

Air Quality and Dust Monitoring Monthly Report – March 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 February and March 2023 respectively.
- 1.1.2 Figure 1 to Figure 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 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 3, 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.

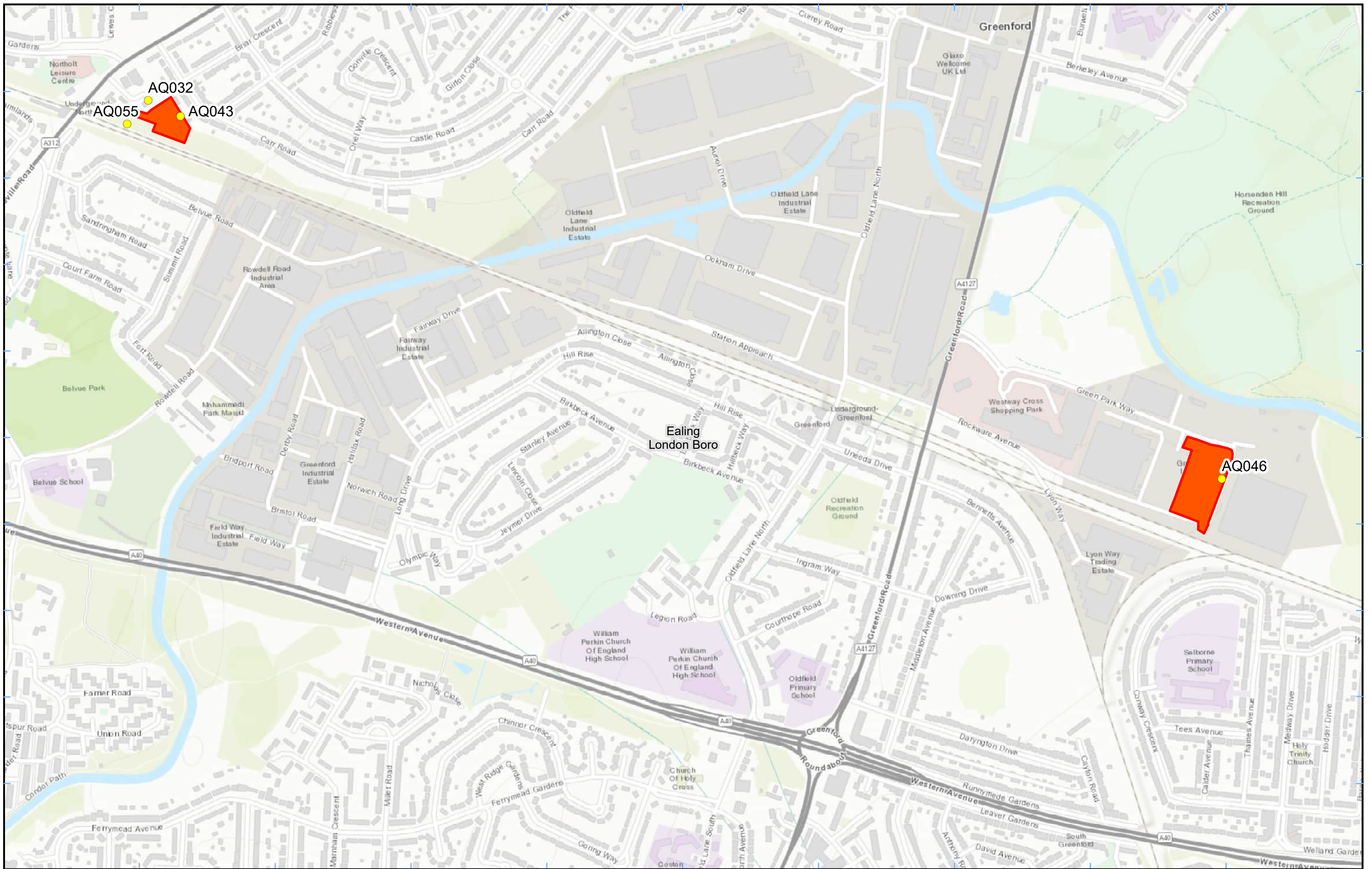
- 1.1.5 Seventeen (17) dust monitors were installed around worksites, where works are underway. These sites returned a medium to high dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor, 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 No (0) dust trigger alerts were recorded during the monitoring period (March 2023).
- 1.1.9 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.
- 1.1.10 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 AQ029 monitor was relocated and reinstalled on the 30th March 2023.
- 1.1.12 NO₂ monitoring locations and results are presented in Appendix C, Table 2, 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

Figures 1 to 3: 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 & Monitoring Locations
 In LBE (Sheet 1)**

