

## Air Quality and Dust Monitoring Monthly Report – August 2024

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 2024 and August 2024 respectively.

1.1.2 Figure 1 to Figure 3 in Appendix A present 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 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)

- General Site - Conveyor demobilisation (Flat Iron), Concrete batching, materials management, and haulage.
- Station Box – Concrete Pours, D-Wall sealing, steel fixing.
- Great Western Main line – Piling excavation and breakdown, concrete pours.
- Shared Accommodation Building – Drainage installations, fix reinforcement, pile recap backfill, FRC works.
- SAB East – Excavation of pile caps.
- Site haul roads and public roads adjacent to site - Cleaning with a road sweeper.
- Old Oak Common East –Cutting starter bars, work on abutments.
- Old Oak Common Lane – Utilities trial holes, and excavations.

## **On Network Works**

- OLE works; and
- Civil works.

## **Victoria Road Crossover Box and Flat Iron Site**

- Crossover Box construction;
- Tunnel Boring Machine preparation; and
- Materials management.

## **Willesden Euro Terminal**

- Excavated material spoil management and onward removal by rail.

### **Atlas Road**

- Materials management (tunnel boring machine arisings).

### **Green Park Way Vent Shaft**

- Vent shaft construction and materials management.

### **Mandeville Road Vent Shaft**

- Vent shaft construction and materials management.

### **Westgate Vent Shaft**

- Vent shaft construction and materials management.

1.1.5 Nineteen (19) dust monitors are installed around these 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 presented 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 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 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 2.

1.1.9 Data capture was below 90% for the AQ038 monitor due to a fault with the monitor, subsequently repaired.

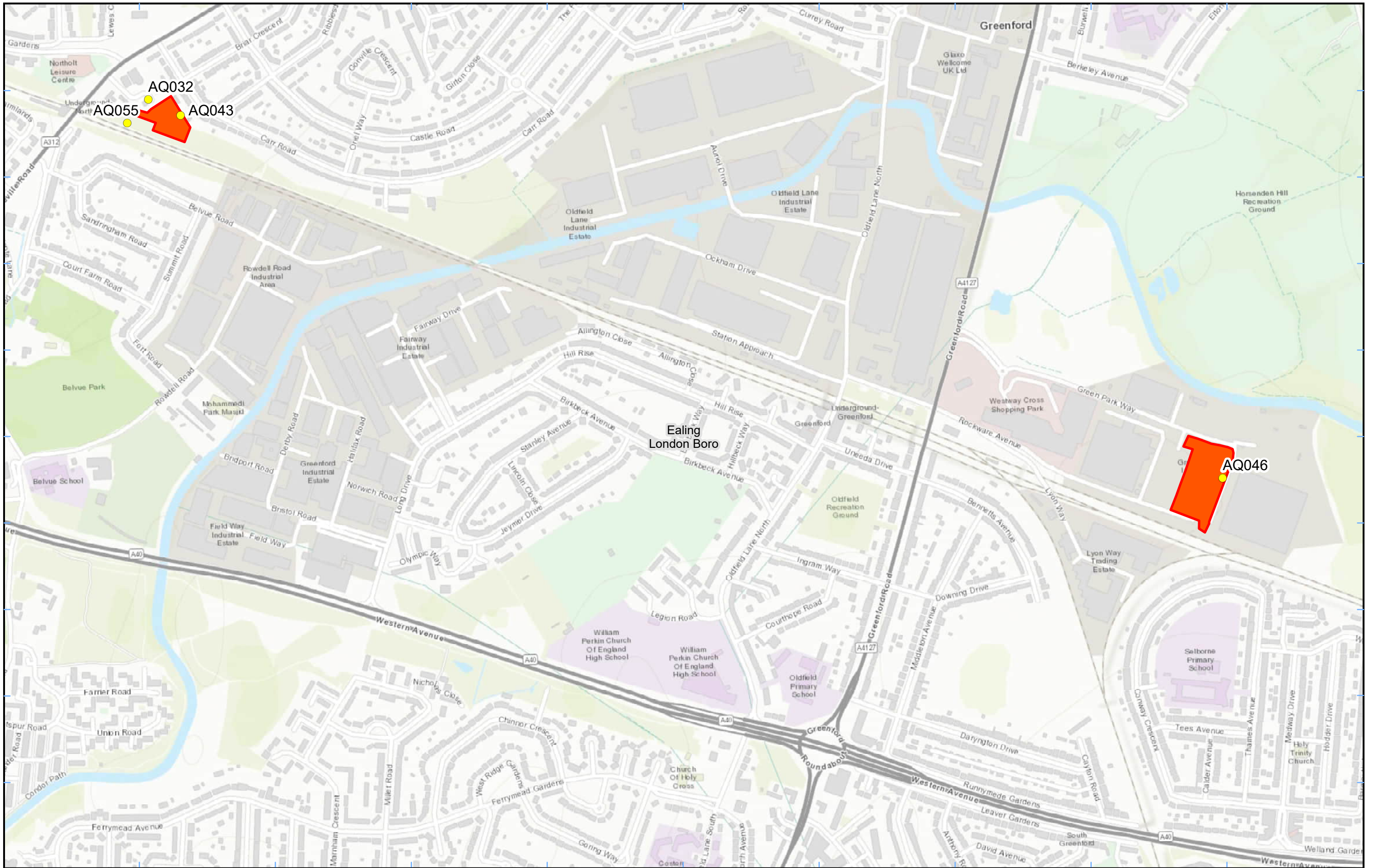
1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) is undertaken at six (6) locations around highways within the LBE as part of the management of air quality where significant effects occur as a result of the scheme.

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 2024 running mean.
- 1.1.13 There were no (0) complaints received during the reporting period (August 2024).

