

Air Quality and Dust Monitoring Monthly Report – **December** 2020

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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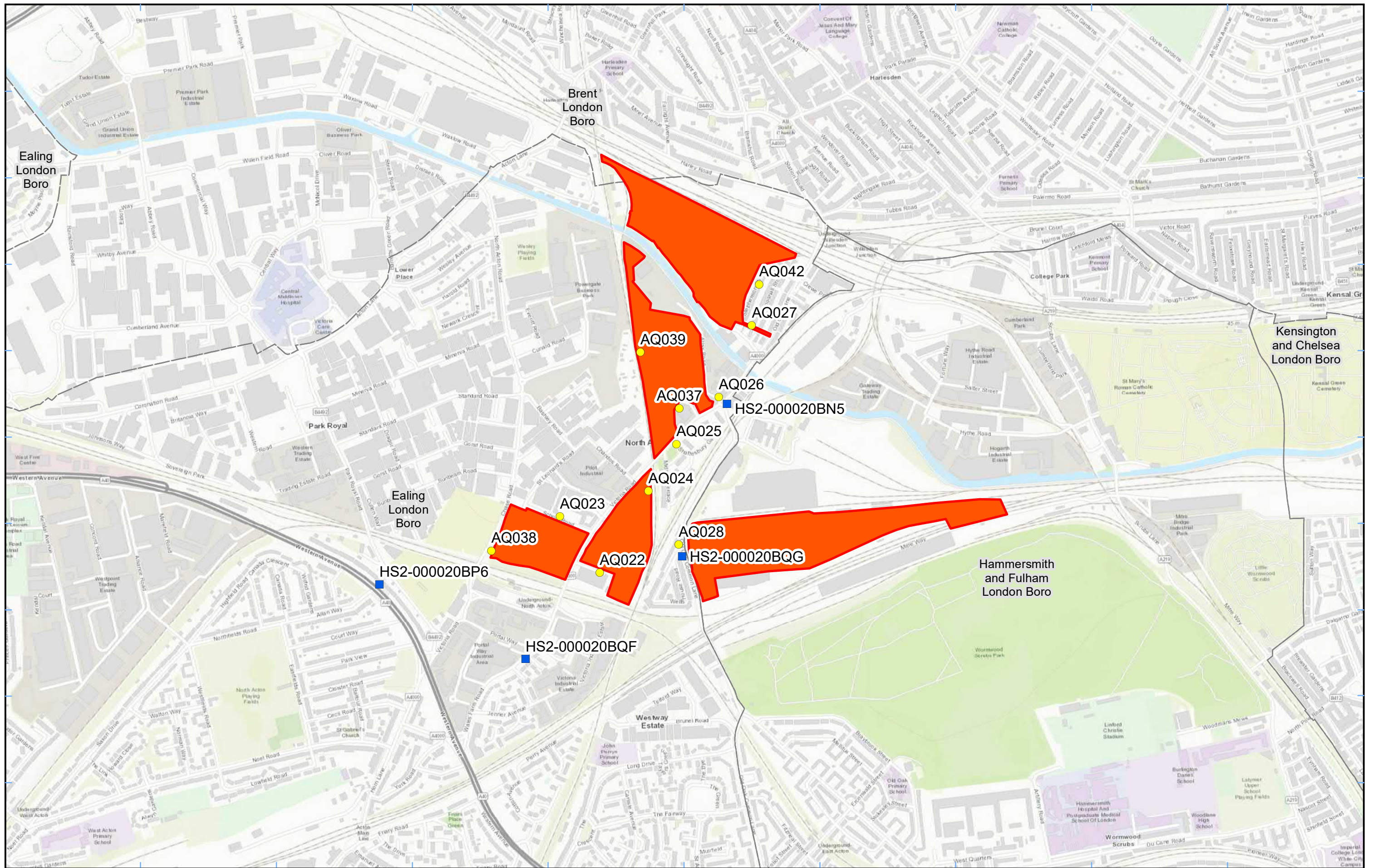
Monthly Summary