London Borough of Ealing



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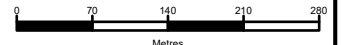
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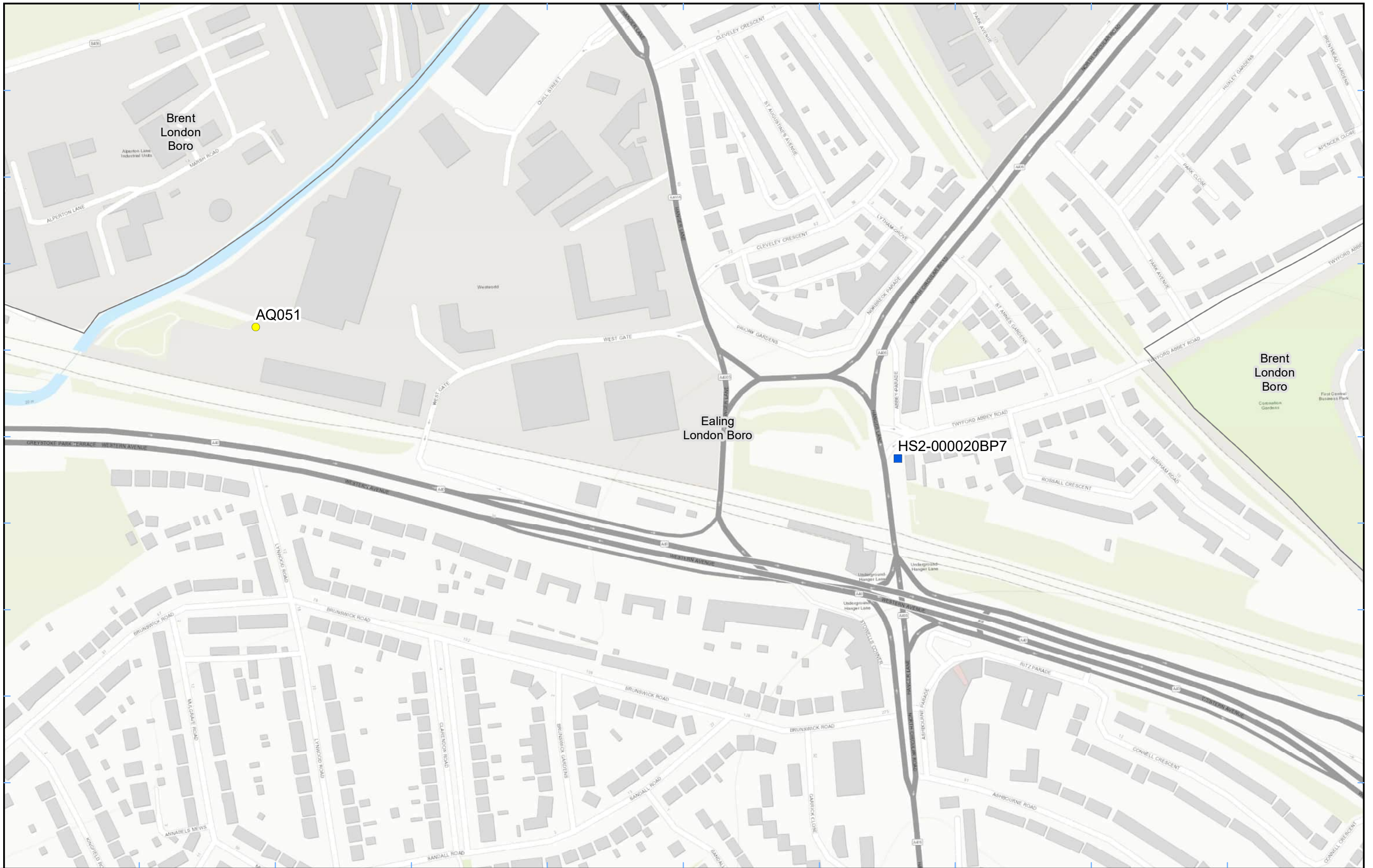
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Scale at A3: 1:7,000



Date: 18/05/23



- 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

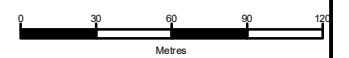


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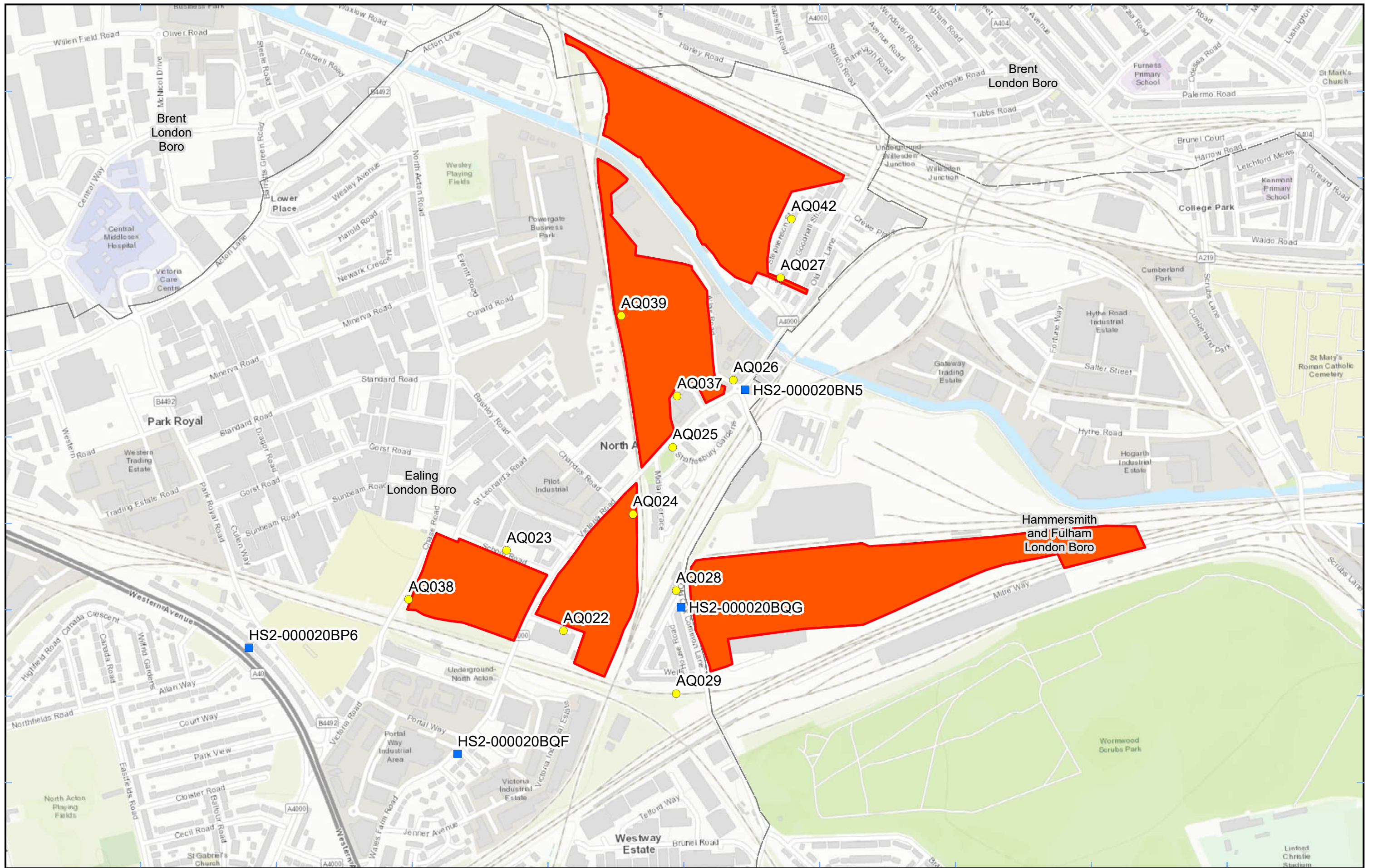
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Legend