# Appendix A – Worksites and Monitoring Locations

Figures 1 to 3: Worksites and Monitoring Locations within the LBE



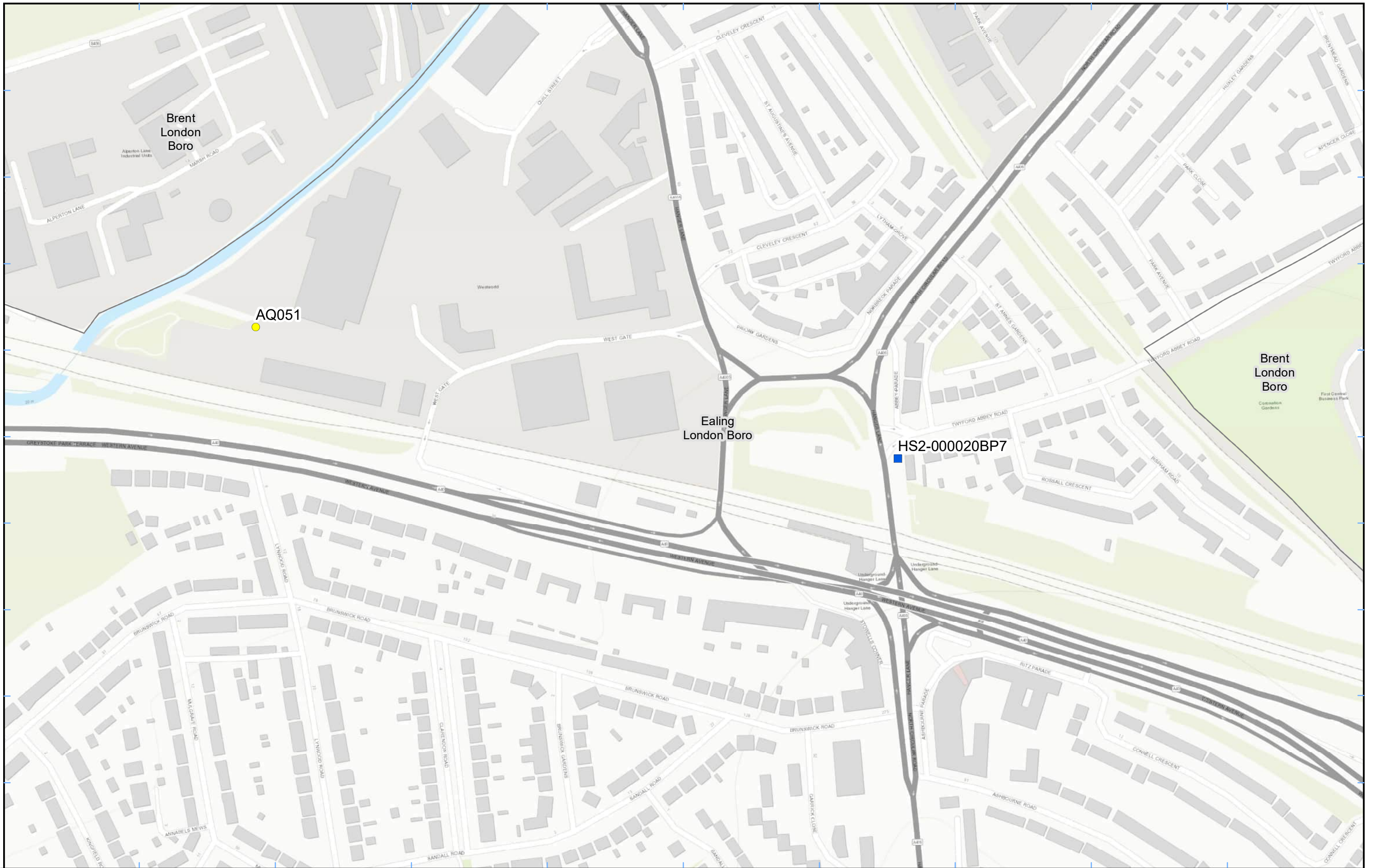
**Legend**  
 ● Dust Monitor □ District Borough Unitary Boundaries  
 ■ Worksite

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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**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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Scale at A3: 1:3,000

Metres

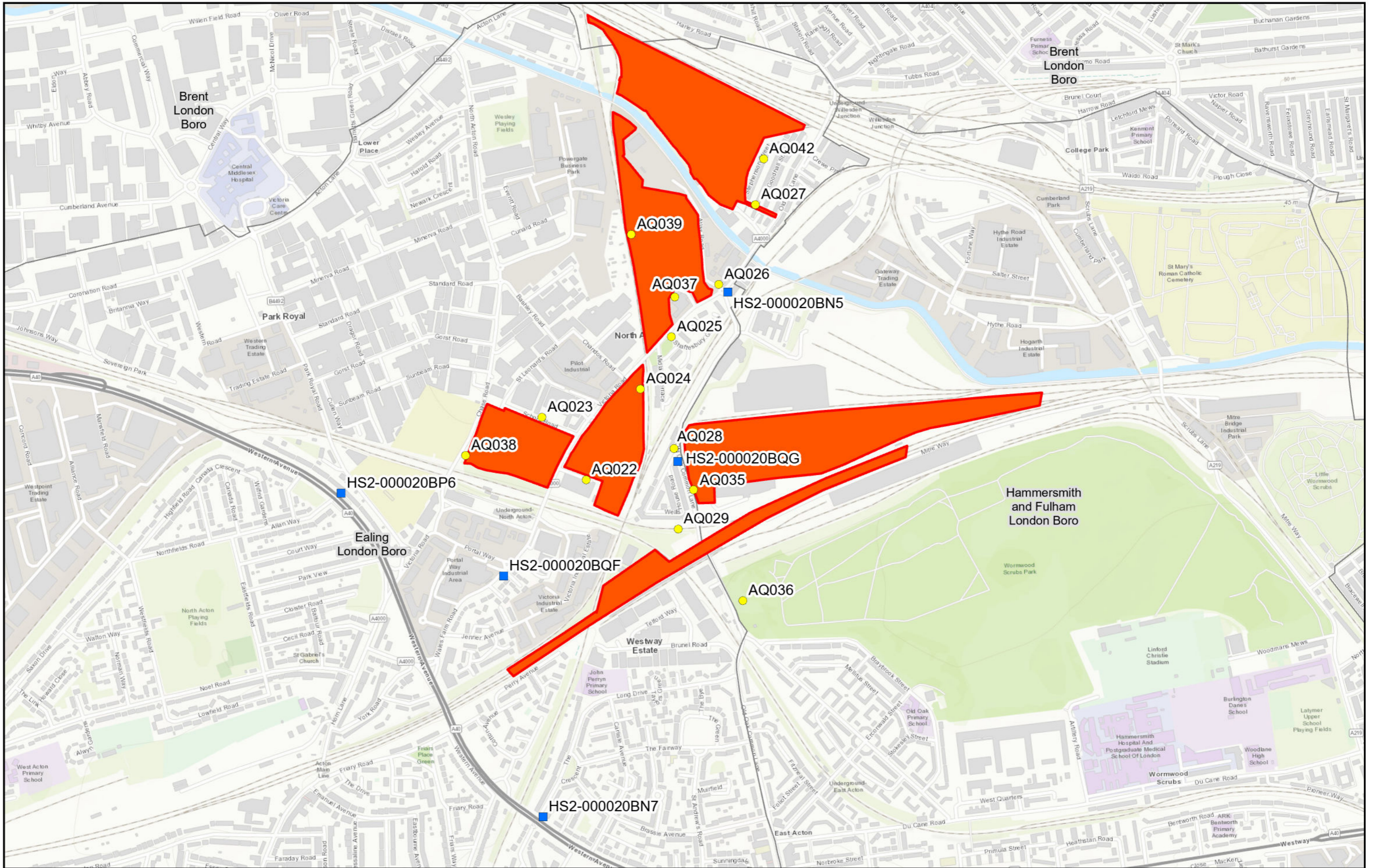
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- Legend**
- Diffusion Tube
  - Worksite
  - Dust Monitor
  - District Borough Unitary Boundaries

