

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

London Borough of Hillingdon



Department for Transport

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A report prepared by EWCs and MWCCs on behalf of HS2 Ltd.

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Monthly Summary

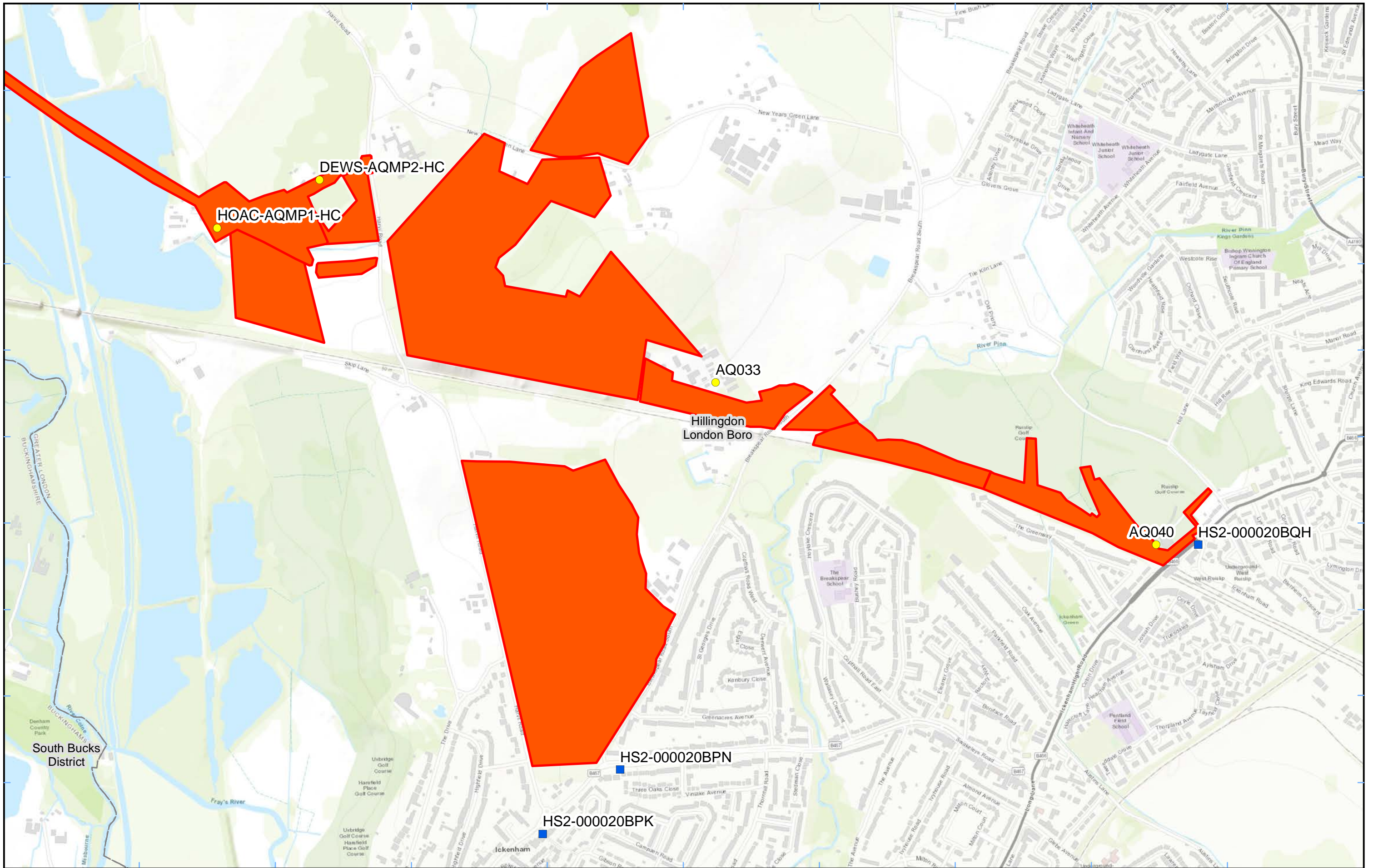
- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of air quality and dust monitoring undertaken in the London Borough of Hillingdon (LBH) during October and November 2020 respectively.
- 1.1.2 Figure 1 to Figure 5 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 which commenced within the LBH in May 2018 and are expected to be completed by the end of 2020. The next phase of construction works commenced in November 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 5, include:
- Gatemead Embankment, Breakspear Road South and River Pinn Underbridge new site set up and haul road creation;
 - Utility diversions, haul road creation and groundworks at Copthall North and Copthall South;
 - West Ruislip Portal haul road creation and groundworks;
 - South Ruislip mobilisation, site set up and ground works;
 - Northern Sustainable Placement Area (NSPA) site mobilisation, set- up and archaeological dig; and
 - Southern Sustainable Placement Area (SSPA) site mobilisation, set- up and archaeological dig.
- 1.1.5 The Colne Valley Viaduct (CVV) and Dews Lane worksites also fall within the administrative boundary of LBH. The Dews Lane phase of works commenced in July 2017 and is expected to be completed by the end of April 2021. The current phase of works at the CVV South Moorhall Road worksite commenced within LBH in September 2020 and is ongoing. Activities for each worksite within November 2020, as presented in Appendix A, Figure 1 to Figure 5, include:
- Dews Lane site:
- Ground investigation and overwater ground investigation works.
- CVV South Moorhall Road worksite:
- North Moorhall Road Junction preparation works;
-

