

Air Quality and Dust Monitoring Monthly Report – February 2022 London Borough of Hillingdon



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.

High Speed Two (HS2) Limited,
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.gov.uk/hs2

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

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.

© High Speed Two (HS2) Limited, 2021, except where otherwise stated.

Copyright in the typographical arrangement rests with High Speed Two (HS2) Limited.

This information is licensed under the Open Government Licence v2.0. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/version/2 **OGI** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk. Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.



Printed in Great Britain on paper containing at least 75% recycled fibre.

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 January and February 2022 respectively.
- 1.1.2 Figure 1 to Figure 4 in Appendix A indicate the current worksites, together with air quality 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 November 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 4, include:
- Gatemead Embankment, Breakspear Road South and River Pinn Underbridge piling operations, groundworks and materials management;
 - Groundworks, piling and materials management, concreting and shuttering works at Copthall North and South;
 - West Ruislip Portal piling and groundworks, concreting and materials management;
 - South Ruislip ground works, piling operations, concrete works and materials management;
 - Northern Sustainable Placement Area (NSPA) conveyor construction and groundworks; and
 - Southern Sustainable Placement Area (SSPA) site mobilisation and set-up, spoil treatment area construction.

CVV Dews Lane

- Jetty piling: piling plant, support plant, platform and compound;
- HOAC Compound: compound operation;
- Cofferdam Sheet Piling: piling plant and support plant;
- Permanent main piling works: boring pile, de-sanding pile bore at pile position, installing reinforcement cage and concreting pile, bored pile break-down to prepare the pile surface, grout curtain around viaduct pile groups maintenance plant;
- Haul Road 26,000-26,600: earthworks and drainage;
- INNS-GUC to Harvil Road: removal works;
- Ground Investigation Works: GI works;
- North Abutment: slab & wall construction, backfilling at abutment walls;

- South Abutment: earthworks, driven pile mobilisation, CFA piling-mobilisation & installation and test piling;
- Core Drilling of Concrete;
- Pile Trimming;
- Grand Union Canal Work: pontoon installation and condition survey;
- Harefield Lake No.2: compensation pond;
- SCS Material Storage;
- Fencing Finishing Works;
- Utility Diversions;
- Environmental Maintenance;
- NYGB River Crossing;
- Cofferdam Excavation; and
- Utilities.