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




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Metres

Date: 09/08/24

# Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and 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   | 20.5  | 2.1  | 309.1  | 7   | 100.0            |
| AQ023              | 520956, 182149    | School Road               | M                         | Yes                                  | N   | 15.1  | 2.4  | 85.8   | 0   | 100.0            |
| AQ024              | 521214, 182223    | Braitrim House            | M                         | Yes                                  | N   | 17.4  | 2.0  | 111.9  | 0   | 100.0            |
| AQ025              | 521295, 182360    | Victoria Road             | M                         | Yes                                  | N   | 19.2  | 2.3  | 166.2  | 0   | 100.0            |
| AQ026              | 521419, 182497    | Old Oak Lane              | M                         | Yes                                  | N   | 14.9  | 1.9  | 242.5  | 1   | 100.0            |
| AQ027              | 521515, 182706    | Channel Gate Road         | M                         | Yes                                  | N   | 17.9  | 2.2  | 171.6  | 0   | 100.0            |
| AQ028              | 521302, 182067    | Wells House Road          | M                         | Yes                                  | N   | 14.4  | 1.7  | 58.4   | 0   | 98.3             |
| AQ029              | 521453, 182132    | Old Oak Common            | H                         | Yes                                  | N   | 12.4  | 1.9  | 56.6   | 0   | 93.1             |
| AQ032              | 513402, 184536    | Badminton Close           | M                         | Yes                                  | N   | 10.2  | 1.2  | 27.9   | 0   | 100.0            |
| AQ035              | 521353, 181959    | Old Oak Common            | H                         | Yes                                  | N   | 14.6  | 2.0  | 58.4   | 0   | 100.0            |
| AQ036              | 521482, 181668    | UTX South – Triangle Site | M                         | Yes                                  | N   | 11.1  | 1.9  | 42.2   | 0   | 92.6             |
| AQ037              | 521304, 182464    | Atlas Road                | M                         | Yes                                  | N   | 16.5  | 2.9  | 225.1  | 1   | 100.0            |