- 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 November and December 2020 respectively.
- 1.1.2 Figure 1 to 3 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 works commenced in October 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to 3, include:
- Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham) mobilisation and new site set up for the station works contractors;
 - Victoria Road Crossover Box and Flat Iron Site –groundworks, piling operations and utilities works;
 - Willesden Euro Terminal – groundworks and concrete slab construction;
 - Atlas Road– site set up and groundworks;
 - Green Park Way Vent Shaft – mobilisation and site set up; and
 - Mandeville Road Vent Shaft – mobilisation and site set up.
- 1.1.5 Eleven (11) 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 in Figure 4. 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 There were two (2) dust trigger alerts recorded during the monitoring period (December 2020). Exceedances are presented in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.9 Data capture for monitors AQ039 was below 90% for the month of December 2020 due to monitoring only commencing on 16th December 2020.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at six (6) locations around highways within the LBE as part of the management of air quality where significant effects may occur as a result of the scheme.
- 1.1.11 Diffusion tube monitoring results are 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 NO₂ monitoring locations and results are presented in Appendix C, Table 3, together with the 2020 running mean.
- 1.1.13 There were no (0) complaints received. Relating to dust or air quality, during this reporting period (December 2020).

Appendix A – Worksites and Monitoring Locations

Figure 1 and 3: Worksites and monitoring locations within the LBE



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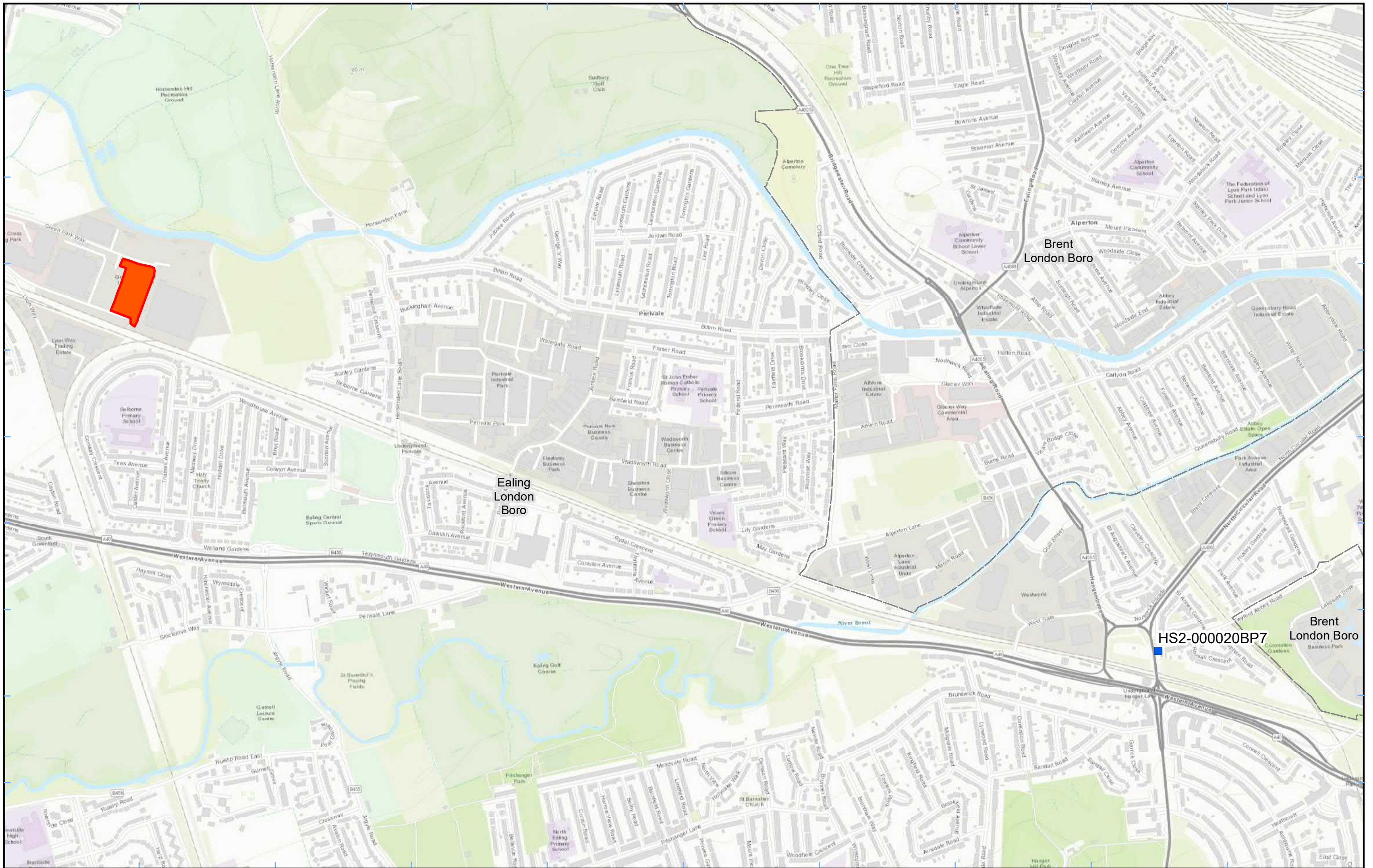
■ Diffusion Tube	■ Worksite
● Dust Monitor	 District Borough Unitary Boundaries