- Diffusion Tube
- Worksite
- Dust Monitor
- District Borough Unitary Boundaries

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Map Number

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

London Borough of Ealing

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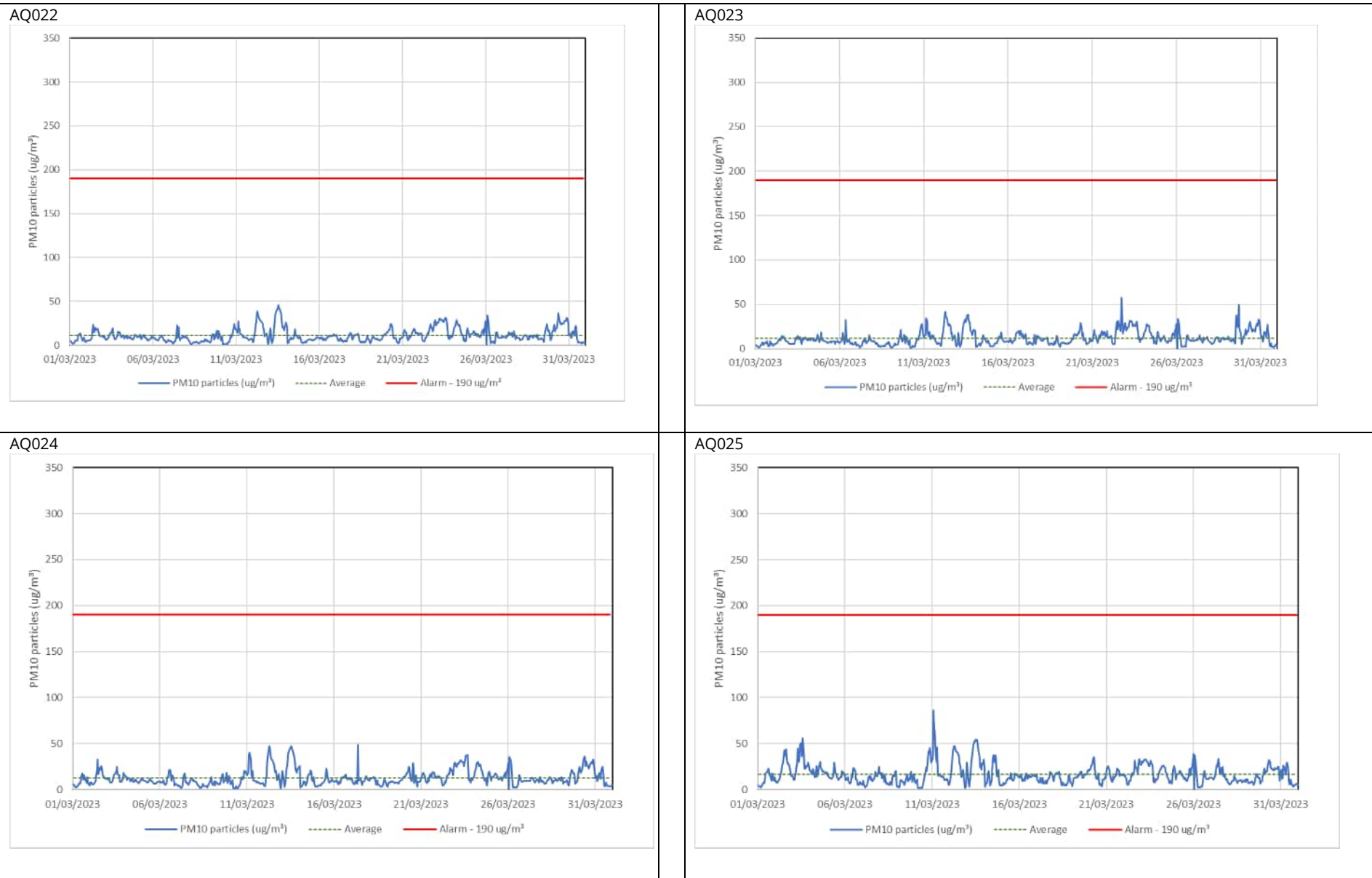
Appendix B – Dust Monitoring Results