- Ground investigation works; and
- Overwater ground investigation works.

- 1.1.6 Six (6) dust monitors are installed around worksites, where demolition, earthworks, construction and trackout activities are underway. The sites returned a low to medium dust risk rating.
- 1.1.7 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 6. 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.
- 1.1.8 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.
- 1.1.9 There multiple dust trigger alerts recorded during the monitoring period (November 2020). However, following investigations it was noted that these exceedances were not related to HS2 site activities, but rather the prevailing weather conditions (heavy fog experienced). Exceedances are presented in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.10 Data capture for monitors DEWS-AQMP2, AQ033 and AQ034 was below 90% for the month of November 2020 due to temporary loss of power to the monitors.
- 1.1.11 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at eleven (11) locations around highways within the LBH as part of the management of air quality where significant effects may occur as a result of the scheme.
- 1.1.12 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.
- 1.1.13 NO₂ monitoring locations and results are presented in Appendix C, Table 3, together with the 2020 running mean.
- 1.1.14 There were no (0) complaints received, relating to air quality, during this reporting period (November 2020).

Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 5: Current monitoring locations within the LBH



Legend

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

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

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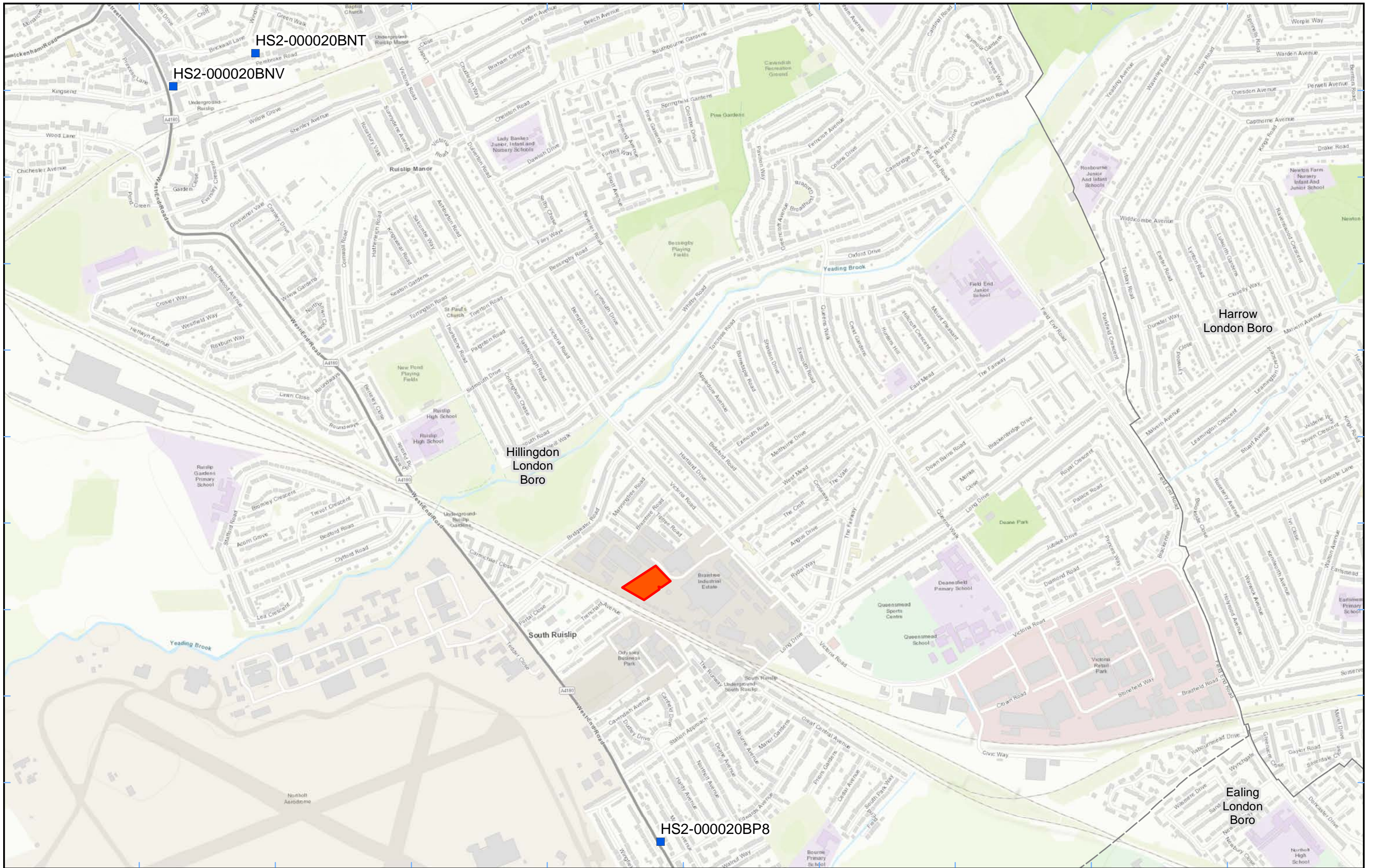
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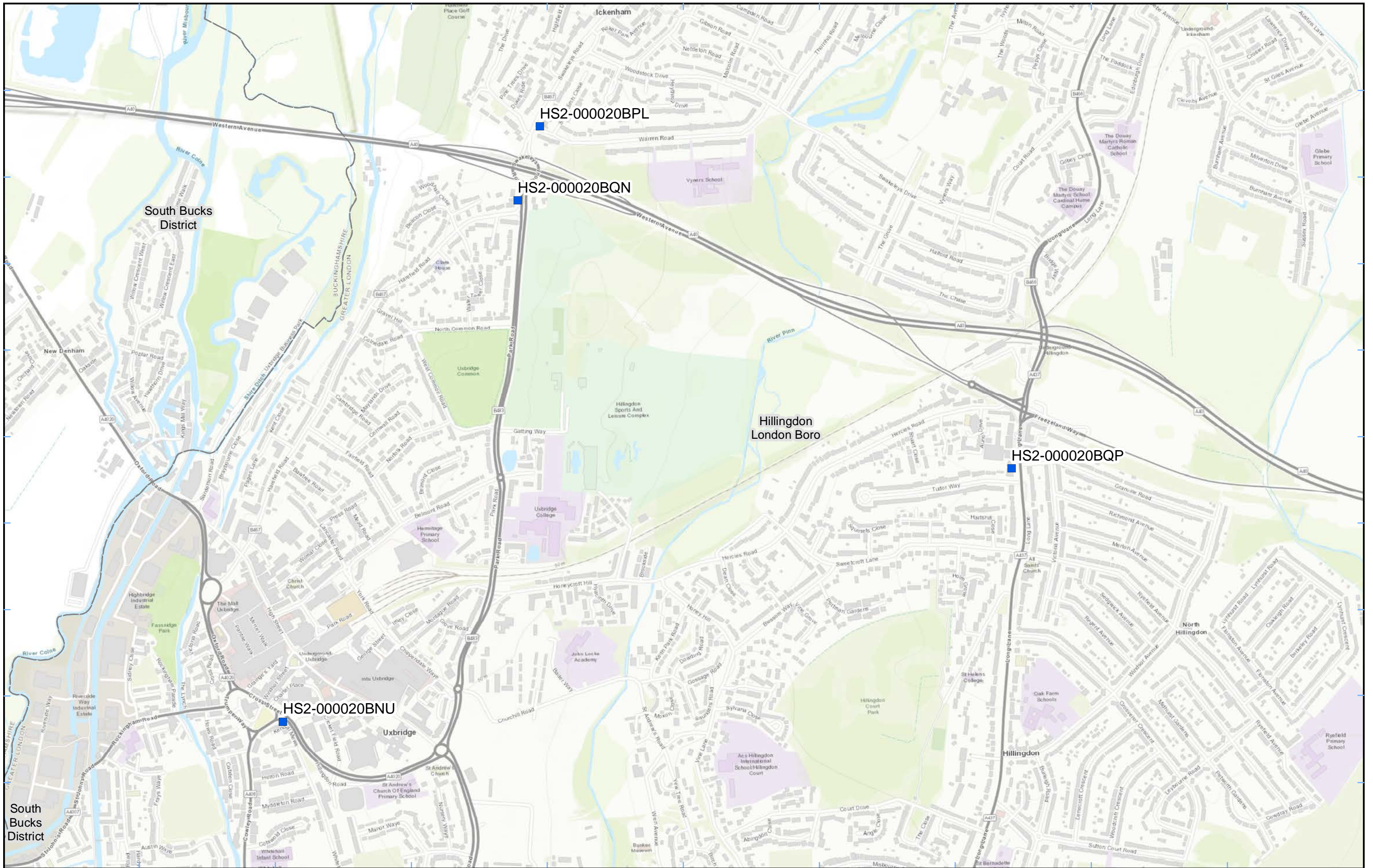
Legend
■ Diffusion Tube District Borough Unitary Boundaries
 Worksite