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

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 0 100 200 300 400
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Legend
■ Diffusion Tube District Borough Unitary Boundaries
1 Worksite

Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBE (Sheet 2)**
 London Borough of Ealing

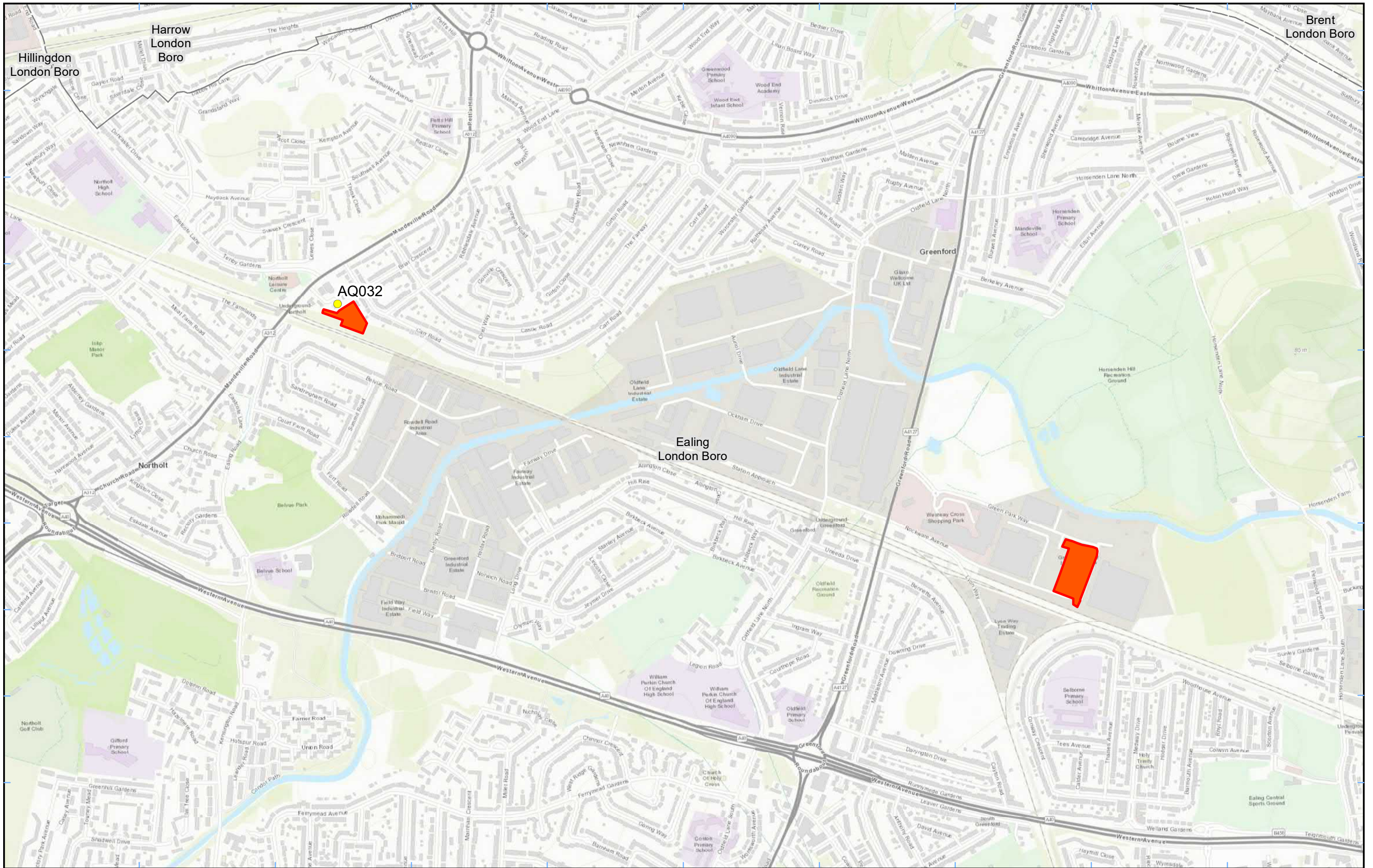
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Legend
 Dust Monitor
 Worksite
 District Borough Unitary Boundaries

Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBE (Sheet 3)**
London Borough of Ealing

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Appendix B – Dust Monitoring Results

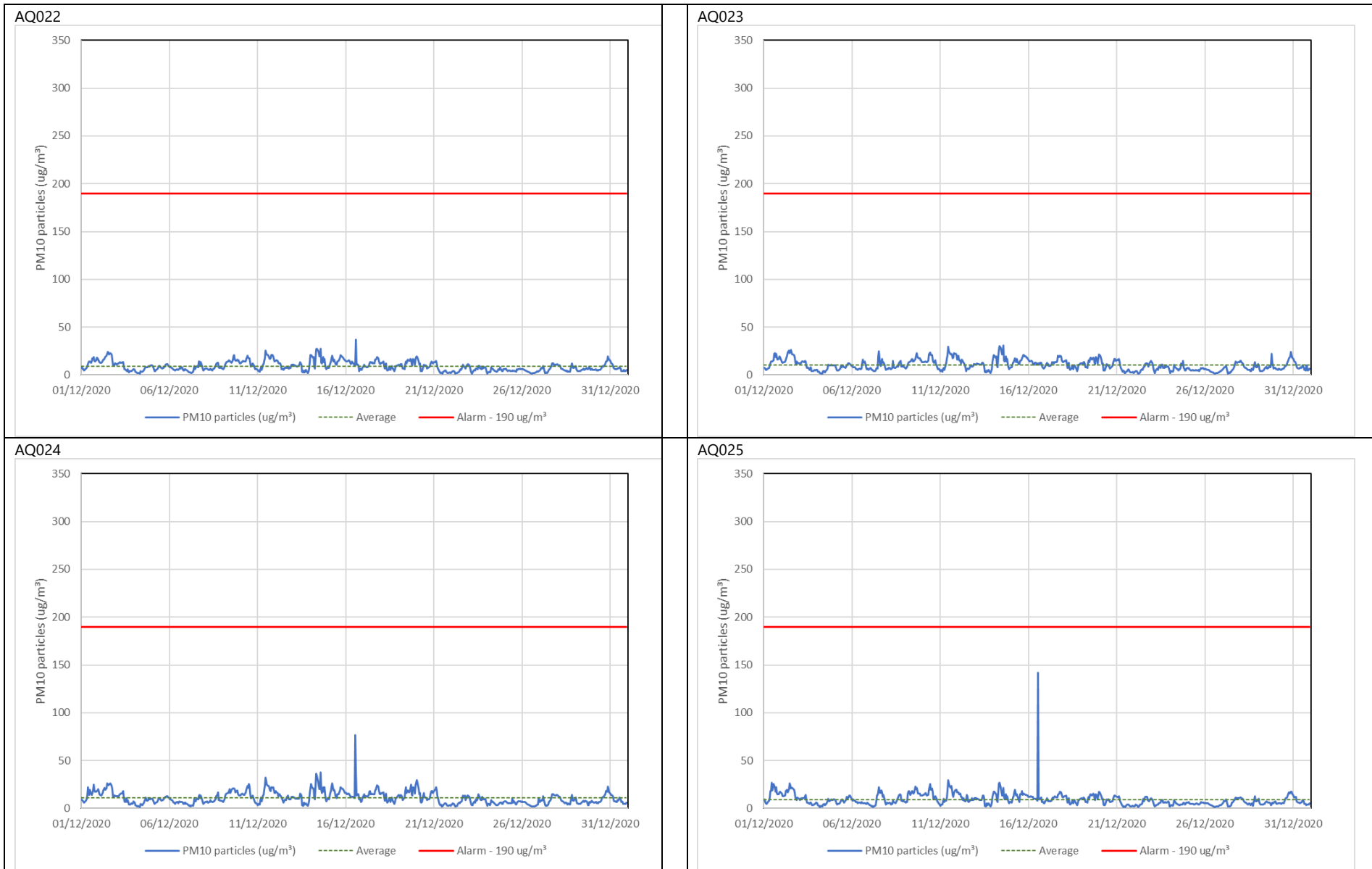
Table 1: Dust monitoring locations and December 2020 results