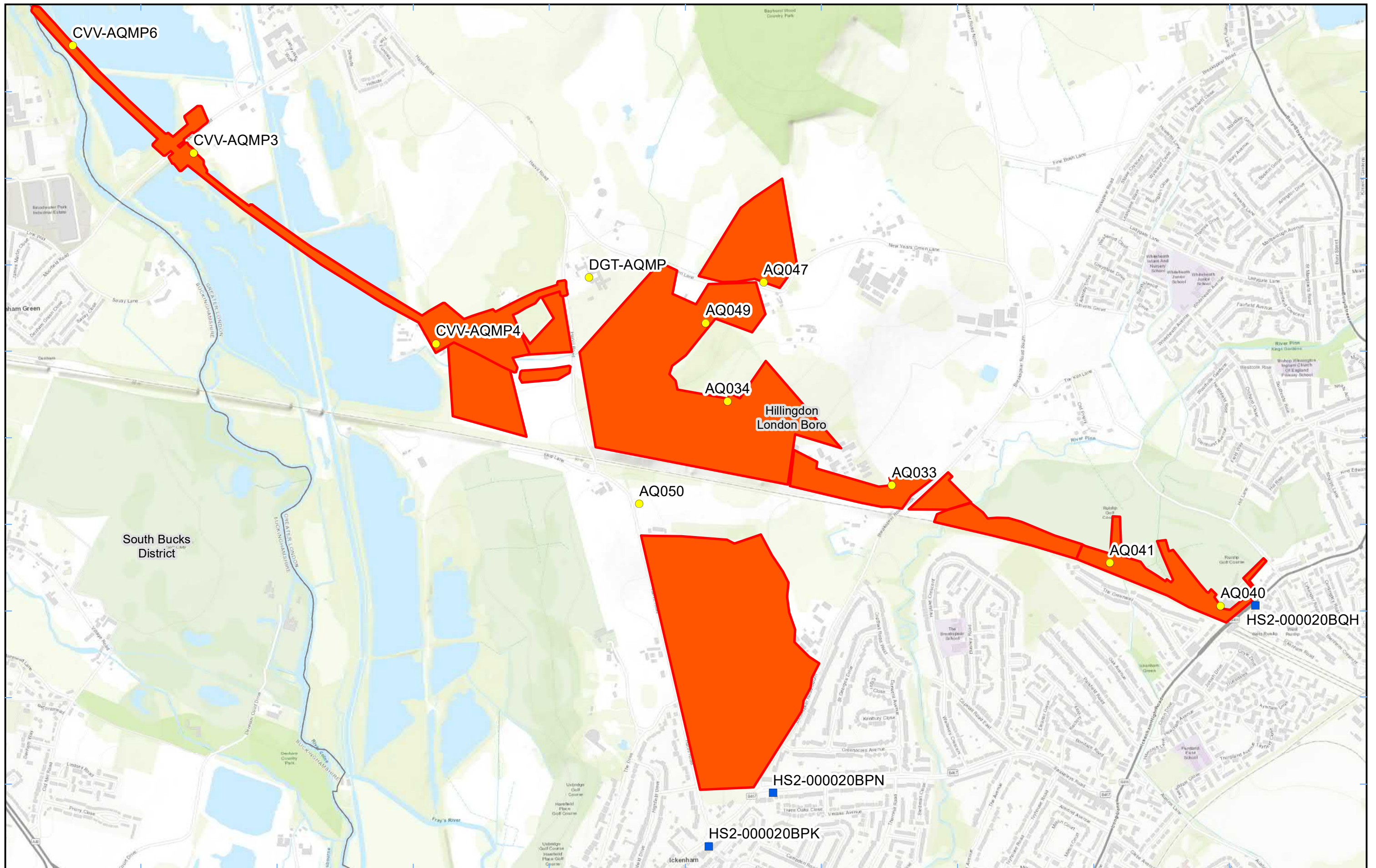
CVV Moorhall Road

- Jetty piling: piling plant, support plant, platform and compound;
- Cofferdam Sheet Piling: piling plant and support plant;
- Permanent main piling works: boring pile, desanding pile bore at pile position, installing reinforcement cage and concreting pile, bored pile break-down to prepare the pile surface and grout curtain around viaduct pile groups maintenance plant;
- South & North Moorhall road compound: compound operation and de-sanding compound;
- Haul Route: preparation works, finishing works and fencing;
- INNS-River Colne to GUC: removal;
- Ground Investigation Works: GI works;
- River Colne Realignment;
- Crossings Tarmac: A412 & Moorhall Road Junction;
- CFA Pile Caps at P22 & P30: CFA piling, FRC to pile caps and earthworks;
- Pumping water management from ch 25.900 to 29.500;
- Maintenance of the haul road from ch 25.900 to 29.500;
- Satellite welfare;
- Generator farms;
- Core drilling of concrete;
- Pile Trimming;
- A412 Gas Crossing: emergency dismantling;
- Grand Union Canal Work: pontoon installation and condition survey;
- SCS Material Storage;
- Fencing Finishing Works;
- Utility Diversion;
- Environmental Maintenance;
- Arch Form Deck Pier 33 and straight Pier P38: pile cap construction
- Cofferdam Excavation; and
- Utilities

- 1.1.5 Eleven (11) dust monitors are installed around worksites, where works are underway. These sites returned a low to medium risk 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 1. 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 190µg/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 Dust trigger alerts were recorded during the monitoring period (February 2022) and are reported in Appendix B, Table 2.
- 1.1.9 Data capture was below 90% for multiple monitors in February 2022 due to power supply issues, faults and access issues.
- 1.1.10 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.
- 1.1.11 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.
- 1.1.12 NO₂ monitoring locations and results are presented in Appendix C, Table 3, together with the 2022 running mean.
- 1.1.13 There were no (0) complaints received during this reporting period.

Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 4: Current monitoring locations within the LBH



- Legend**
- Diffusion Tube
 - 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), swisstopo, © OpenStreetMap contributors, and the GIS User Community