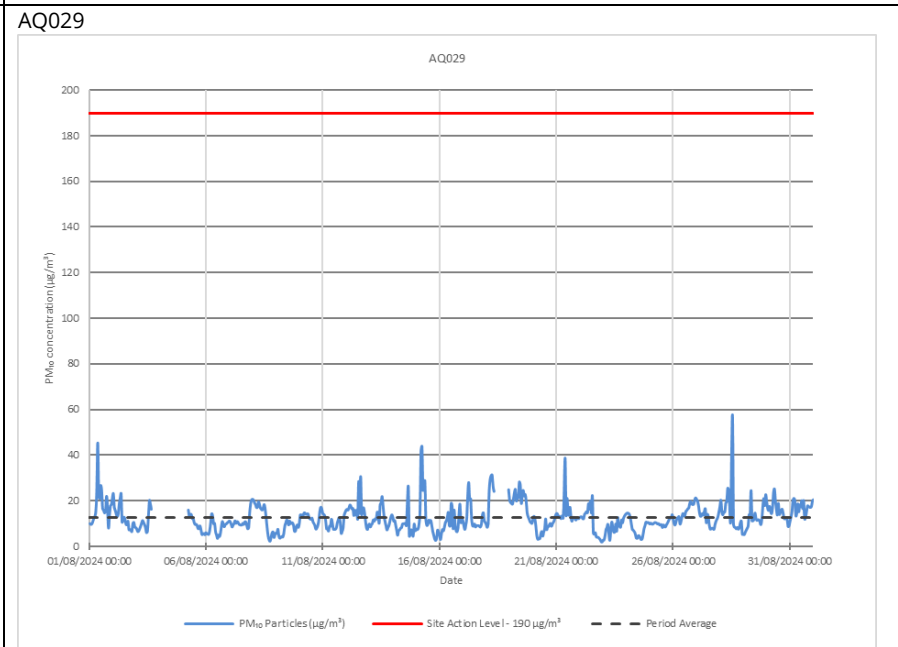
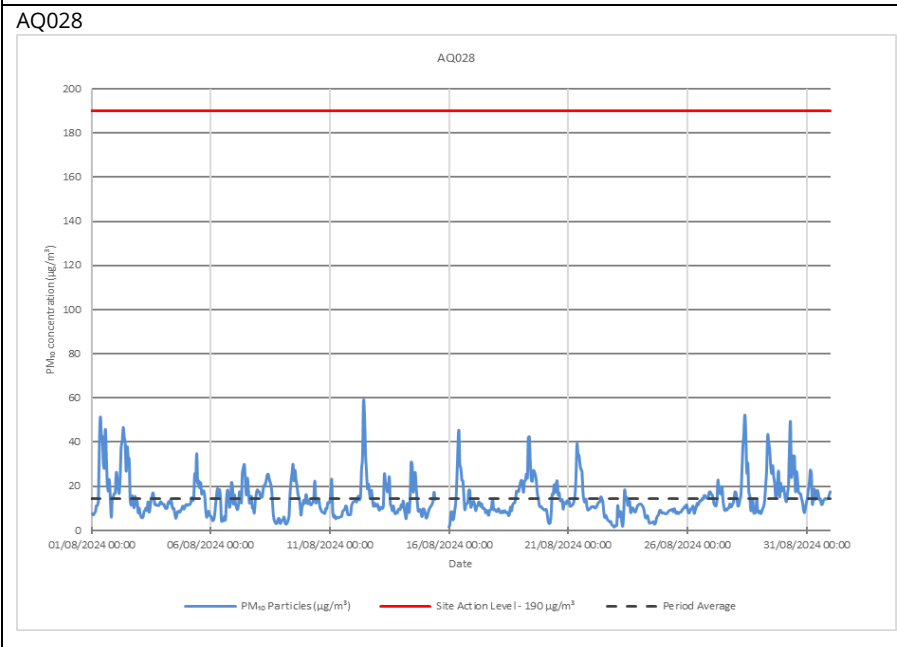
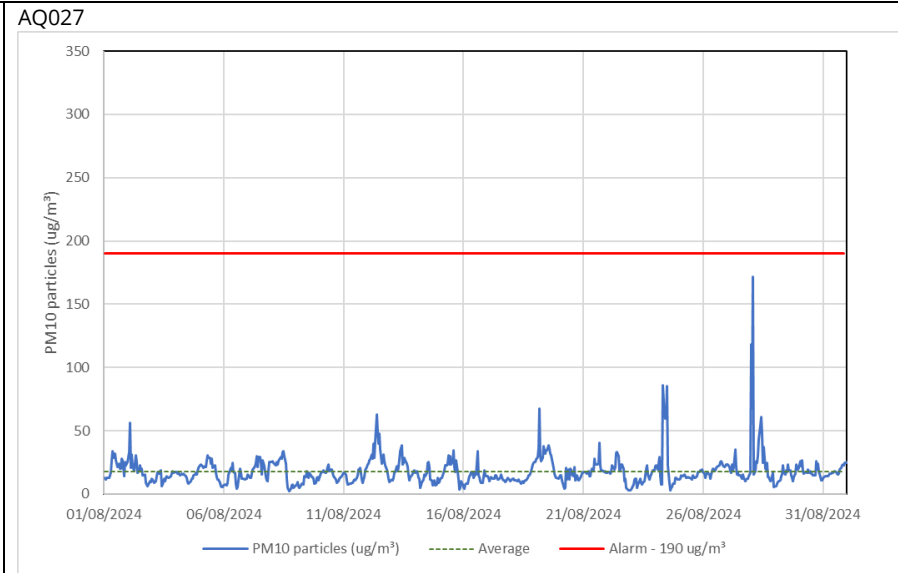
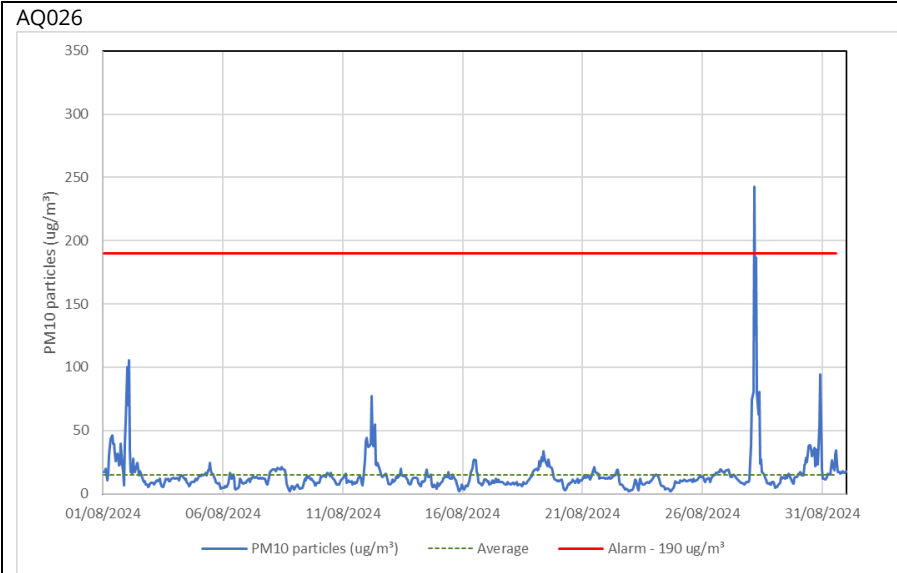
| Monitoring site ID | Coordinates (X,Y) | Location description | Dust risk rating for site | Monitoring site active during period | Change to site since previous period report | Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> ) | Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</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 (%) |
|--------------------|-------------------|----------------------|---------------------------|--------------------------------------|---|---|--|--|---|------------------|
| AQ038              | 520756, 182049    | Chase Road           | M                         | Yes                                  | N   | 17.5  | 2.2  | 100.9  | 0   | 76.3             |
| AQ039              | 521190, 182628    | Atlas Road 2         | M                         | Yes                                  | N   | 16.9  | 2.6  | 183.8  | 0   | 100.0            |
| AQ042              | 521537, 182826    | Stephenson Road      | M                         | Yes                                  | N   | 20.6  | 2.2  | 110.8  | 0   | 100.0            |
| AQ043              | 513468, 184504    | Mandeville Road      | M                         | Yes                                  | N   | 11.2  | 1.3  | 44.8   | 0   | 100.0            |
| AQ046              | 515593, 183764    | Green Park Way       | M                         | Yes                                  | N   | 12.6  | 2.1  | 42.2   | 0   | 100.0            |
| AQ051              | 517976, 182823    | Westgate             | M                         | Yes                                  | N   | 12.2  | 1.7  | 122.5  | 0   | 100.0            |
| AQ055              | 513359, 184488    | Mandeville Road 2    | M                         | Yes                                  | N   | 11.4  | 3.0  | 28.8   | 0   | 100.0            |