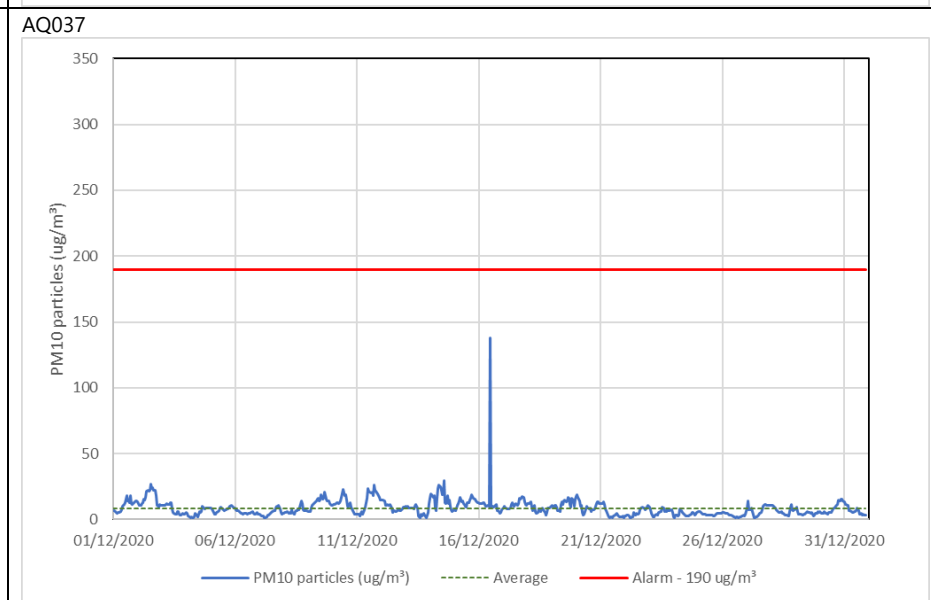
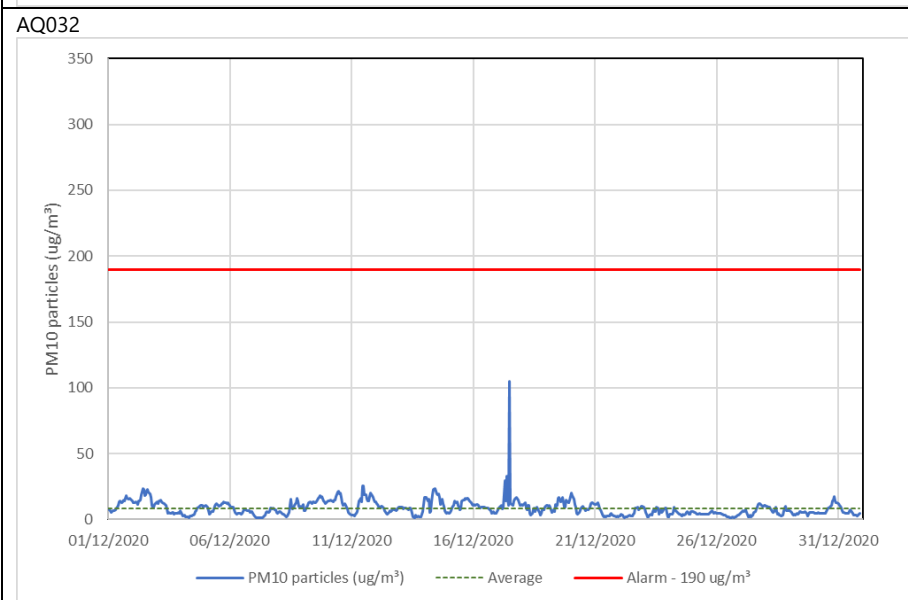
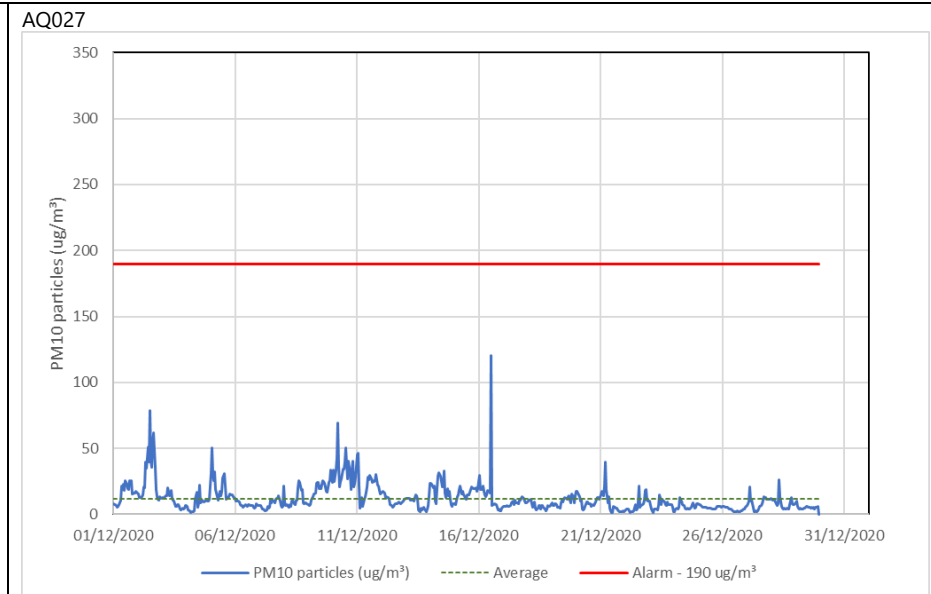
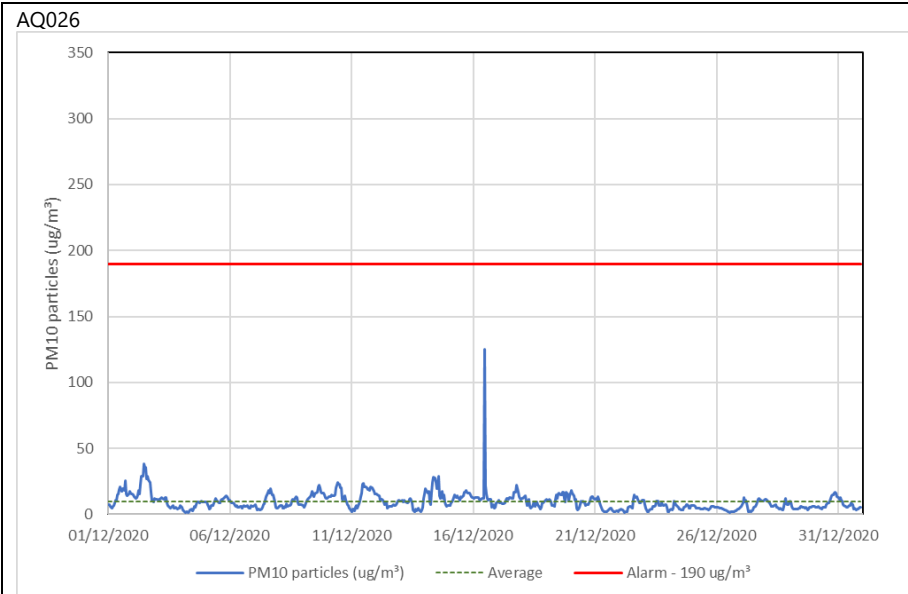
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ022	521072, 181985	Boden House	M	Yes	N	9.1	1.4	36.8	0	100.0
AQ023	520956, 182149	School Road	M	Yes	N	10.3	1.4	31.1	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	11.0	1.6	76.4	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	9.3	1.4	141.9	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	9.5	1.3	125.1	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	12.0	0.0	120.7	0	93.5
AQ028	521309, 182085	Wells House Road	M	Yes	N	9.7	1.3	92.6	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	8.6	1.1	105.2	0	100.0
AQ037	521304, 182464	Atlas Road	M	No	N	8.6	1.2	137.7	0	100.0
AQ038	520756,182049	Chase Road	M	Yes	N	14.8	1.3	2840.9	2	97.4
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	8.0	1.5	30.6	0	50.1
AQ042	521537,182826	Stephenson Road	M	Yes	N	11.4	1.4	92.8	0	100.0