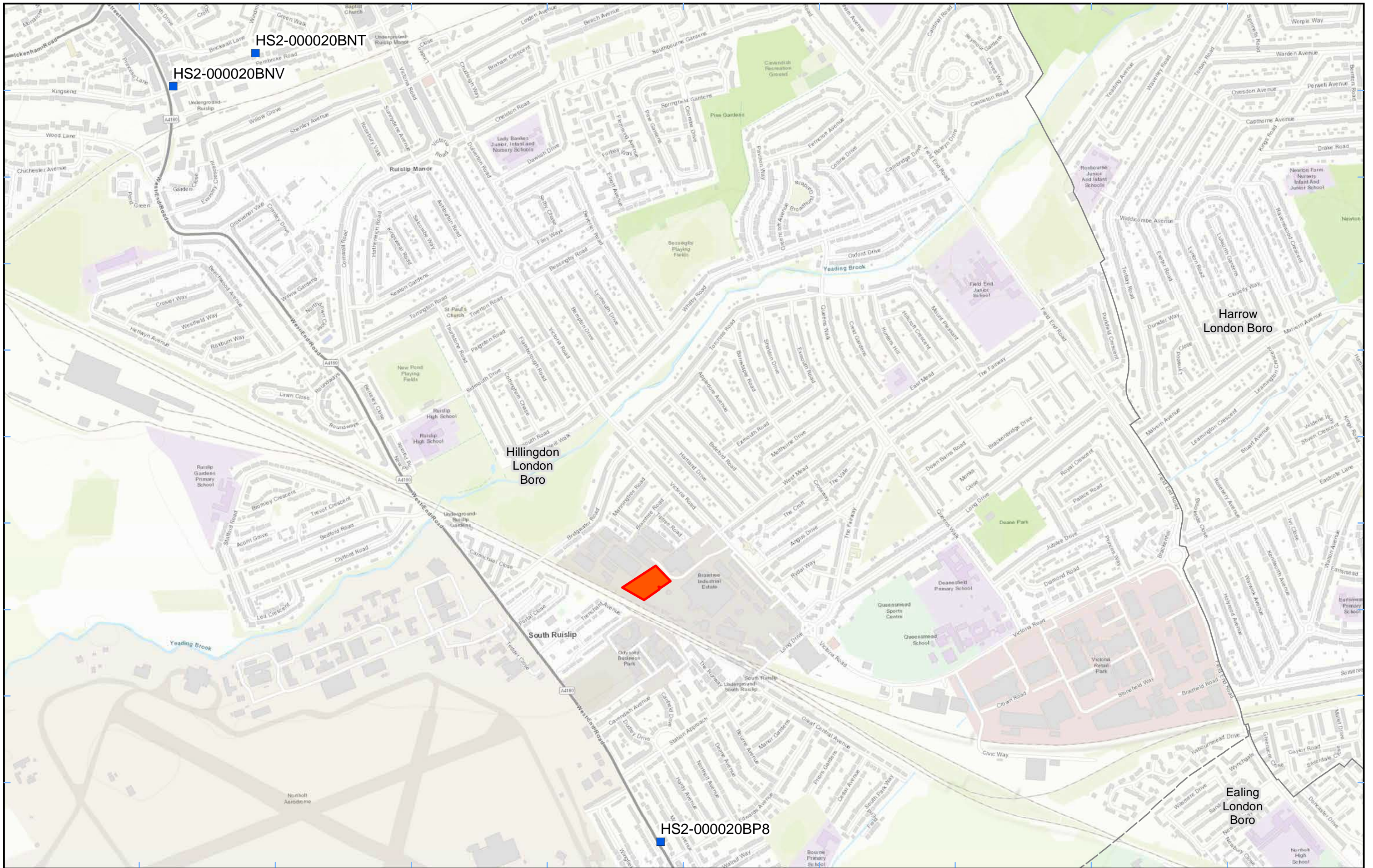
Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBH (Sheet 1)**
 London Borough of Hillingdon

hs2
 Registered in England. Registration number 06791686.
 Registered office: 2 Snowhill, Queensway,
 Birmingham B4 6GA.

Scale at A3: 1:12,000

0 120 240 360 480
 Metres

Doc Number: Date: 03/11/21



Legend
■ Diffusion Tube 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

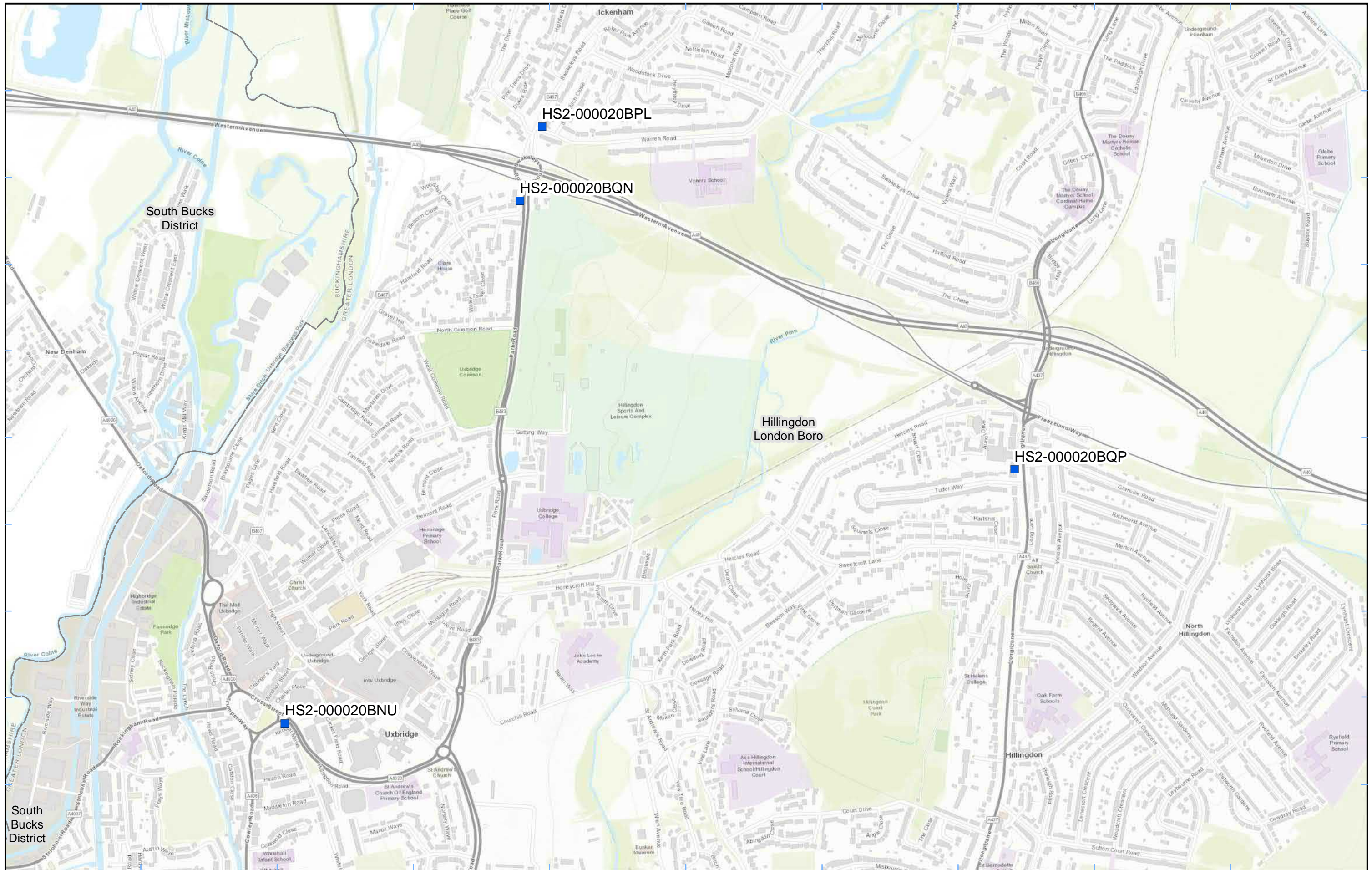
Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBH (Sheet 2)**
 London Borough of Hillingdon