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Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBH (Sheet 2)**
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Legend
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 □ District Borough Unitary Boundaries

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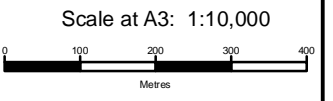
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Monitoring Locations In LBH (Sheet 3)
London Borough of Hillingdon



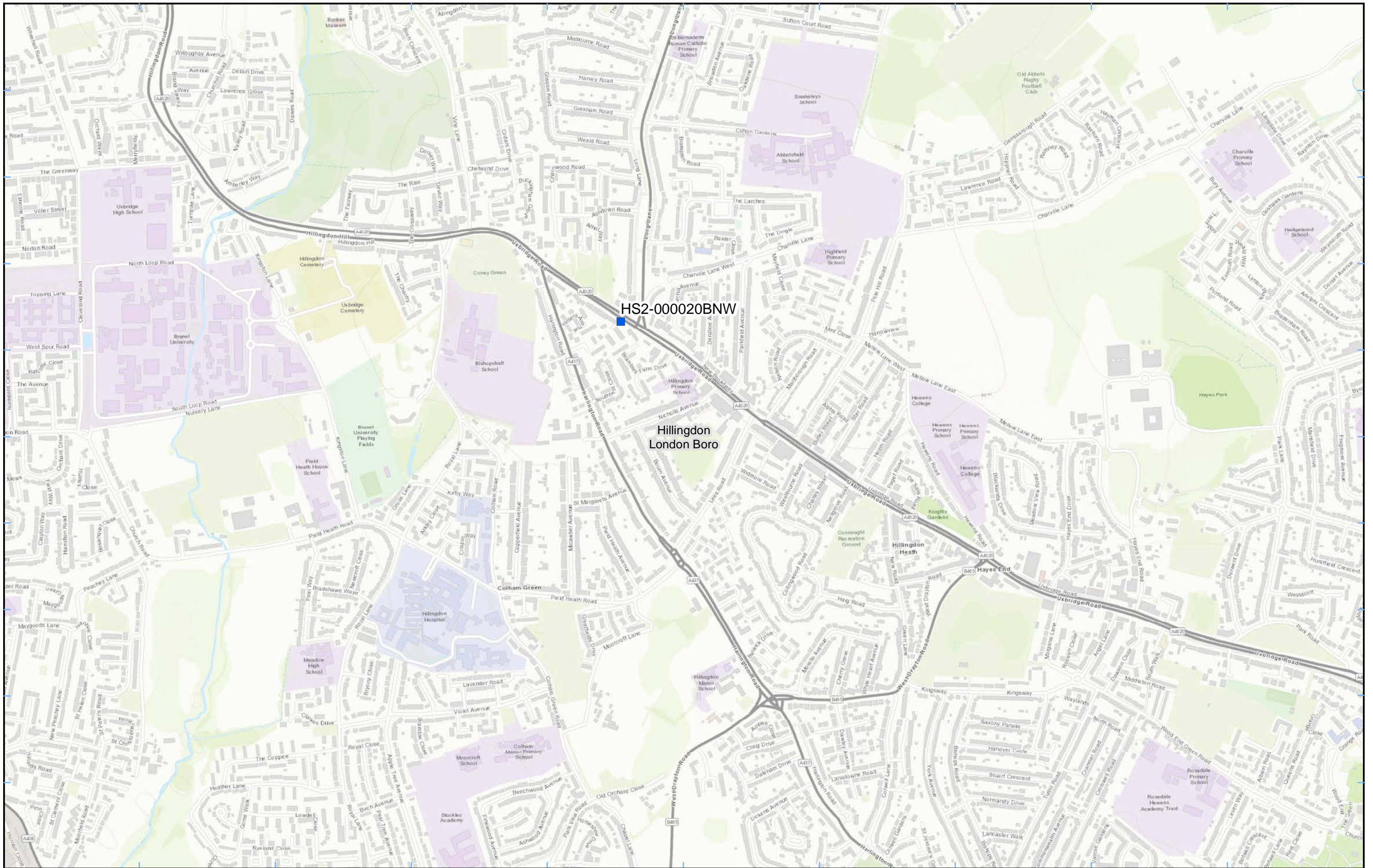
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- Legend**
- Diffusion Tube
 - District Borough Unitary Boundaries


Map Number	
Map Name	Monitoring Locations In LBH (Sheet 4)
London Borough of Hillingdon	



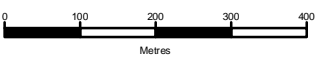
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Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and November 2020 Results