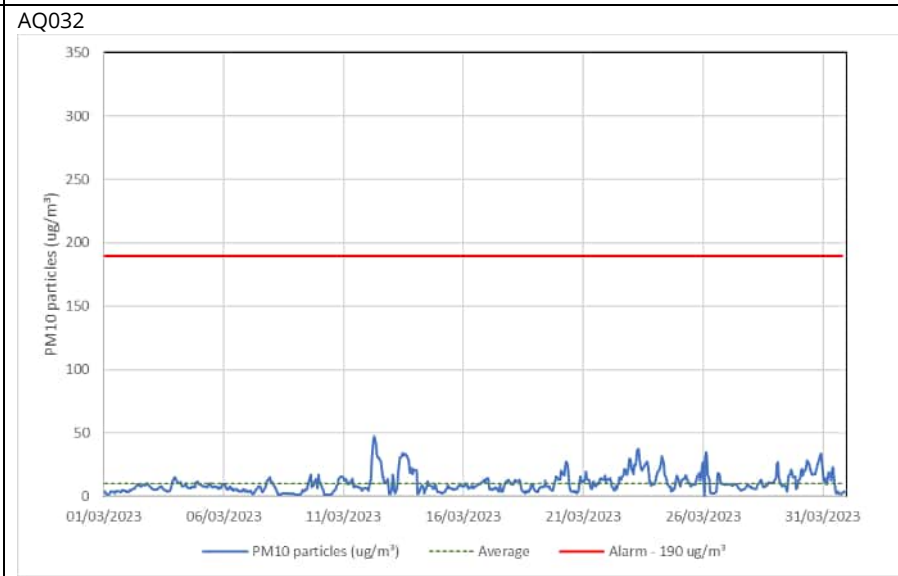
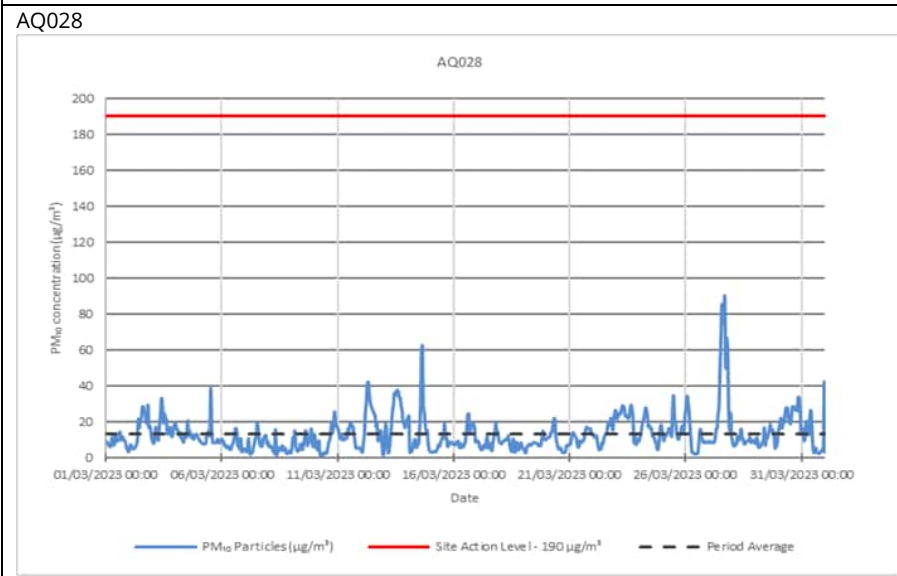
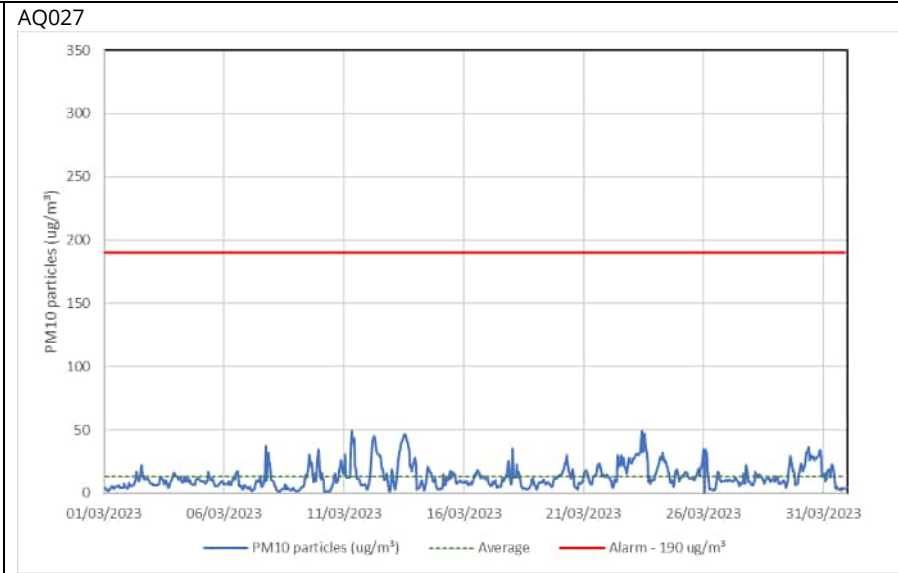
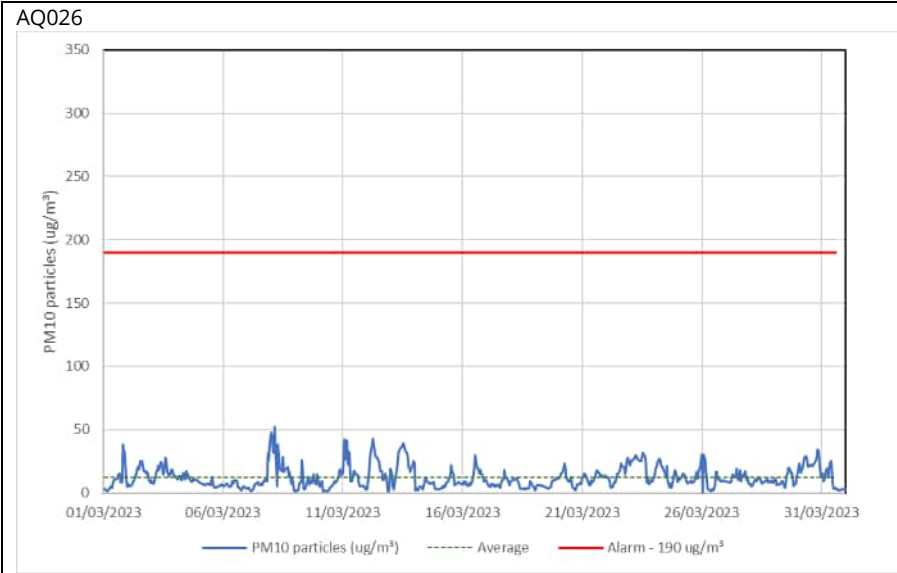
Table 1: Dust monitoring locations and March 2023 results