hs2
 Registered in England. Registration number 06791686.
 Registered office: 2 Snowhill, Queensway,
 Birmingham B4 6GA.

Scale at A3: 1:10,000

© Crown copyright and database rights 2020.
 Ordnance Survey Licence Number 100049190.

Doc Number: **Date:** 08/12/20



Legend
 ■ Diffusion Tube
 □ District Borough Unitary Boundaries

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

hs2
 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

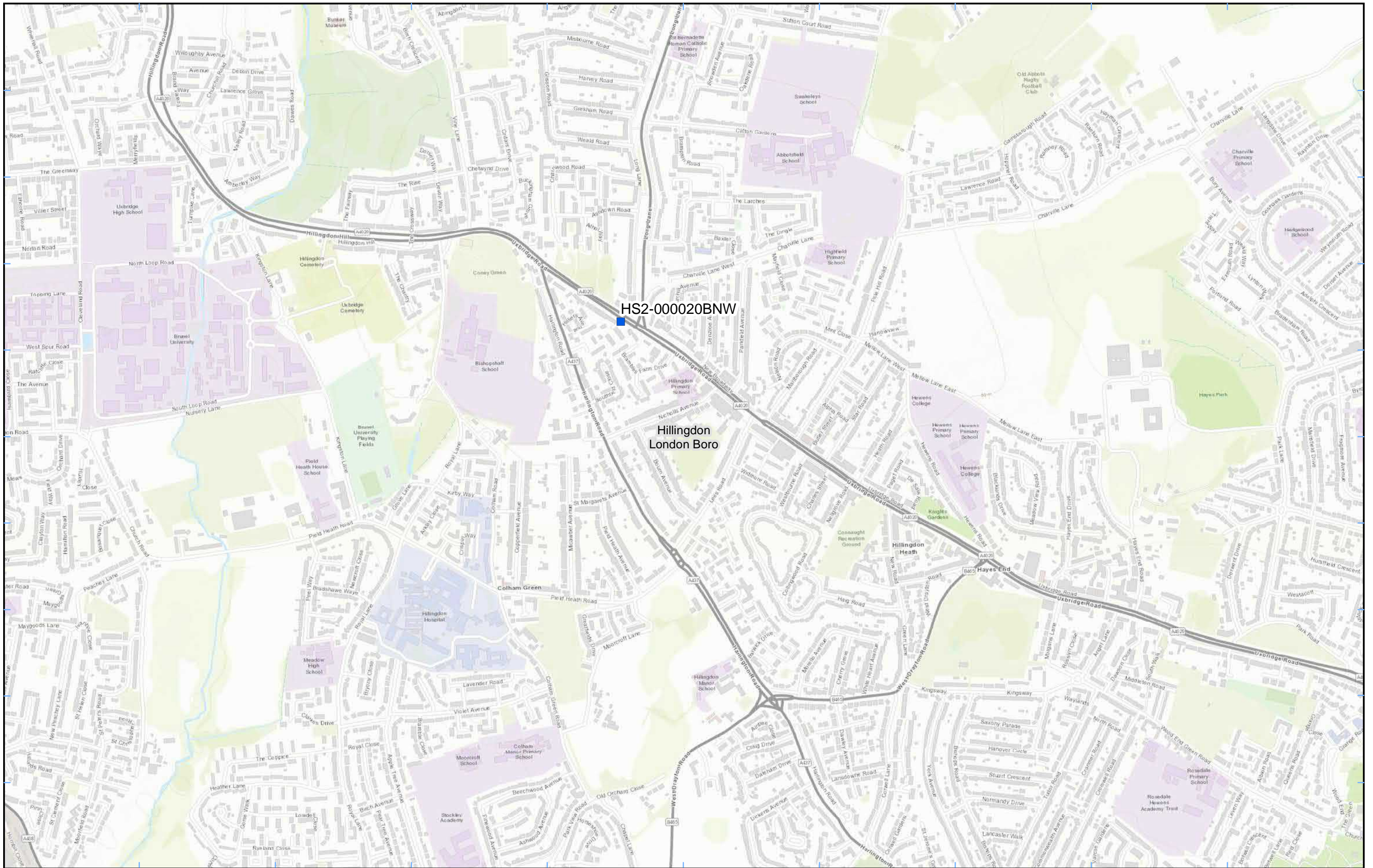
Registered in England. Registration number 06791686.
 Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

