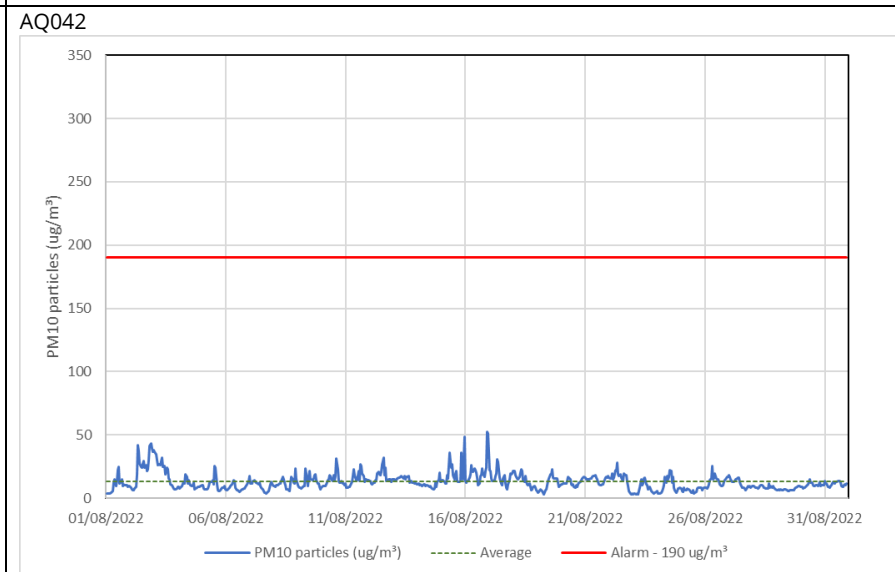
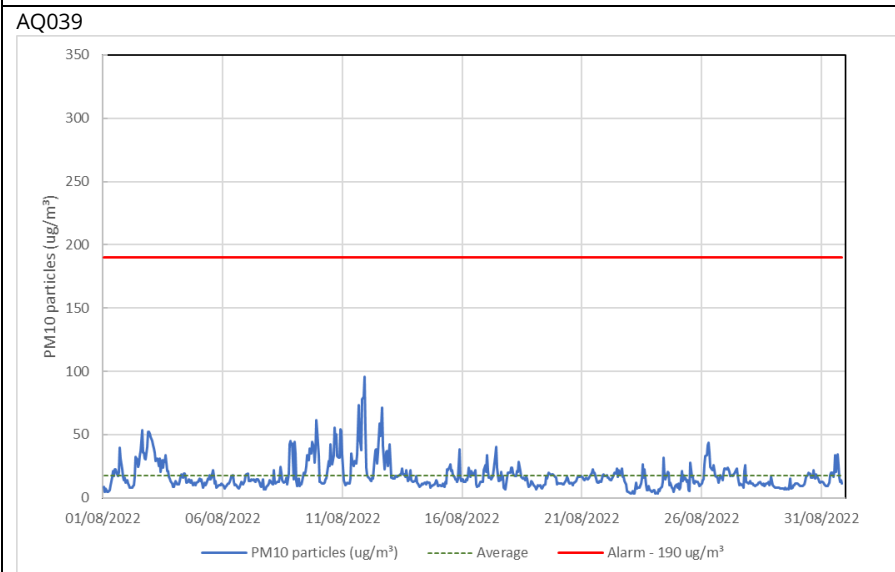
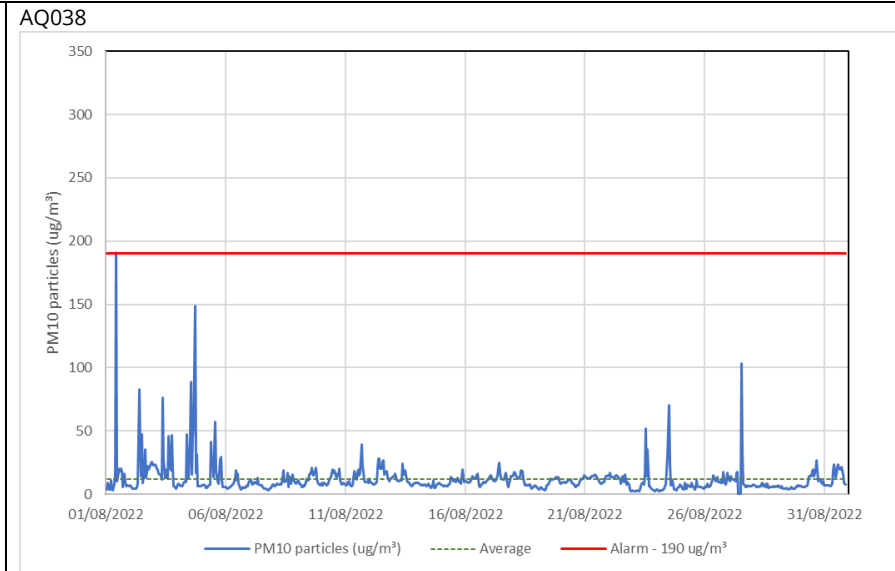
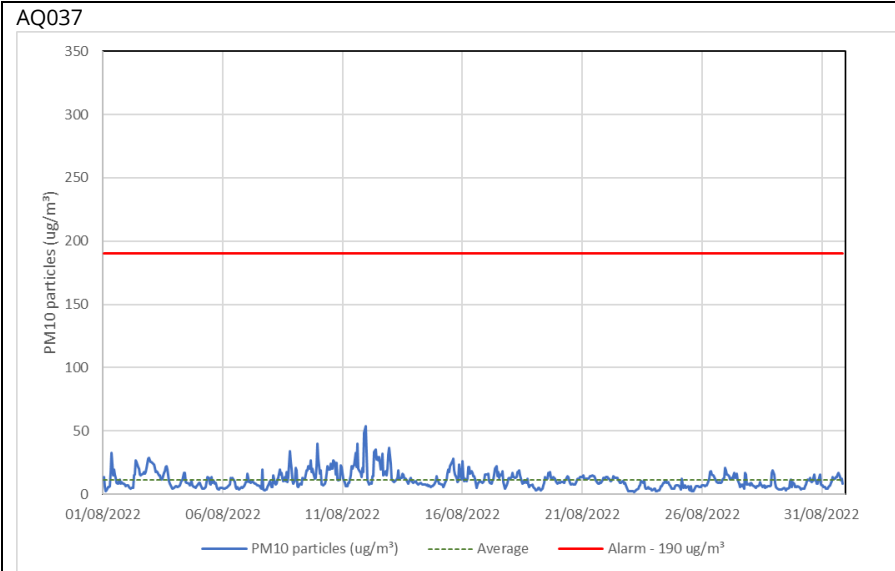
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ038	01/08/2022 09:00-10:00; 191.0 µg/m <sup>3</sup>	At the time of the trigger alert there were no activities taking place in the area that could have given rise to the increased dust levels. There were no increased levels of dust observed and dust suppression was/is available on site to be used as required including jet washes and bowser.	The bowser was deployed subsequent to the trigger alert and the utilities team will continue to ensure that dust suppression is available and deployed where required during the works. Much of the onsite area is concrete hardstanding and damped down as part of daily circuits of the site by road sweepers, bowsters, dust canons, and jet sprays, to prevent windblown dust from the wider site
AQ027	16/08/2022 21:00-22:00; 190.8 µg/m <sup>3</sup>	The trigger alert was recorded during the evening when the site was shut and no activities were taking place and weather conditions were damp/wet/ high humidity following earlier rain. The trigger is considered to be associated with high moisture content in the air affecting the monitors and giving false readings. No similar reading was observed from AQ042 on the same site boundary.	Monitoring data will continue to be reviewed as the assumed wetter weeks, and months ahead commence. Potentially a fault with the monitor, internal heater or wiring.