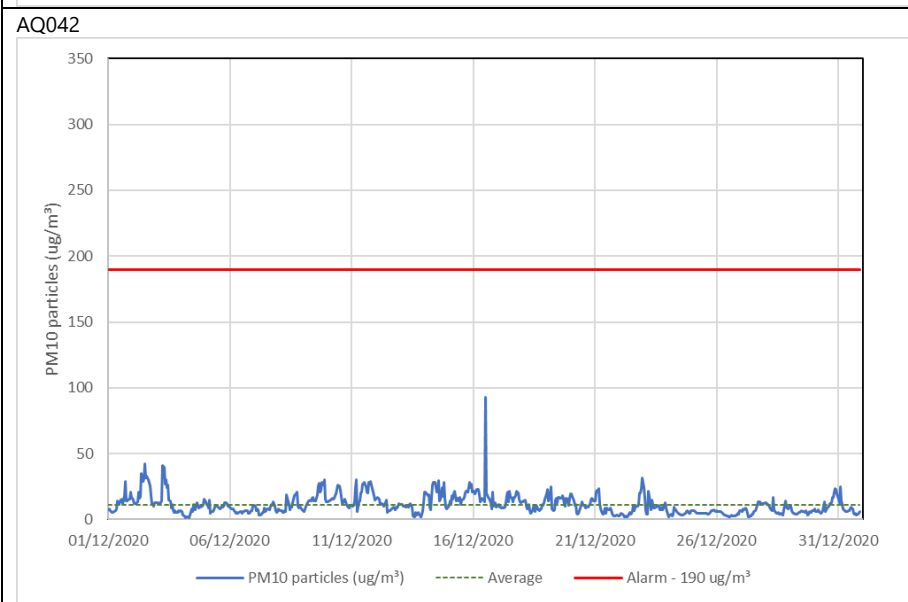
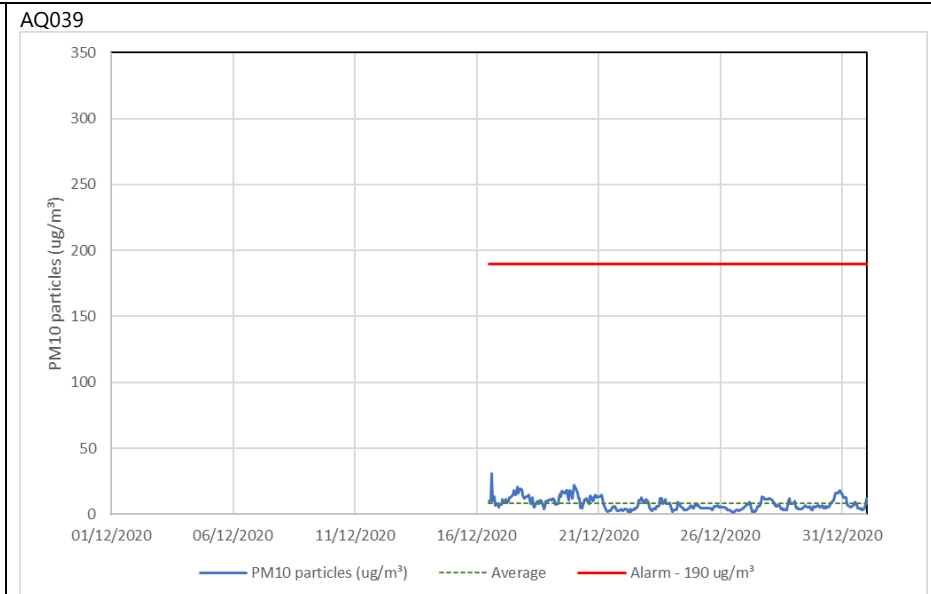
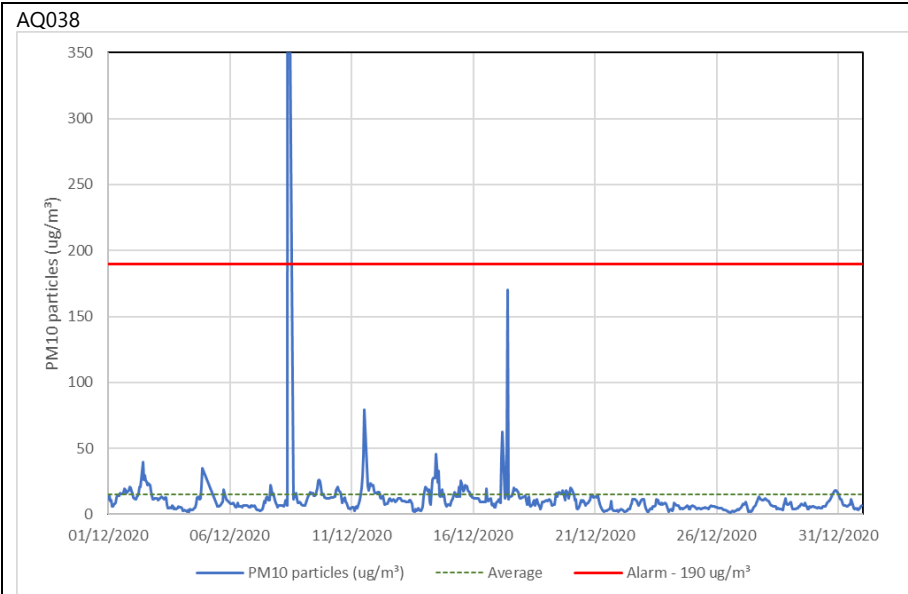
Table 2: Summary of exceedances of trigger level in December 2020