© Crown copyright and database rights 2020.
 Ordnance Survey Licence Number 100049190.

Doc Number:
Date: 08/12/20

Scale at A3: 1:10,000
 0 100 200 300 400 Metres

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




HS2-000020BNW

Hillingdon
London Boro

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


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



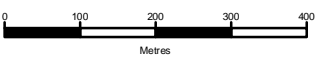
Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway,
Birmingham B4 6GA.

© Crown copyright and database rights 2020.
Ordnance Survey Licence Number 100049190.

Doc Number:



Scale at A3: 1:10,000



Metres

Date: 08/12/20

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

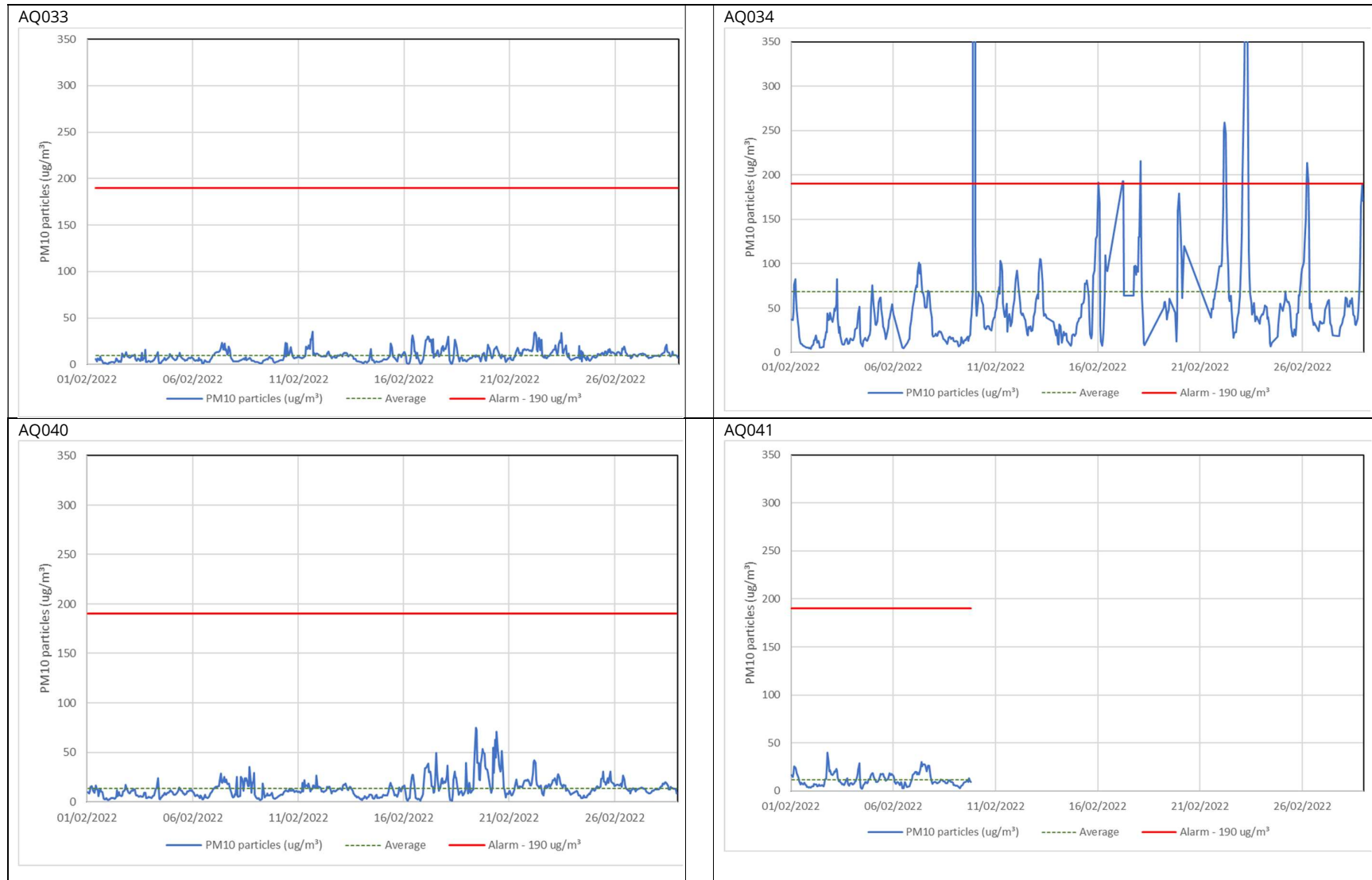
Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and February 2022 Results