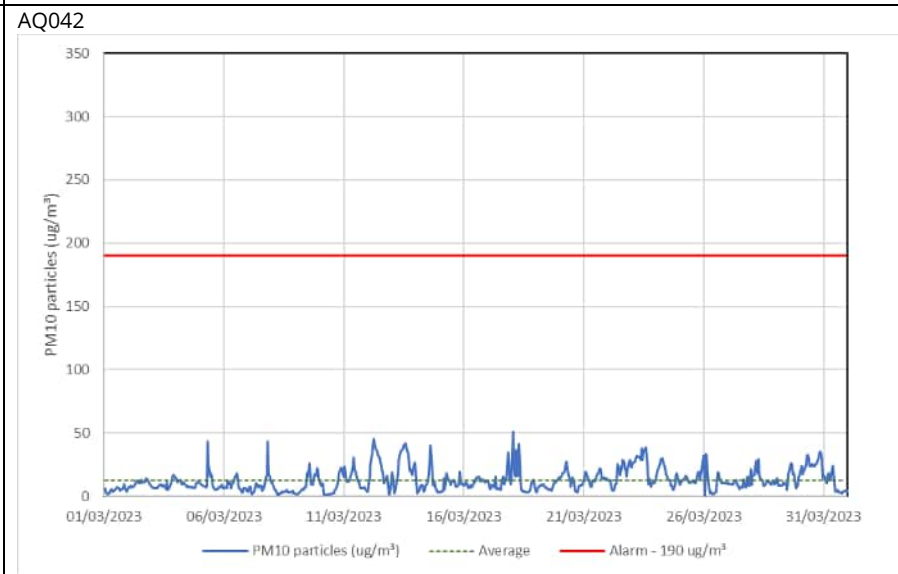
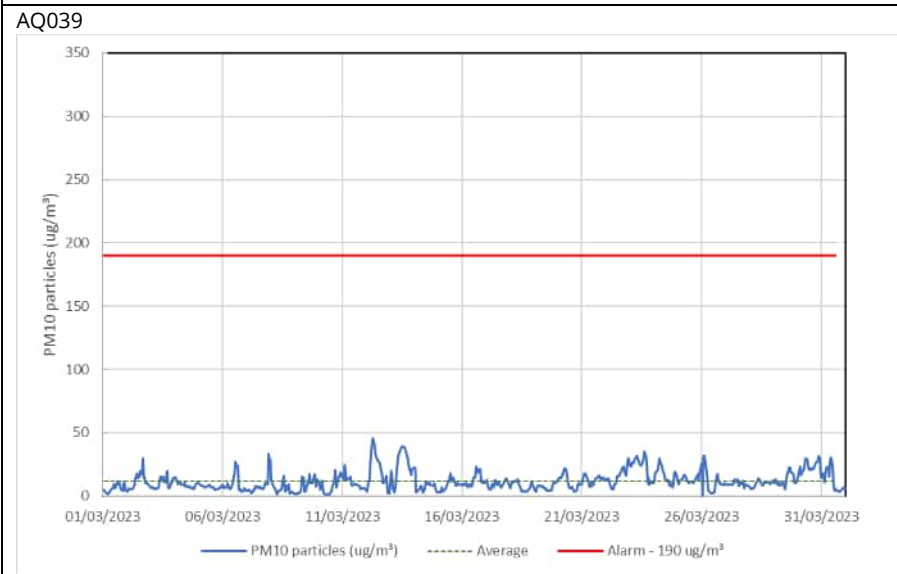
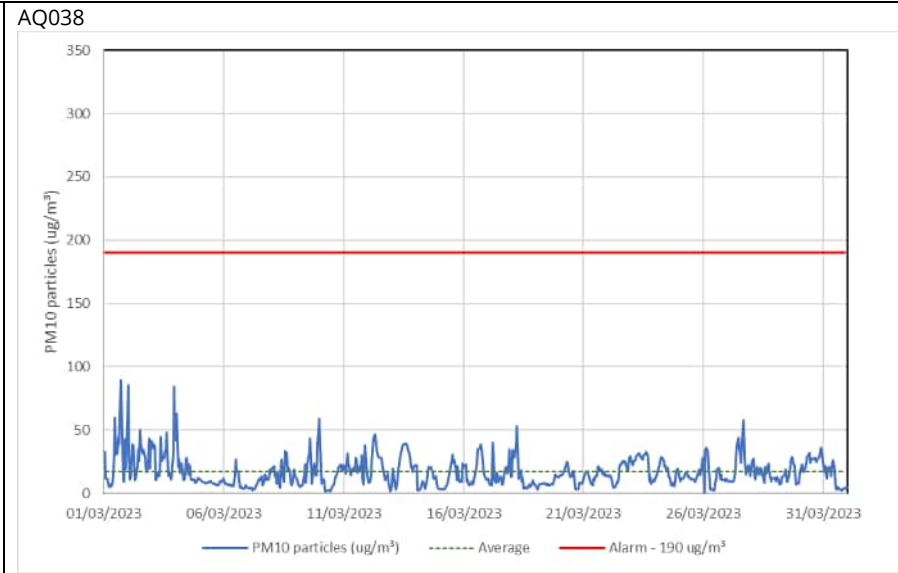
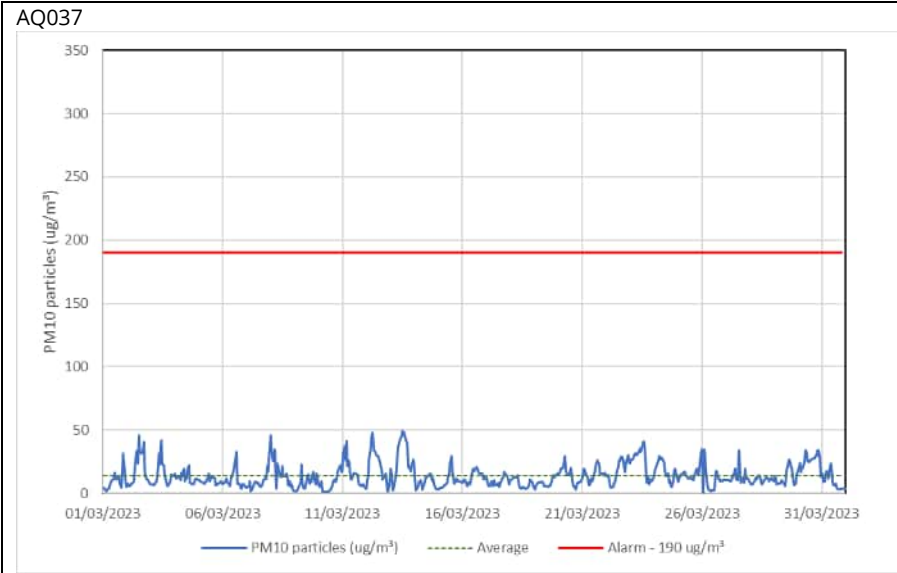
| Monitoring site ID | Coordinates (X,Y) | Location description | Dust risk rating for site | Monitoring site active during period | Change to site since previous period report | Mean 1-hour PM ₁₀ concentration (µg/m ³) | Minimum 1-hour PM ₁₀ concentration (µg/m ³) | Maximum 1-hour PM ₁₀ concentration (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 | 11.3 | 0.9 | 46.0 | 0 | 100.0 |
| AQ023 | 520956, 182149 | School Road | M | Yes | N | 11.8 | 1.1 | 57.4 | 0 | 100.0 |
| AQ024 | 521214, 182223 | Braitrim House | M | Yes | N | 12.7 | 1.1 | 48.3 | 0 | 100.0 |