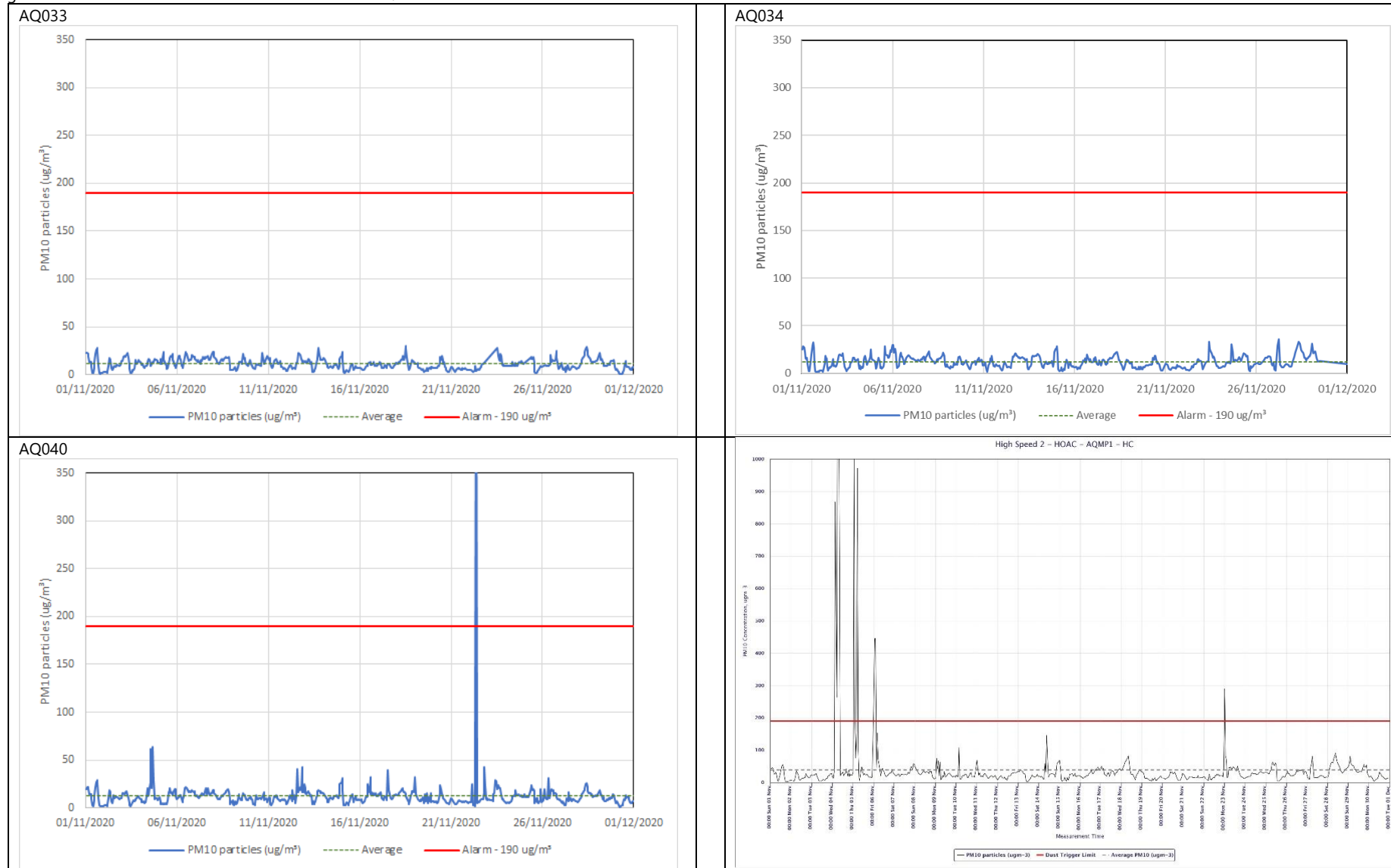
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ033	507045, 187352	Breakspears Road South	M	Yes	N	11.2	0.7	30.2	0	89.2
AQ034	506608, 187592	Copthall Cutting	L	Yes	N	12.0	1.2	35.7	0	87.6
AQ040	508328, 186880	West Ruislip Golf Course	M	Yes	N	12.4	1.1	551.2	1	95.3
HOAC-AQMP ₁ -HC	505594, 187801	On the western boundary of HOAC at Dews Lane	M	Yes	Yes	39.0	2.3	1462.2	12	100
DEWS-AQMP ₂ -HC	505892, 187942	Adjacent to Dew's Farm Cottages on Dews Lane.	M	Yes	Yes	14.7	2.1	311.8	1	99
CVV-AQMP ₁ -HC	504679, 188475	On the roadworks boundary along north side of Moorhall Road	M	Yes	Yes	10.9	2.3	25.7	0	1.72