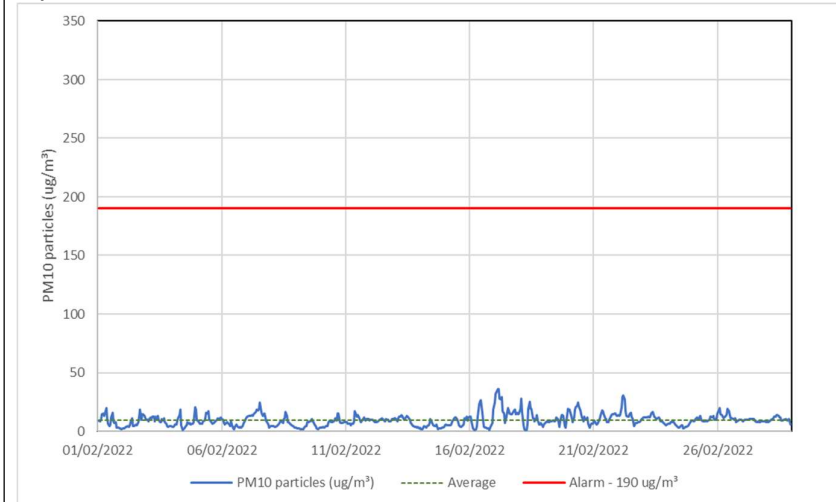
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1- hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ033	507045, 187352	Breakspeare Road South	M	Yes	N	9.4	0.7	35.2	0	98.7
AQ034	506608, 187592	Copthall Cutting	L	Yes	N	68.6	4	5986.2	18	80.5
AQ040	508328, 186880	West Ruislip Golf Course	M	Yes	N	13.5	1.3	74.8	0	100.0
AQ041	507942, 187028	West Ruislip Portal	M	Yes	N	11.7	2.3	40.2	0	31.4
AQ047	507942, 187029	West Ruislip Portal	M	Yes	N	9.4	1	36.2	0	100.0
AQ049	506531, 187865	Copthall North, Ancient Woodland	M	Yes	N	10.7	1.1	48.2	0	98.7
AQ050	506531, 187865	Copthall South Compound	M	Yes	N	10.0	1	40.4	0	78.1
CVV-AQMP3	504773, 188419	Moorhall Road	M	Yes	Y	7.3	1.0	70.0	0	100.0
CVV-AQMP4	505589, 187793	Dews Lane	M	Yes	Y	6.4	1.0	22.0	0	93.0
DGT-AQMP	506124, 188025	Harvil Road	M	Yes	Y	6.8	1.0	23.0	0	85.0
CVV-AQMP6	504321, 188835	Moorhall road	M	Yes	Y	7.1	1.0	22.0	0	50.0

Table 2: Summary of exceedances of trigger level in February 2022 Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ034	09/02/2022 21:01 – 22:00; 2942.9 µg/m ³ 22:01 – 23:00; 5986.2 µg/m ³	Triggers were only received during the early hours of the morning or at night when the site was shut, no activities were taking place and weather conditions were damp/ wet / misty. Triggers associated with high moisture content in the air affecting the monitors and giving false readings.	n/a
AQ034	16/02/2022 00:01 – 01:00; 191.7 µg/m ³		
AQ034	17/02/2022 04:01 – 05:00; 193.0 µg/m ³ 05:01 – 06:00; 193.0 µg/m ³		
AQ034	18/03/2022 01:01 – 02:00; 215.5 µg/m ³		
AQ034	22/02/2022 03:01 – 04:00; 250.4 µg/m ³ 04:01 – 05:00; 259.5 µg/m ³ 05:01 – 06:00; 246.8 µg/m ³		
AQ034	23/02/2022 01:01 – 02:00; 198.7 µg/m ³ 02:01 – 03:00; 275.2 µg/m ³ 03:01 – 04:00; 317.3 µg/m ³ 04:01 – 05:00; 388.7 µg/m ³ 05:01 – 06:00; 394.4 µg/m ³ 06:01 – 07:00; 398.6 µg/m ³ 07:01 – 08:00; 347.3 µg/m ³		
AQ034	26/02/2022 05:01 – 06:00; 213.9 µg/m ³ 06:01 – 07:00; 193.2 µg/m ³		