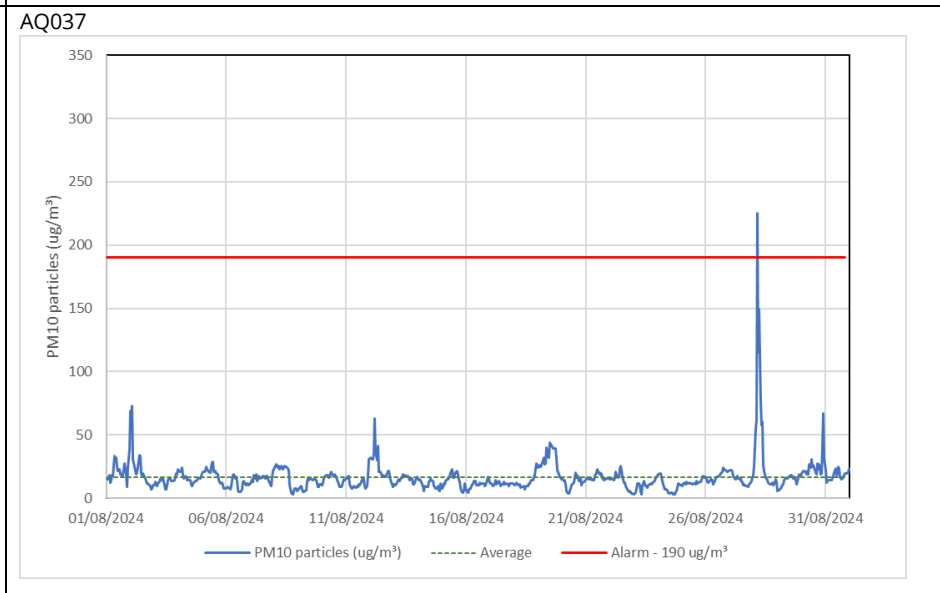
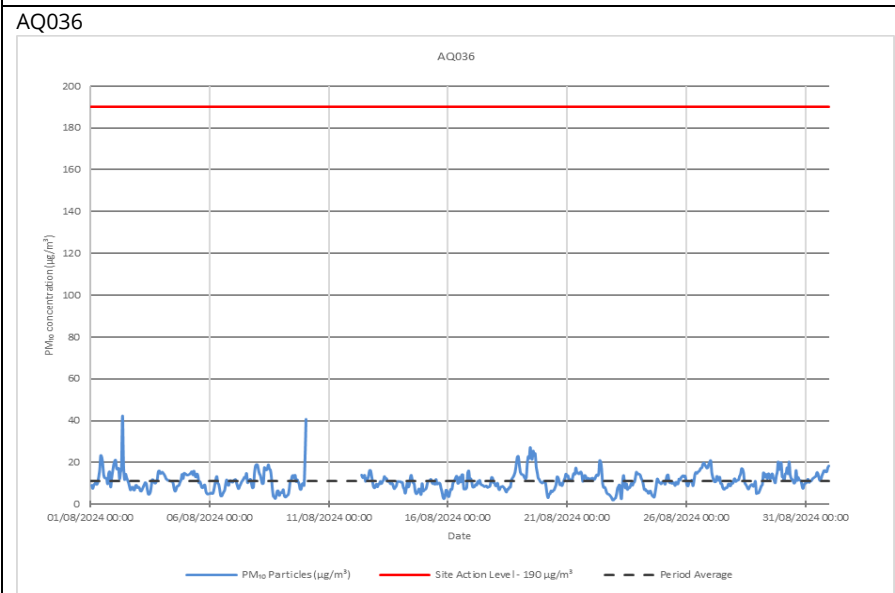
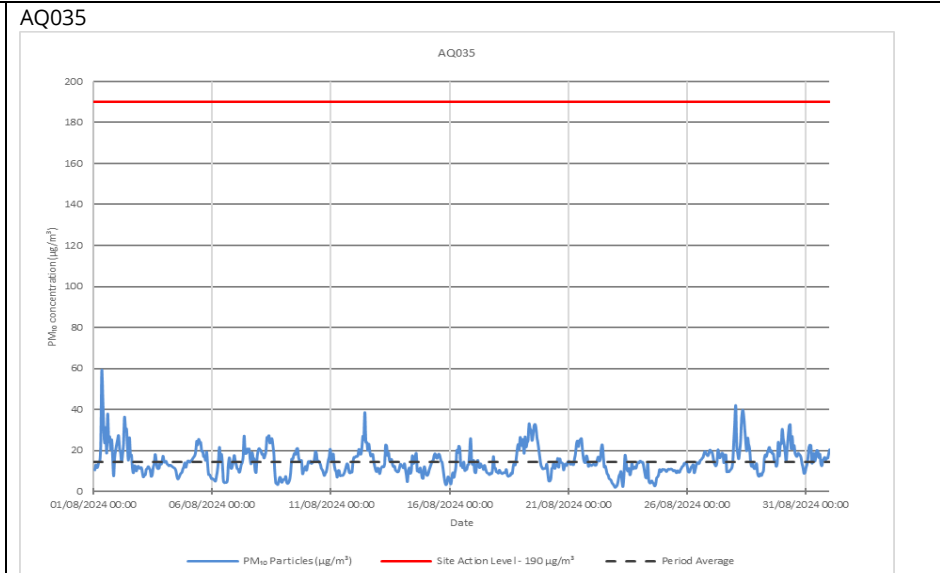
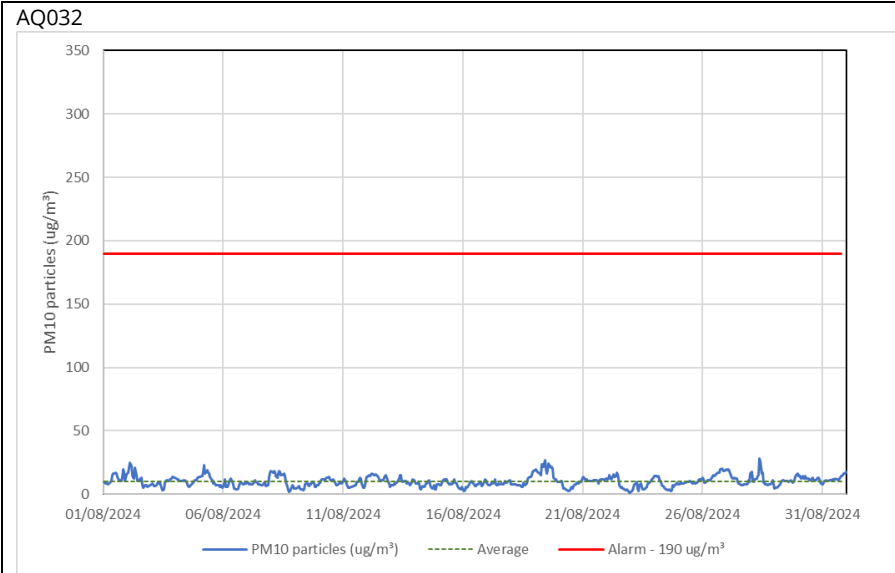
Table 2: Summary of exceedances during period (August 2024)