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

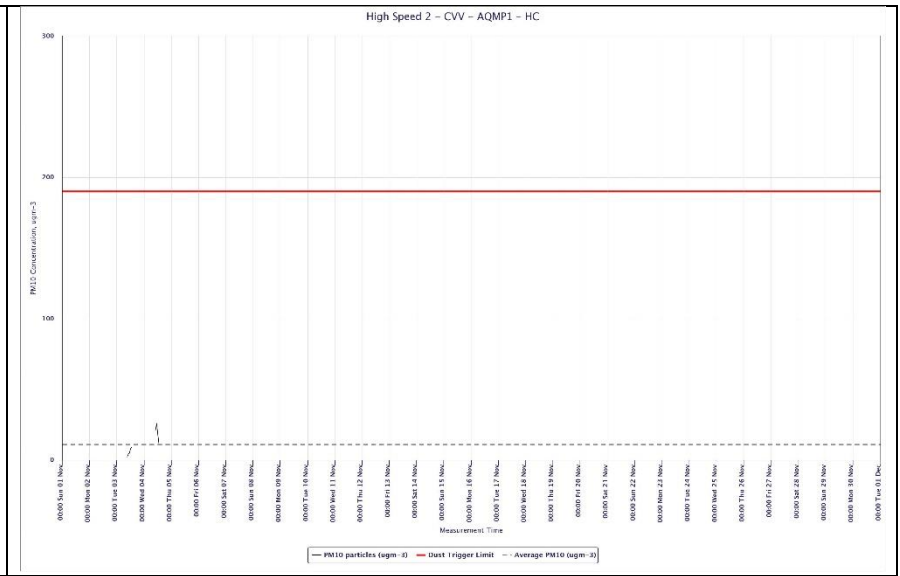
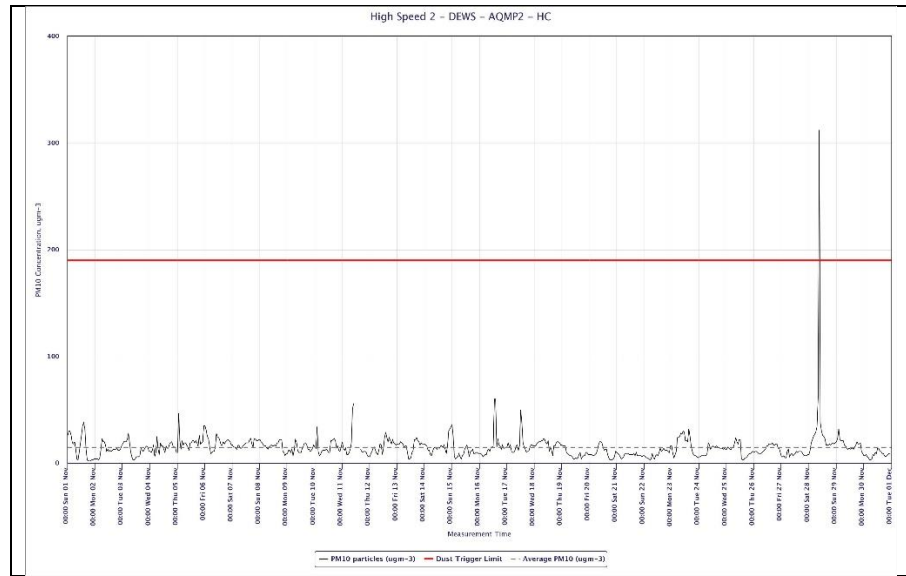
Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ040	23/11/2020 15:00 - 16:00: 482.7 µg/m ³	<p>Given the site was closed on the Sunday 22/11/2020 and the fact the reading was uncharacteristically high, it is considered that the trigger was associated with the persistent wet weather conditions throughout November and on this occasion exacerbated by a misty morning rather than dust generated by site activities.</p> <p>The combination of moisture and debris build-up and subsequent loosening within the monitor inlets is considered to be the most likely cause and has been evident in other monitors during the month.</p>	The monitor is due its quarterly service and maintenance.
HOAC-AQMP1_HC	<p>04/11/2020</p> <p>03:00 – 04:00: 867.7 µg/m³ 04:00 – 05:00: 536.9 µg/m³ 05:00 – 06:00: 263.0 µg/m³ 06:00 – 07:00: 1445.4 µg/m³ 07:00 – 08:00: 1462.2 µg/m³ 08:00 – 09:00: 795.0 µg/m³</p> <p>05/11/2020 01:00 – 02:00: 1008.2 µg/m³</p> <p>05/11/2020 05:00 – 06:00 – 971.8 µg/m³</p> <p>06/11/2020</p> <p>00:00 – 01:00: 253.1 µg/m³ 01:00 – 02:00: 444.8 µg/m³ 02:00 – 03:00: 444.8 µg/m³</p> <p>23/11/2020 00:00 – 01:00: 289.9 µg/m³</p>	<p>Exceedances are likely due to the heavy fog over Greater London, with moisture appearing to infiltrate the monitors air inlet, leading to false PM10 concentrations.</p> <p>The majority of the alerts were also triggered outside of core working hours.</p>	The functionality of the heated inlet will be monitored closely and manually inspected during the next site visit.