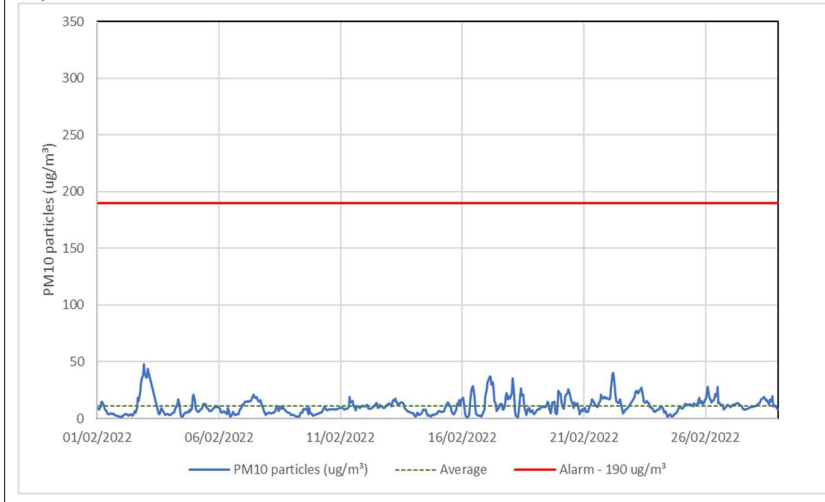
Figure 5: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors