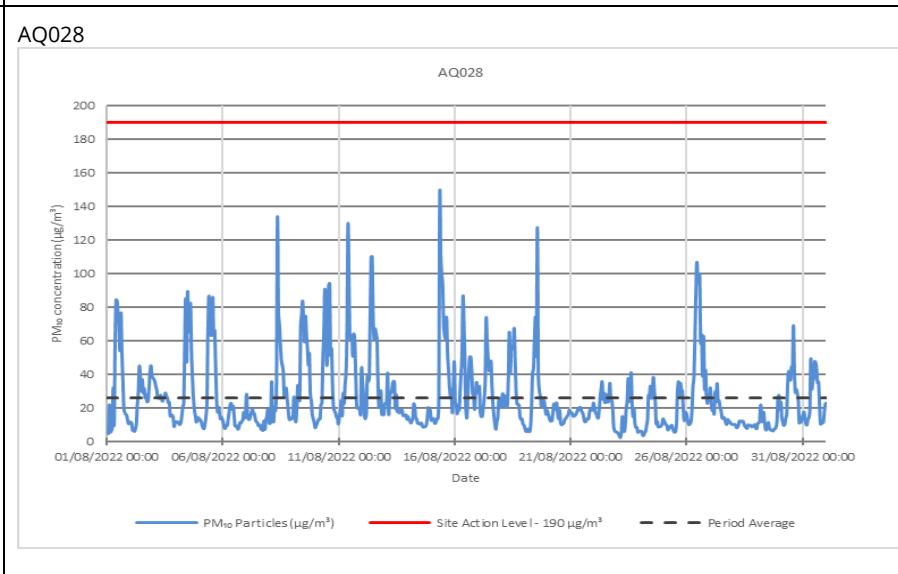
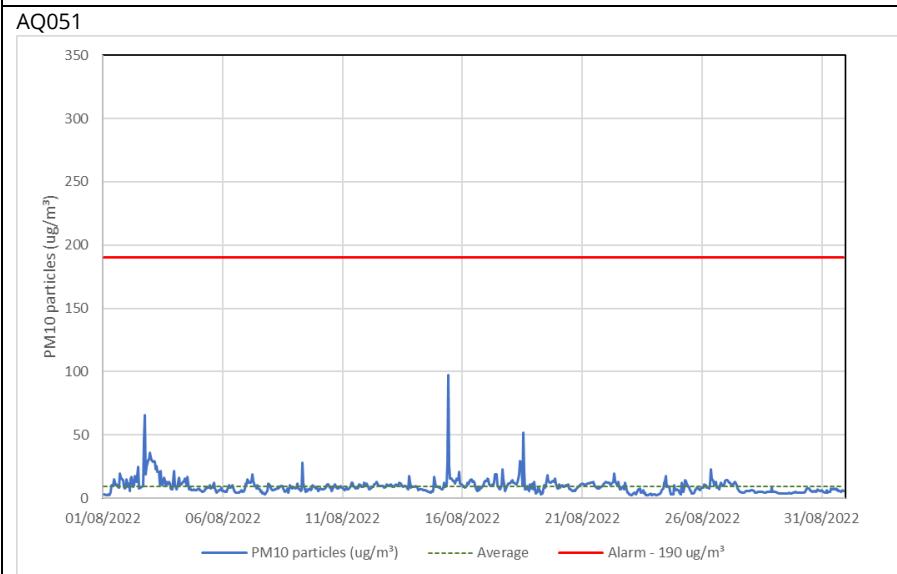
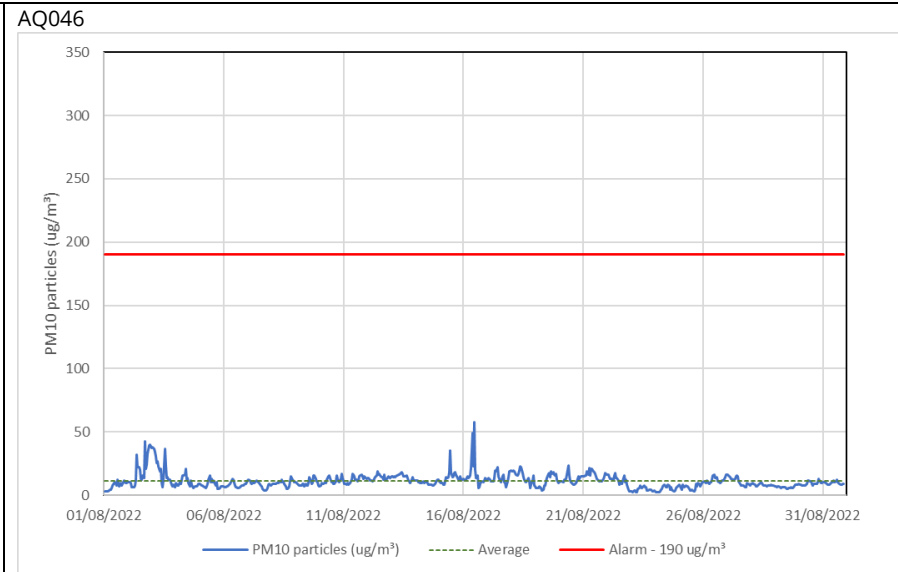
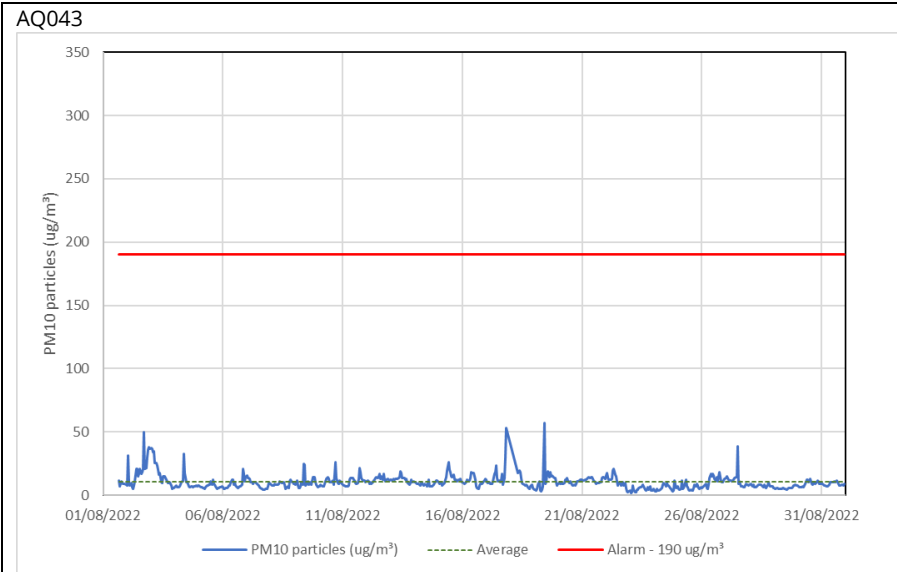


Figure 5: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitors











## Appendix C – Air Quality Monitoring Results

Table 4: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2022 (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	65	52	55	39	36	37	45						47
HS2-000020BN7	The Approach street sign	520959, 181102	76	Tube Missing	46	41	45	39	41						48
HS2-000020BQF	Conway Drive sign post	520856, 181733	66	44	62	55	No data	40	47						45
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
HS2-000020BQZ	Lamp post on Victoria Road opposite Tudor House	521354, 182425	49	45	57	47	42	45	48						47
HS2-000020BR0	Sign post on Shaftesbury Gardens	521295, 182354	50	33	40	30	24	21	27						32
HS2-000020BR1	Lamp post on Midland Terrace	521263, 182298	43	30	38	30	21	24	24						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						62

<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.

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	63	45	50	37	38	37	40						44
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyrotory roadside automatic monitoring station	518537, 182708	87	67	65	Tube Missing	66	66	62						69