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
DEWS-AQMP2_HC	28/11/2020 08:00 – 09:00: 311.8 µg/m ³	Works were stood down in this area due to thick fog most of the weekend.	Not due to site works. Heated inlet functionality continuing to be monitored.

Figure 6: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors



Air Quality and Dust Monitoring Summary Report, November 2020
 London Borough of Hillingdon



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
HS2-000020BNT	Lamp post on Pembroke Road	509678, 187214	35	26	No data			19	14	18	22	24			23
HS2-000020BNU	Cowley Road sign post at junction with Hillingdon Road	505492, 183926	49	46	No data			33	31	33	37	37			38
HS2-000020BNV	High Street sign post at junction with Pembroke Road	509439, 187117	45	33	No data			32	26	30	32	31			33
HS2-000020BNW	Signpost on A4020 Uxbridge Road at junction with Long Lane	507365, 182687	43	32	No data			35	22	36	36	35			34
HS2-000020BPK	Lamp post in crescent off Swakeleys Road	506542, 186037	40	34	No data			27	28	29	35	31			32
HS2-000020BPL	Warren Road sign post on corner of Swakeleys Road and Warren Road	506240, 185660	51	40	No data			28	28	30	33	35			35
HS2-000020BPN	Lamp post on B467	506767, 186224	41	30	No data			24	21	Tube missing	30	29			29
HS2-000020BQH	Lamp post on High Road Ickenham	508451, 186879	44	37	No data			27	24	29	39	30			33

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.

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
HS2-000020BQN	Lamp post on Park Road	506176, 185444	47	34	No data			34	26	35	39	36			36
HS2-000020BQP	Sign post on Long Lane	507614, 184663	45	33	No data			30	24	34	38	32			34
HS2-000020BP8	Triplicate site at South Ruislip roadside automatic monitoring station	510858, 184916	39	32	No data			29	22	28	31	22			29