| AQ025 | 521295, 182360 | Victoria Road | M | Yes | N | 16.7 | 1.7 | 86.0 | 0 | 100.0 |
| AQ026 | 521419, 182497 | Old Oak Lane | M | Yes | N | 12.3 | 1.1 | 52.2 | 0 | 100.0 |
| AQ027 | 521515, 182706 | Channel Gate Road | M | Yes | N | 12.7 | 0.9 | 49.2 | 0 | 100.0 |
| AQ028 | 521302, 182067 | Wells House Road | M | Yes | N | 13.0 | 1.0 | 89.9 | 0 | 100.0 |
| AQ029 | 521302, 181857 | Old Oak Common | H | Yes | Y | 20.4 | 2.6 | 42.3 | 0 | 4.8 |
| AQ032 | 513402, 184536 | Badminton Close | M | Yes | N | 10.3 | 0.8 | 47.4 | 0 | 100.0 |
| AQ037 | 521304, 182464 | Atlas Road | M | Yes | N | 13.9 | 0.9 | 49.0 | 0 | 100.0 |
| AQ038 | 520756, 182049 | Chase Road | M | Yes | N | 17.0 | 1.4 | 89.2 | 0 | 100.0 |
| AQ039 | 521190, 182628 | Atlas Road 2 | M | Yes | N | 11.7 | 1.0 | 45.5 | 0 | 100.0 |