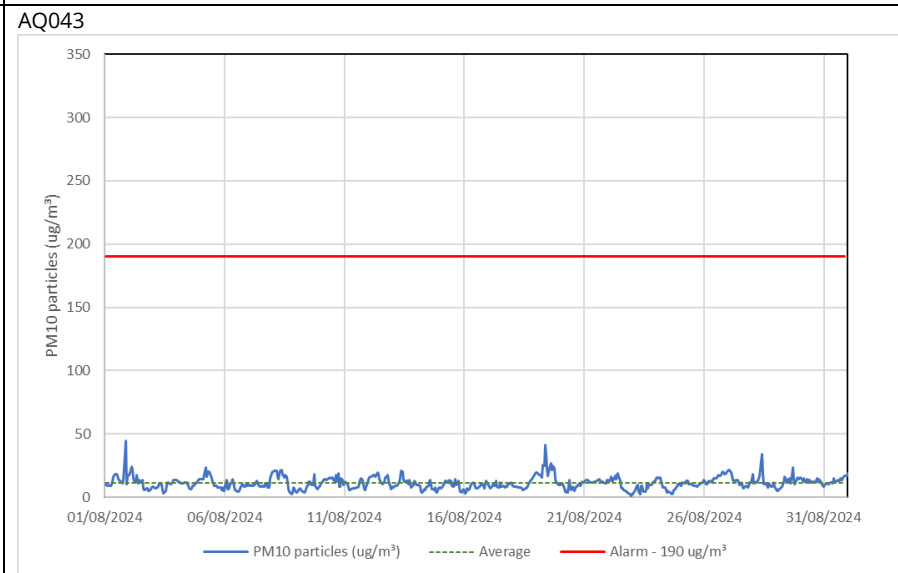
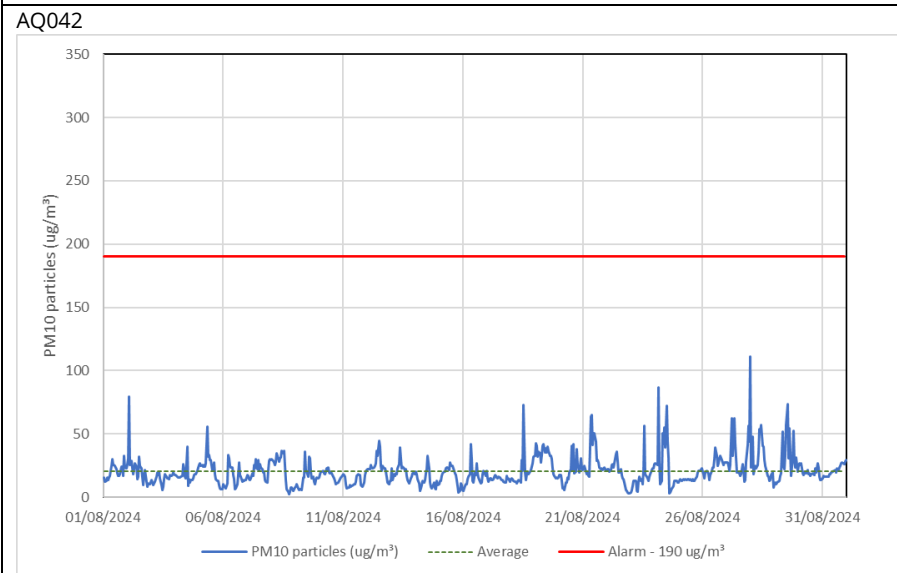
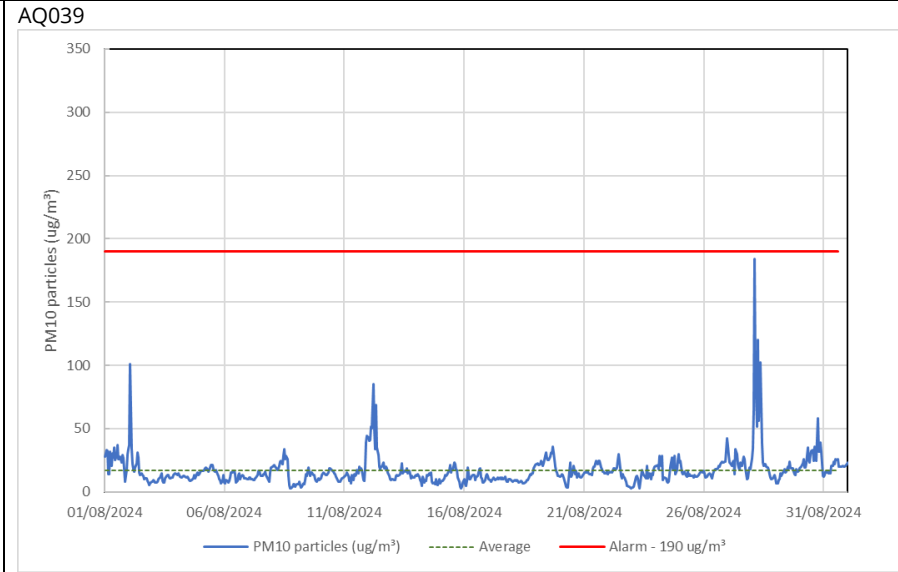
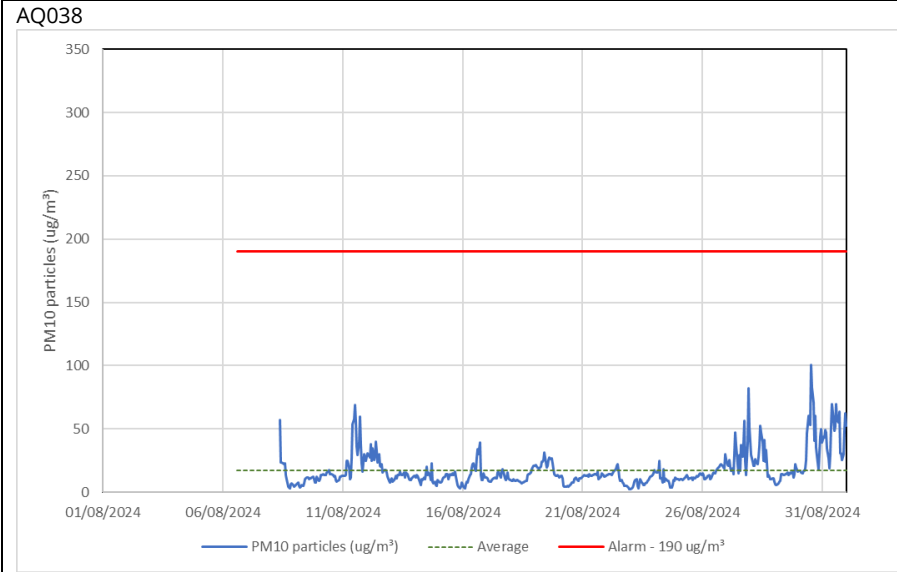
| Monitoring site ID | Period exceeding trigger level  | Investigation   | Outcomes / Resolution / Remedial measures implemented |
|--------------------|---|---|---|
| AQ022              | <p>09/08/2024<br/>09:01 – 10:00; 206.1 µg/m<sup>3</sup><br/>13:01 – 14:00; 292.6 µg/m<sup>3</sup></p> <p>10/08/2024<br/>08:01 – 09:00; 234.8 µg/m<sup>3</sup></p> <p>19/08/2024<br/>14:01 – 15:00; 286.4 µg/m<sup>3</sup></p> <p>20/08/2024<br/>10:01 – 11:00; 218.1 µg/m<sup>3</sup></p> <p>23/08/2024<br/>13:01 – 14:00; 210.4 µg/m<sup>3</sup></p> <p>27/08/2024<br/>09:01 – 10:00; 309.1 µg/m<sup>3</sup></p> | <p>AQ022 is located on the car park roof of Boden House. The triggers were caused by 3<sup>rd</sup> Party contractor resurfacing works on the roof car park near to and directly adjacent to the monitor. The triggers were not associated with dust from HS2 works.</p>  | N/A   |
| AQ026              | <p>28/08/2024<br/>03:01 – 04:00; 242.5 µg/m<sup>3</sup></p>   | <p>At the time of the trigger alert in the early hours of the morning there were no works underway on site and it is considered the trigger was false and associated with high humidity levels and warm conditions. Tiny water droplets can sometimes be measured 'falsely' as particulates. The other monitors in the area also experienced similar spikes in measured data, AQ037 (see below) also triggered.</p> | N/A   |
| AQ037              | <p>28/08/2024<br/>03:01 – 04:00; 225.1 µg/m<sup>3</sup></p>   | <p>At the time of the trigger alert in the early hours of the morning there were no works underway on site and it is considered the trigger was false and associated with high humidity levels and warm conditions. Tiny water droplets can sometimes be measured 'falsely' as particulates. The other monitors in the area also experienced similar spikes in measured data, AQ026 (see above) also triggered.</p> | N/A   |