Monitoring Site ID	Period of trigger alert & concentration recorded	Investigation	Outcomes / Resolution / Remedial measuring implemented
AQ038	08/12/2020 09:00-10:00: 2,840.9 $\mu\text{g}/\text{m}^3$ 08/12/2020 10:00-11:00: 370.6 $\mu\text{g}/\text{m}^3$	<p>Given the nature of the groundworks being undertaken in the south west corner of the site near AQ038 at the time and the loss of power to the monitor indicated by the lack of data for a few hours immediately after the triggers it is considered that both consecutive triggers were associated with the monitors internal pump and heated inlet failure rather than dust generated by site activities.</p> <p>A lack of power to both the internal pump and heater meant a steady, dry air flow drawn through the monitor was not possible. Moisture within the monitor inlet which can cause false readings is considered to be the most likely cause of the triggers and has been evident in other monitors during the months of November and December.</p>	<p>The monitor underwent regular servicing and maintenance.</p>

Figure 4: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors







Appendix C – Air Quality Monitoring Results

Table 3: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2020 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar ¹	Apr ¹	May ¹	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	Tube missing	46	No data			39	25	40	47	46	60		43
HS2-000020BN7	The Approach street sign	520959, 181102	64	55	No data			37	29	37	50	51	61		48
HS2-000020BQF	Conway Drive sign post	520856, 181733	61	51	No data			42	28	43	45	41	65		47
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	68	55	No data			38	27	38	44	51	59		47
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	56	46	No data			40	35	42	50	47	61		47
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyrotory roadside automatic monitoring station	518537, 182708	77	61	No data			56	50	54	55	60	75		61

¹ Note: Due to the COVID-19 pandemic and government lockdown it was not possible to conduct diffusion tube air quality monitoring in March, April and May 2020.

² 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.