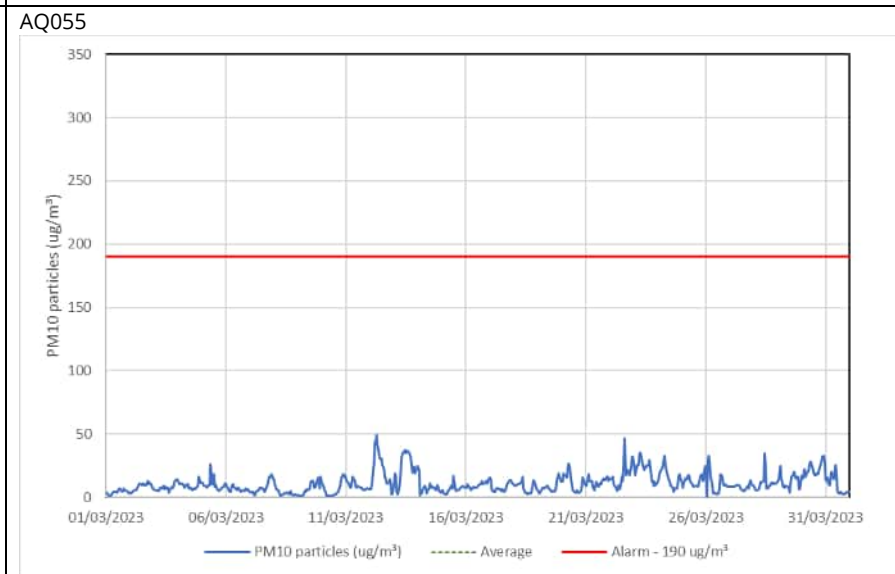
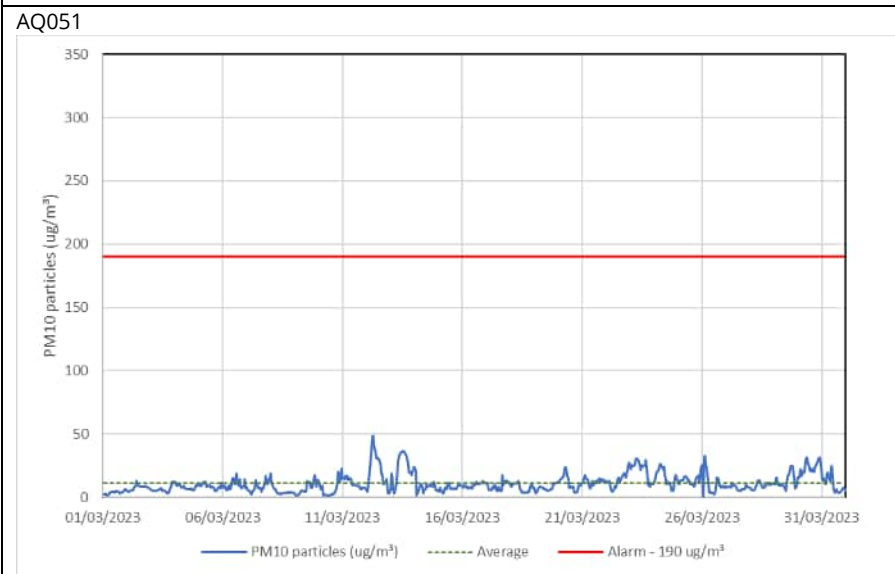
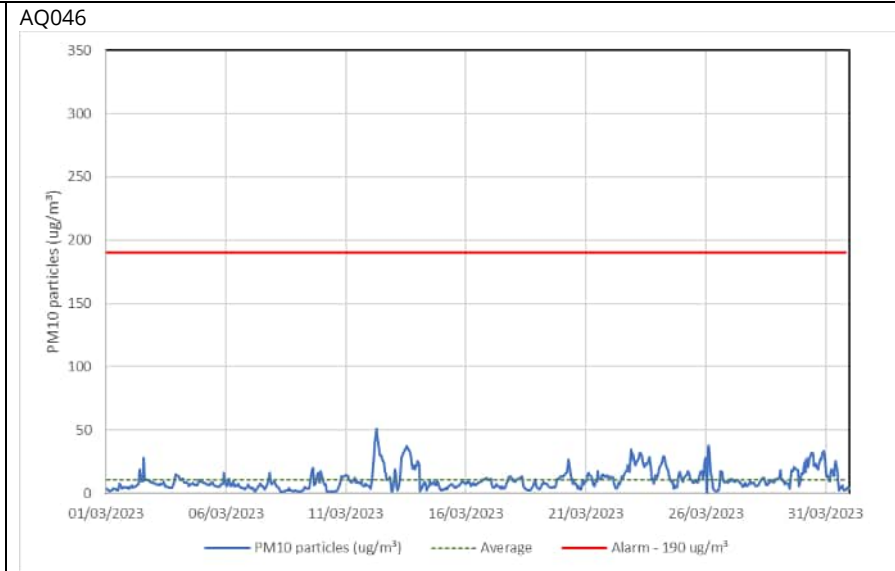
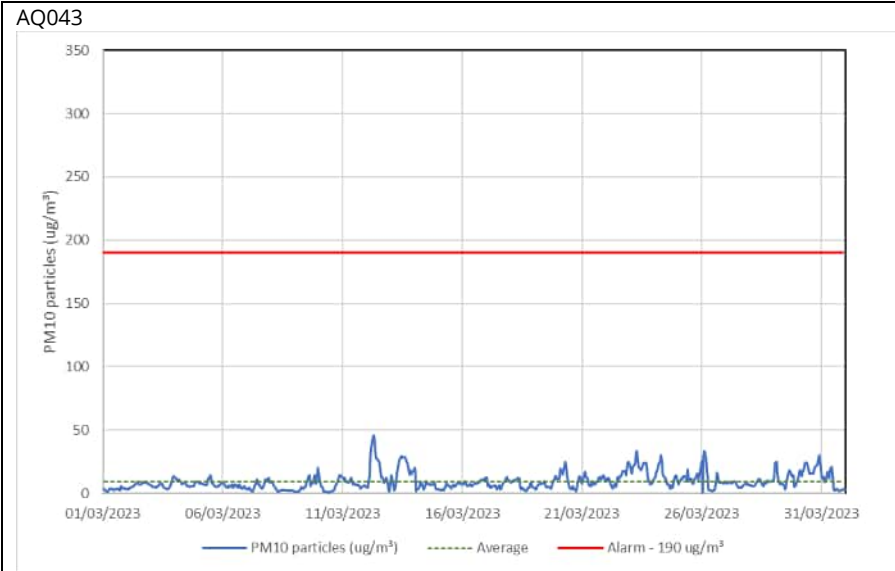
| Monitoring site ID | Coordinates (X,Y) | Location description | Dust risk rating for site | Monitoring site active during period | Change to site since previous period report | Mean 1-hour PM ₁₀ concentration (µg/m ³) | Minimum 1-hour PM ₁₀ concentration (µg/m ³) | Maximum 1-hour PM ₁₀ concentration (µg/m ³) | Number of 1-hour periods exceeding trigger level of 190 µg/m ³ | Data capture (%) |
|--------------------|-------------------|----------------------|---------------------------|--------------------------------------|---|---|--|--|---|------------------|
| AQ042 | 521537, 182826 | Stephenson Road | M | Yes | N | 12.7 | 0.8 | 51.1 | 0 | 100.0 |
| AQ043 | 513468, 184504 | Mandeville Road | M | Yes | N | 9.3 | 0.6 | 46.0 | 0 | 100.0 |
| AQ046 | 515593, 183764 | Green Park Way | M | Yes | N | 10.5 | 0.7 | 51.4 | 0 | 100.0 |
| AQ051 | 517976, 182823 | Westgate | M | Yes | N | 11.0 | 0.9 | 48.5 | 0 | 100.0 |
| AQ055 | 513359, 184488 | Mandeville Road 2 | M | Yes | N | 11.0 | 0.8 | 49.1 | 0 | 100.0 |