Figure 4: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for all dust monitors

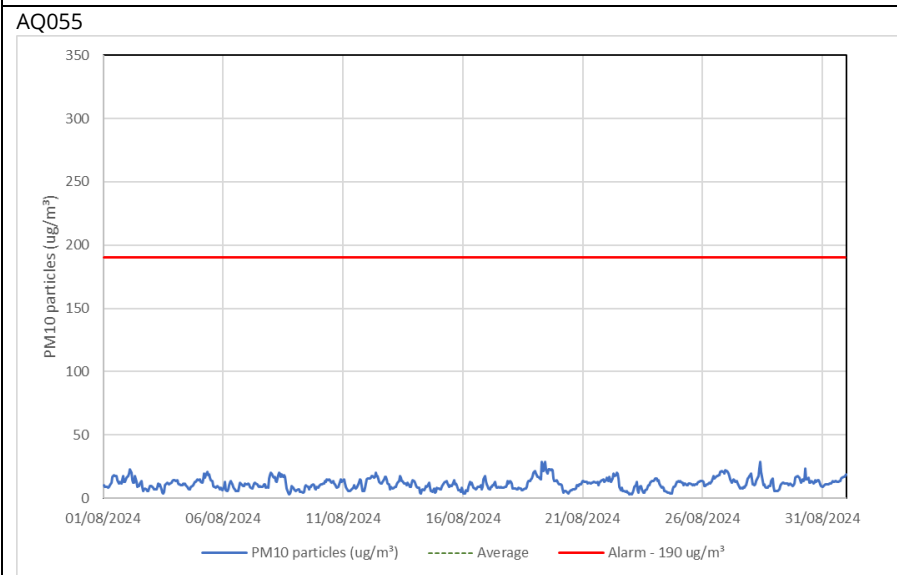
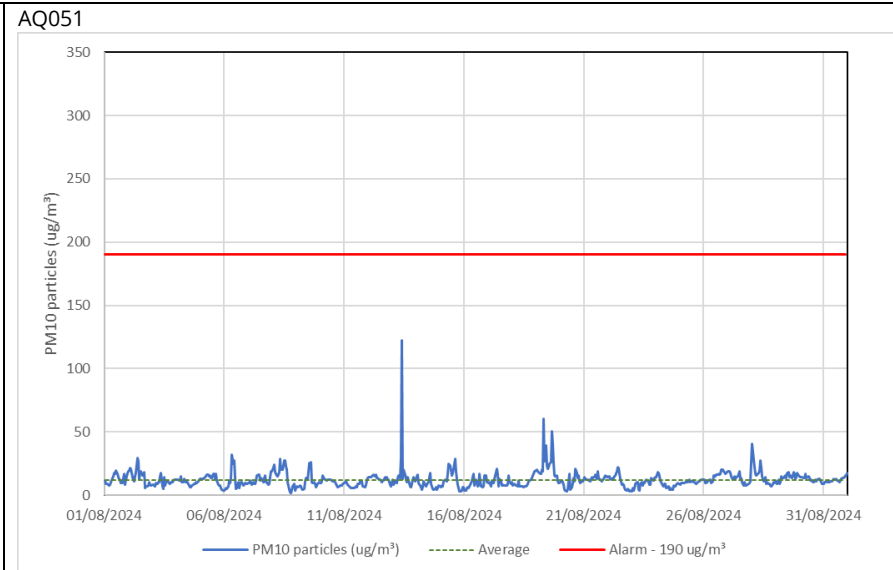
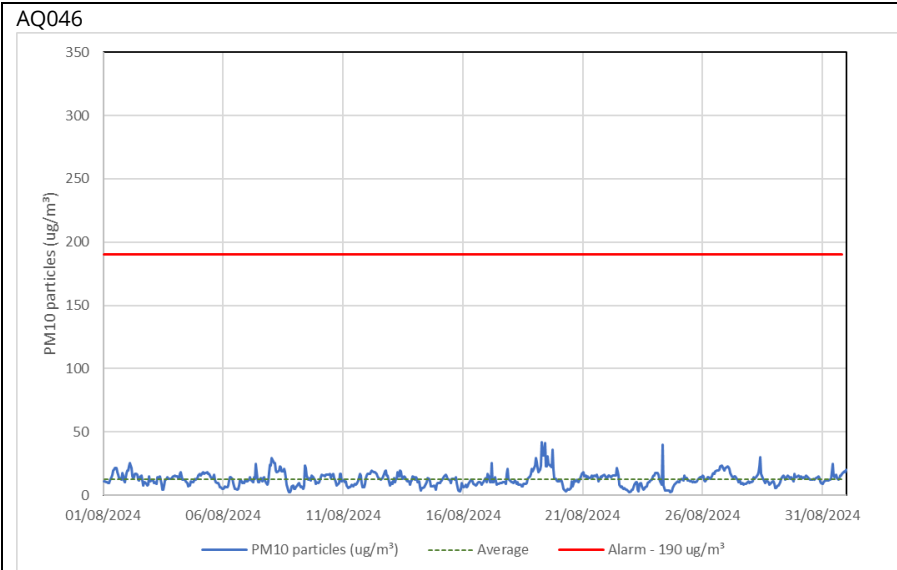












## Appendix C – Air Quality Monitoring Results

Table 3: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2024 (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>12</sup> |
|--------------------|--|--------------------|--------------|--------------|--------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| HS2-000020BN5      | Sign post on Victoria Road   | 521443, 182477     | 55           | 46           | 43           | 35           | 40  | 40  | 40  |     |     |     |     |     | 43                 |
| HS2-000020BN7      | The Approach street sign   | 520959, 181102     | 41           | 35           | 40           | 31           | 35  | 35  | 32  |     |     |     |     |     | 35                 |
| HS2-000020BQF      | Conway Drive sign post   | 520856, 181733     | 48           | 46           | 40           | 39           | 46  | 41  | 35  |     |     |     |     |     | 42                 |
| HS2-000020BQG      | Lamp post outside No 1. Wells House Road on Old Oak Common Lane                                | 521312, 182033     | Tube Missing | Tube Missing | Tube Missing | Tube Missing | 41  | 39  | 25  |     |     |     |     |     | 35                 |
| HS2-000020BP6      | Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station | 520430, 181950     | 44           | 44           | 37           | 27           | 35  | 32  | 30  |     |     |     |     |     | 36                 |

<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.

<sup>2</sup> The annual mean for diffusion tubes presented in the table above still require various analysis and adjustments to be undertaken before comparison to the Air Quality Objectives. The final corrected annual mean will be presented in the HS2 Annual Air Quality Report.

| Monitoring Site ID | Location description   | Coordinates (X, Y) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Mean <sup>12</sup> |
|--------------------|--|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| HS2-000020BP7      | Triplicate site next to the Ealing, Hangar Lane Gyrotory roadside automatic monitoring station | 518537, 182708     | 56  | 52  | 52  | 50  | 56  | 55  | 49  |     |     |     |     |     | 53                 |