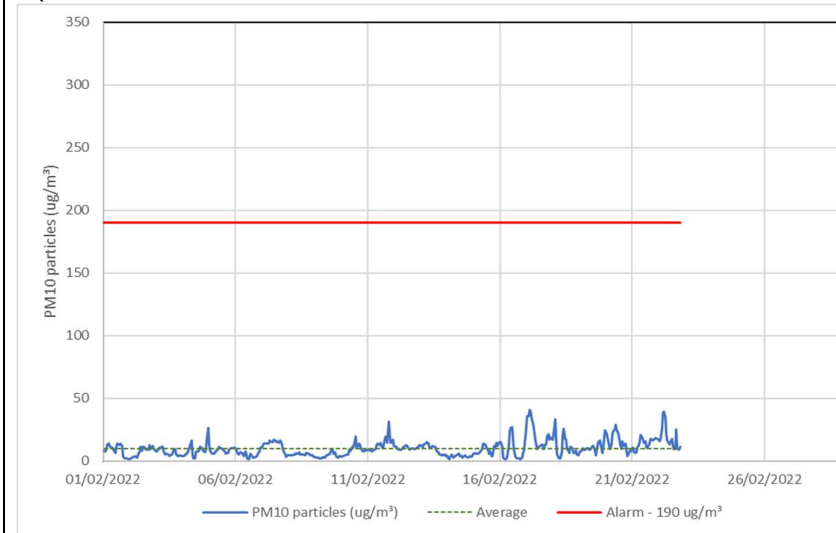
AQ047



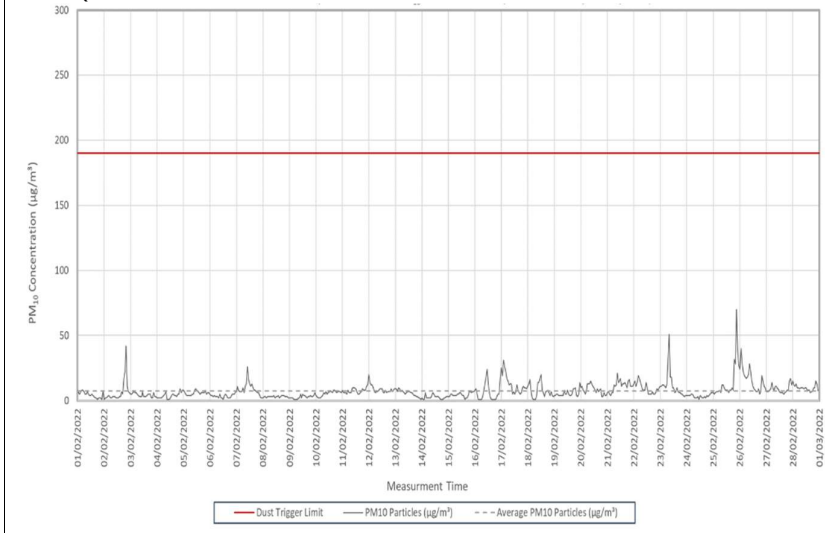
AQ049



AQ050

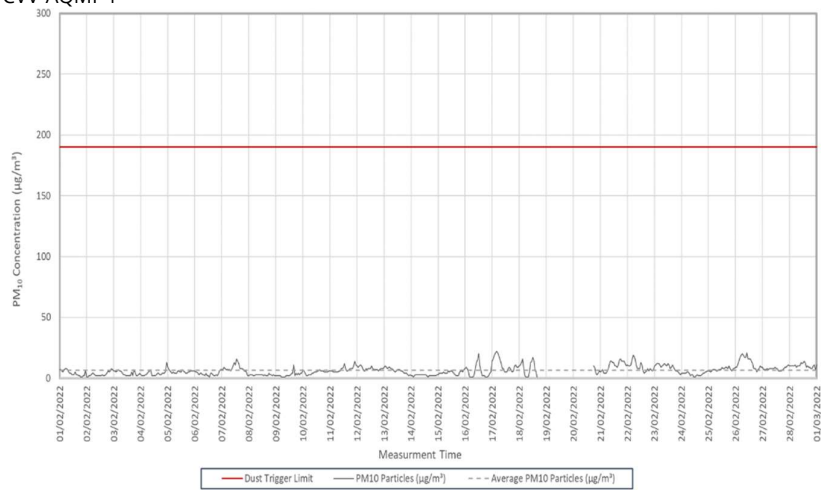


CW-AQMP3

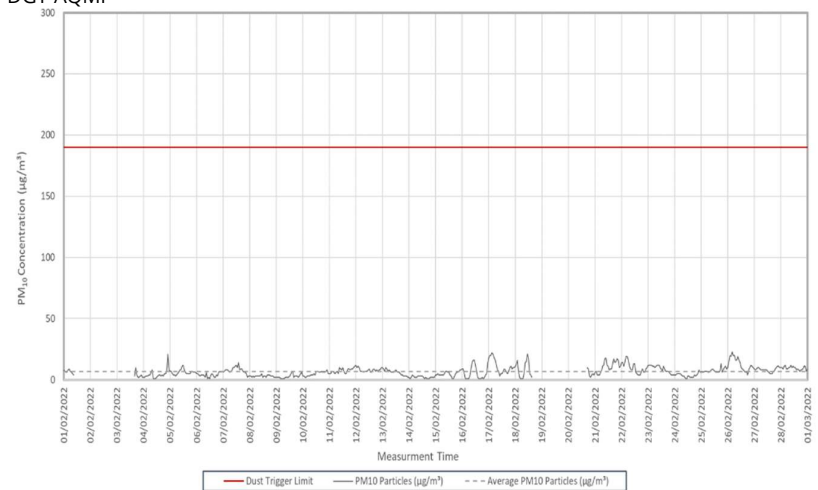


Air Quality and Dust Monitoring Summary Report, February 2022
 London Borough of Hillingdon

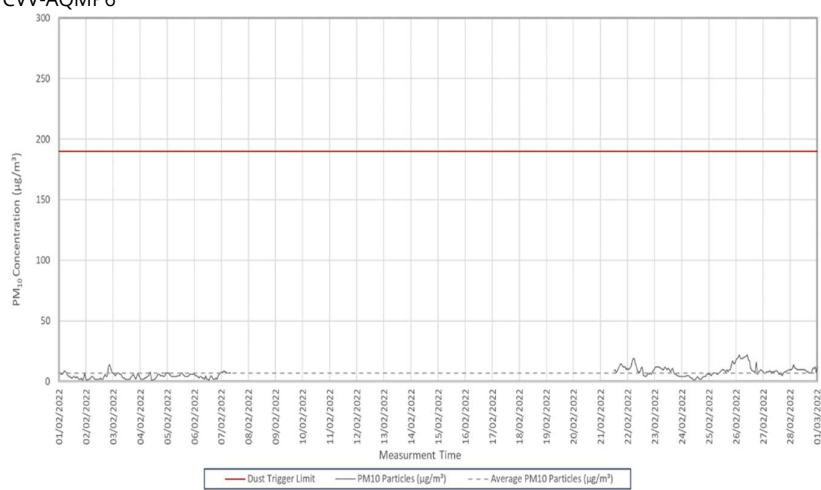
CVV-AQMP4



DGT-AQMP



CVV-AQMP6



Appendix C – Air Quality Monitoring Results

Table 3: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2022 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BNT	Lamp post on Pembroke Road	509678, 187214	39												39
HS2-000020BNU	Cowley Road sign post at junction with Hillingdon Road	505492, 183926	60												60
HS2-000020BNV	High Street sign post at junction with Pembroke Road	509439, 187117	51												51
HS2-000020BNW	Signpost on A4020 Uxbridge Road at junction with Long Lane	507365, 182687	53												53
HS2-000020BPK	Lamp post in crescent off Swakeleys Road	506542, 186037	46												46
HS2-000020BPL	Warren Road sign post on corner of Swakeleys Road and Warren Road	506240, 185660	51												51
HS2-000020BPN	Lamp post on B467	506767, 186224	47												47

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.

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BQH	Lamp post on High Road Ickenham	508451, 186879	61												61
HS2-000020BQN	Lamp post on Park Road	506176, 185444	53												53
HS2-000020BQP	Sign post on Long Lane	507614, 184663	50												50
HS2-000020BP8	Triplicate site at South Ruislip roadside automatic monitoring station	510858, 184916	42												42