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

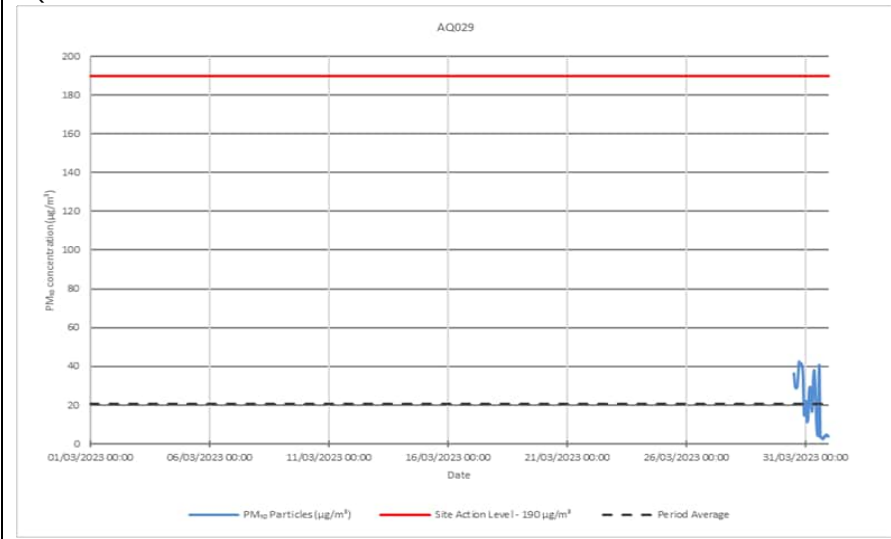








AQ029



Appendix C – Air Quality Monitoring Results

Table 2: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2023 (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 | 57 | 60 | | | | | | | | | | | 58 |
| HS2-000020BN7 | The Approach street sign | 520959, 181102 | 50 | 48 | | | | | | | | | | | 49 |
| HS2-000020BQF | Conway Drive sign post | 520856, 181733 | 58 | 57 | | | | | | | | | | | 57 |
| HS2-000020BQG | Lamp post outside No 1. Wells House Road on Old Oak Common Lane | 521312, 182033 | 53 | 48 | | | | | | | | | | | 51 |
| HS2-000020BP6 | Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station | 520430, 181950 | 44 | 49 | | | | | | | | | | | 47 |
| HS2-000020BP7 | Triplicate site next to the Ealing, Hangar Lane Gyrotory roadside automatic monitoring station | 518537, 182708 | 71 | 63 | | | | | | | | | | | 67 |

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.